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Abstract Book

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Abstract ID: 34

Drug metabolism genes polymorphism - population study in west Romania

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Abstract:
Aim: Drug metabolism is a very important part of therapy efficiency. The P450 genes are key factors involved in drug metabolism. The mutation or simple polymorphisms substantially modify the metabolism of the most used drugs. The CYP2C9*3, CYP2C19*3 and CYP2D6*4 are considered to be the most representatives P450 genes. Our work was aimed at investigating the polymorphism of these genes in the west part of Romania. This study is part of a complex project with the main goal to reduce the number of iatrogenic accidents.
Methods: The studied group consisted of 90 unrelated healthy Romanian volunteers, who consented to participate in the study. Blood DNA was extracted and the specific alleles of CYP2C9*3, CYP2C19*3 and CYP2D6*4 were analyzed using PCR technique.
Results: We obtained the following frequencies for the investigated genes: CYP2C9*3 – 15, 5%, CYP2C19*3 – 0% and CYP2D6*4 – 33, 3%. Statistical analysis of the results shows that the investigated population is within Hardy-Weinberger equilibrium.
Conclusion: The comparison between west Romania allele frequencies and the published results of other Caucasian population shows a good correlation for the genes CYP2C9*3 (15, 5% vs. 16, 2%) and CYP2D6*4 (33,3% vs. 28, 6%). For CYP2C19*3 we identified only the wild type while in European population the frequency is 0, 9%. The next step of this research will be focused on patients with specific diseases to identify more accurately the P450 gene polymorphism role in drug therapy.

Abstract ID: 223

In vitro anti-leukemic action of novel purely organic compounds

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Abstract:
Background: Having in mind the growing resistance and toxicity of many hemotherapeutics that are currently in use, the aim of this study was to investigate the potential anti-leukemic action of novel organic compounds of esteric nature (ligands 1-5) in vitro.
Methods: The cytotoxic action of ligands 1-5 was investigated on HL60, K562, KG1, MOLT4, JVM2 and REH cell lines using the acid phosphatase assay. The potential cytotoxic mechanism of the most effective ligand (lowest IC50 value) was analyzed on the most sensitive cell line (HL60). The flow cytometric analysis of cells stained with appropriate fluorochromes was employed for the measurement of cell membrane phosphatydilserine exposure (annexinV-FITC/propidium iodide), DNA fragmentation (propidium iodide), mitochondrial membrane potential (JC-1) and superoxide production (dihydroethidium).
Results: Analysing IC50 values of all ligands on every cell line after 24h exposure, we marked ligand 3 (L3) as the most effective. It showed a dose-dependent cytotoxic activity against HL60, K562,KG1, MOLT 4, JVM 2 and REH leukemia cell lines (IC50 values: 11.83 μM, 30.88 μM 28.51 μM, 35.17 μM, 30.70 μM, 44.57 μM, respectively). Mechanism of action was further investigated on HL60 cell line as the most sensitive. 24h treatment with 50 μM of L3 led to increment of cells in early (25.5%) and late apoptosis (26.6%), regarding to control (3.1%) and (4.1%), respectively. Furthermore, 72.3% of the cells displayed a DNA fragmentation after 8h treatment with 50 μM of L3. Also, only 2h exposure to L3 in 50 µM concentration, caused hyper production of superoxide anions (FL2 increment from 17.9 to 22.3), while 8h treatment with the same concentration of L3 caused mitochondrial membrane depolarisation (FL1/FL2 ratio increment from 1.0 in control to 10.6 in treated cells).
Conclusion: The majority of tested novel purely organic compounds of esteric nature showed cytotoxic effect on almost all tested cell lines. Ligand 3 was the most efficient and HL60 cell line the most sensitive for its cytotoxic action. Potential mechanism of L3 induced HL60 cell death is apoptosis caused by oxidative stress and mitochondrial membrane depolarization.

Abstract ID: 365

Thermodynamic and kinetic approach to nickel adsorption on different enterosorbents.

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Abstract:
Background: Nickel is the highly toxic and even carcinogenic trace element. Although toxic levels of nickel have not been established, it is known that its excess amounts can cause dermatitis (skin rash and inflammation), and respiratory illness. Significant levels of nickel may also contribute to thyroid malfunction, or myocardial infarction.
Objective: The aim of our investigation was to define thermodynamic and kinetic parameters of nickel adsorption from aqueous solutions on enterosorbents of different nature: activated charcoal, white coal, micro cellulose, enteros gel and polyphepanum. The experiments were fulfilled in vitro thus a proposed model is a simplified model of those processes proceeding in vivo.
Methods: Enterosorbents of five types were chosen for investigation: • activated charcoal, • white coal, which contains SiO2 as the main component, • micro cellulose; • enteros gel • polyphepanum, which contains lignin as an active component. Accumulation of nickel was studied in aqueous solutions with different initial concentrations of Ni+2 (0.05, 0.10, 0.15 and 0.20 mol/L). Kinetics of sorption was examined by taking samples through fixed time terms with later analyses of substances in them. The content of nickel cations was determined by complexonometric titration. The kinetics of sorption processes was described by parabolic equation which resembles the Freundlich equation. The obtained kinetic data allowed calculating thermodynamic parameters of sorption.

Results: The obtained data reveled that activated charcoal is the best adsorbent for nickel elimination from aqueous solutions. It was distinguished by the highest maximum adsorbed amount (12.5×10-3 mol/g) and the highest adsorption equilibrium constant (K=0.80), which characterizes selectivity of a sorbent towards an adsorbate. The adsorption process on activated charcoal runs faster than on other enterosorbents on study; it is characterized by the high value of adsorption rate constant (2.24×10-4min-1), and high degree of extraction (17 %). The adsorbed amounts of white coal, micro cellulose and enteros gel took approximately the same numerical values (2.6×10-3 - 3.7×10-3 mol/g) and approximately identical values of adsorption equilibrium constant (0.36 – 0.80). Polyphepanum proved to be the poor sorbent for nickel cations. It exhibited the worst thermodynamic and kinetic parameters of adsorption process: maximum adsorbed amount equaled to 1.4×103

Abstract ID: 366

Elimination of mercury from a body.

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Abstract:
Background: Mercury exposure and toxicity is a prevalent and significant public health threat. Mercury poisoning (also known as hydrargyria or mercurialism) is a disease caused by exposure to mercury or its compounds. Mercury is a heavy metal occurring in several forms, all of which can produce toxic effects in high enough doses. Its zero oxidation state Hg0 exists as vapor or as liquid metal, its mercurous state Hg+ exists as inorganic salts, and its mercuric state Hg2+ may form either inorganic salts or organomercury compounds; the three groups vary in effects. Toxic effects include damage to the brain, kidney, and lungs. Mercury poisoning can result in several diseases, including acrodynia (pink disease), Hunter-Russell syndrome, and Minamata disease. The most important part of systemic elimination is to remove the source of mercury. Unfortunately it is next to impossible in our world and common practice is application of substances that bind mercury and remove it from a body.
Objective: The goal of our research work was to check up the effectiveness of enterosorbents in mercury elimination from water solutions of its salts. We examined activated charcoal, white coal, micro cellulose, enteros gel and polyphepanum, and after studying the dynamics of Hg+2 adsorption calculated thermodynamic and kinetic parameters of its elimination. Mercury adsorption was studied in aqueous solutions with different initial concentrations. Kinetics of the adsorption process was studying by taking samples through fixed time terms with later analyses of mercury cations in them. The mercury concentration was determined by complexonometric titration.
Results: The obtained data revealed that micro cellulose and polyphepanum exhibited the greatest adsorbed amounts (42.7×10-3 -55.6×10-3 mol/g respectively) and the highest selectivity to mercury (equilibrium constants took the numerical values 12.5 and 22.5). The mercury adsorption on these two enterosorbents ran not as fast as other sorbents. For example, the rate constants on activated charcoal and white coal were 4.47 - 4.10×10-4min-1 while on micro cellulose and polyphepanum - only 0.38 -0.57×10-4min-1. But the degree of extraction took the greatest values on micro cellulose and polyphepanum (88 and 90 % respectively).
Conclusions: Kinetic and thermodynamic parameters of mercury elimination from water solutions proved high effectiveness of some enterosorbents in binding and removing this extreme.

Abstract ID: 436

Cardiocitoprotective effect of the NO-donor SNAP on mouse embryonic stem cell derived cardiomyocytes during ischaemia/reoxygenization: role of PKG and KATP activation

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Abstract:
Background: Embryonic stem cell (ESC) derived cardiomyocytes provide a promising source for cell transplantation therapy of myocardial infarction. Thus the protection of stem cells against ischemia/reoxygenization (I/R) injury is an issue of great importance. The aim of our study was to examine the effect and a possible mechanism of action of a nitrogen monoxide (NO)-donor on mouse embryonic stem cell derived cardiomyocytes during ischaemia/reoxygenization.
Materials and methods: Therefore, 5-day-old mouse ESC derived cells were exposed to simulated ischaemia (SI) for 150 minutes (SI, hypoxic chamber: 95% N2, 5% CO2+hypoxic solution) followed by 120 minutes of normoxic reoxygenization. The NO-donor SNAP was administered in 10-5, 10-6, 10-7 M dose, respectively. With the same settings, 10-6 M dose of SNAP was co-administered with the PKG inhibitor KT5823 (6x10-8 M) or the KATP-channel blocker glibenclamid (10-6 M), and cell viability was measured by a fluorescent staining technique.
Results: Cell decay caused by SI (5625±518 au) was significantly decreased in the presence of SNAP of 10-6 M (4234±420 au) and 10-5 M (4061±423 au) concentration. This protective effect was attenuated by both the PKG inhibitor (4284±916 au) and the KATP channel blocker (4424±1034 au).
Conclusion: According to our results, the NO-donor SNAP protects mouse ESC derived cardiomyocytes against I/R injury. The mechanism of action includes the activation of PKG and KATP channels; however the role of other contributing mechanisms cannot be excluded. Supervisors: Aniko Gorbe, Zoltan Varga V, Tamas Csont, Peter Ferdinandy

Abstract ID: 567

Thermodynamic and kinetic approach to lead elimination from model solutions.

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Abstract:
Background: Lead poisoning also known as plumbism, colica Pictonum, saturnism, Devon colic, or painter's colic is a medical condition caused by increased levels of the heavy metal lead in the body. Lead interferes with a variety of body processes and is toxic to many organs and tissues including the heart, bones, intestines, kidneys, and reproductive and nervous systems. It interferes with the development of the nervous system and is therefore particularly toxic to children, causing potentially permanent learning and behavior disorders. Symptoms include abdominal pain, confusion, headache, anemia, irritability, and in severe cases seizures, coma, and death. There are several prevention strategies and several methods to treat lead poisonous. One way to purify a body from lead is enterosorption.
Objective: The aim of our research work was to study the thermodynamic and kinetic parameters of lead adsorption on enterosorbents of different nature. These data give not only qualitative but quantitative information about effectiveness of sorbents in purification of a human body. The activated charcoal, white coal, micro cellulose, enteros gel and polyphepanum were on study. The kinetic data that characterized the rate of adsorption process gave opportunity to determine such thermodynamic parameters as maximum adsorbed amount and adsorption equilibrium constant. Adsorption of Pb+2 was examined in water solutions with different initial concentrations of lead salts. Kinetics of sorption process was studying by taking samples through fixed time terms with later analyses of lead cations in them. The lead concentration was measured by complexonometric titration.
Results: Activated charcoal and micro cellulose proved to be the best sorbents in binding and removing lead cations Pb+2 from model solutions. They exhibited the greatest adsorbed amounts (21.0×10-3 and 20.0×10-3 mol/g respectively) and the highest selectivity to lead (adsorption equilibrium constants took the values 44.1 and 13.1). In comparison, the maximum adsorbed amount of polyphepanum was determined as 4.21×10-3 mol/g and its adsorption equilibrium constant took the value 4.70. Simultaneously activated charcoal and micro cellulose exhibited the maximum rate of adsorption among enterosorbents on study.

Abstract ID: 689

The Effect of Methylsulfonylmethane on Cell Cycle Distribution in Esophageal Cancer Cell Line (KYSE-30)

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Abstract:
Introduction: Methylsulfonylmethane (MSM) is a dietary supplement to support healthy body. It has been suggested that MSM has a chemopreventive mechanism that effects the interaction of tumor cells with the host immune response. Considering preventive effects of this substance on tumor onset and non-toxic to healthy body we investigated in vitro effects of Methylsulfonylmethane on cell cycle distribution in esophageal cancer cell line (KYSE-30).
Methods: Cells were seeded in 25 cm2 flasks at a density of 1x106 cells/flask. Cells were treated with MSM for 24 h at a range of concentration. After treatment, the DNA content and cell-cycle distribution were determined by flow cytometry. Briefly, cells were trypsinized and harvested, then cells fixed with 70% ice ethanol. Fixed cells were centrifuged and washed with cold PBS, and then stained with DAPI 10 μg/ml. The stained cells were then transferred to flow tubes by passing through a nylon mesh with a pore size of 30 μm.
Results: The percentage of cells in G1, S and G2/M phase was calculated using Partec FloMax software. We observed a dose-dependent effect of MSM on the cell cycle. After 24 h of MSM treatment at different concentrations, cells in the G2/M population increased compared to controls. The effect of MSM on cancer cells appears to be dose-dependent. The higher the dosage, the greater the G2/M population was.
Conclusion: The results showed that MSM is able to induce a G2/M cell cycle arrest in esophageal cancer cell line. MSM may be useful substance as adjuvant in chemotherapy.

Abstract ID: 820

Evaluation of teratogenicity of mebudipine, a new calcium channel blocker

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Abstract:
Background: Hypertensive disorders are the most common medical complications of pregnancy, affecting 5 to 10%of all pregnancy. These disorders are responsible for approximately 15%of maternal mortality. Calcium channel blockers (CCB) are commonly used for treatment of this disorder. Mebudipine is a new CCB synthesized in our laboratory; it has some better efficiencies than other drugs in this group. In this study the teratogenic effects of mebudipine on fetuses of rat was evaluated.
Methods: After dividing 17 pregnant rats (the range of weigh 170 -220gr) in 2 groups: for one group contained 11 rats, mebudipine dissolved in PEG (8mg /kg) was gav-

aged and for other group pure PEG as negative control, from days 0 to 17. At 18th day of gestational age, pregnancy was terminated and embryos isolated for evaluation of general appearance, limbs, and dry weight of heart, lung, liver, brain, intestine, kidney, whole body, placenta and maternal uterine, also we measured amniotic fluid weight, length of limbs and head circumference.
Results: The result showed no significant different between 2 groups in dry weigh of organs and measurement of limb size and head circumference and amniotic fluid (p> 0/05), but about maternal uterine dry weight; in negative control group it was significantly higher than drug group (0.26±0.8 vs. 0.17±0.06, P: 0.033).
Conclusion: In this study mebudipine did not have teratogenic effect on rat. There is not any report of teratogenic effect of other drugs of this family. But about maternal uterine we can say some hypotensive effects of mebudipine may cause some unknown disorders on uterine that need more blood during pregnancy. However teratogenic effect of mebudipine on skeletal system should be tested.

Session: Cardiology

Abstract ID: 94

Prolongation of T-peak to T-end in pediatric patients with syncope

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Abstract:
Introduction: Fainting or syncope can be a disabling condition, and these patients frequently seek medical attention. In the Framingham study the incidence of adults reporting at least one syncope event during their lifetime was estimated at 3%.A 12-lead electrocardiogram is reasonable to exclude arrhythmia as a cause of syncope. Previous study introduce Tpeak-Tend(Tp-e) and Tpeak-Tend Dispersion for evaluation of repolarization as Risk Factors for Ventricular Tachycardia in Patients With the Brugada Syndrome. We used Tpeak-Tend Dispersion to evaluate repolarization abnormality in pediatric patients with syncope.
Material and Methods: We enrolled 19 patients with syncope problem(7 male, 12 female, mean age.12y) referred to Emam-reza clinic of Shiraz University of Medical Sciences, shiraz, Iran and 35 healthy age-matched subjects. History, tilt test and ECG performed in all patients. For accurate measurement of Tp-e, five snapshots were taken from their ECG. Photoanalytic tasks were performed using the Corel PHOTO PAINT 13 software (Ottawa, Canada).The Tp-e, and Tp-e dispersion (defined as the difference between the maximum and minimum Tp-e interval in the precordial leads V1 to V6 during a single beat)were manually measured. To examine prognostic value from Tp-e and Tp-e dispersion and determine cutoff values, analysis of receiver operating characteristic (ROC) curves. We used the Mann-Whitney test to compare the results between cases and controls. In addition we used T-test analysis and $p < 0.05$ was considered statistically significant.
Results: The Tp-Te interval in lead V1 was statistically longer in patients with a positive tilt test (0.36±0.062 vs. 0.32± 0.071, P=.007). Analysis of the ROC curve (Figure 1) showed that a Tp-Te- interval >0.32 in lead V1 had a sensitivity of 68.2%, a specificity of 78.1% and a positive likelihood ratio of 3.13 for the detection of syncope. Tp-Te dispersion was significantly larger in the case group (0.15± 0.07 vs, 0.11± 0.04; P=0.003). Analysis of the ROC curve showed that a Tp-Te dispersion larger than 0.14 had a sensitivity of 47.4%, a specificity of 85.7% and a positive likely hood ratio of 3.32 for detecting patients with syncope.
Conclusion: Our study demonstrated pediatric patients with syncope had statistically higher Tp-e and this parameter may be useful in diagnosis of syncope patients.

Abstract ID: 172

Does re-occlusion after PCI affect on hospital and one-year mortality in patients with ST elevated myocardial infarction?

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Abstract:
Background: PCI significantly improved the prognosis of patients with ST-elevation myocardial infarction (STEMI). There are few reports about the impact of reocclusion after PCI on mortality in acute myocardial infarction.
Aim: Evaluation of the impact of the reocclusion after PCI on hospital and one-year mortality in patients with acute myocardial infarction.
Methods: Consecutive 3500 patients with STEMI treated with PCI, admitted to the Third Clinical Department of Cardiology, Silesian Medical University in Zabrze in 1998-2009. Patients were divided into two groups according to the occurrence of reocclusion: Group I:patients with reocclusion, group II: patients without reocclusion. Selected parameters were compared during inhospital and one-year observation.
Results: There was 142 patients in the first group 142 and 3358 in the second. Patients with reocclusion were older (62 vs 60 years, p <0.0001), had more frequently a history of myocardial infarction (29.5 vs. 18.15%, p = 0.0008) and had lower left ventricular ejection fraction (40.2 vs 44; 08%, P <0.0001). In addition, this group had more often transfusions of erythrocyte mass (6.43 vs. 2.27%, p = 0.00743), Reo-Pro was used during PCI (34.51 vs 8.99%, p <0.0001) and balloon angioplasty (25.35 vs. 10.54%, p <0.0001). In patients from the first group higher inhospital (5.06% vs 11.97, P = 0.0003) and one-year mortality (20.42 vs. 10.10%, p <0.0001) was observed. In multivariate analysis, factors influencing the one-year mortality were: cardiogenic shock [HR = 5.46 (4,35-6,85), p = 0.0001), reocclusion [HR = 1.58 (1,08-2,3), P = 0.0177], the initial TIMI 0-1 flow in the infarct-related TIMI 0-1 [HR = 1.5 (1,11-2,03), p = 0.0075], multivessel coronary artery disease [HR = 1.32 (1,06-1,63), p = 0.0144], anterior wall MI [HR = 1.31 (1,07-1,62), p = 0.0104], diabetes [HR = 1.28 (1,03-1,62), p = 0.0294], age [for 1 year: HR = 1.04 (1,03-1,05), p = 0.0001], glicaemia on admission [on 1 mmol: HR = 1.03 (1,01-1,05), p = 0.0002], EF% [per 1%: HR = 0.95 (0,94-0,96), p < 0.0001], final TIMI 3 flow in the infarct-related artery [HR = 0.69 (0,53-0,88), p = 0.003]

and stent implantation [HR = 0.56 (0,44-0,71) p <0.0001].
Conclusion: The occurrence of reocclusion after PCI significantly increases the one-year mortality in patients with ST – elevated myocardial infarction.

Abstract ID: 300

Endothelial function as a determinant of the stiffness of peripheral human arterial vessels

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Abstract:
Background: The endothelium is a wide spread endocrine organ which modulates chemodynamic influences on the cardiovascular system. Nitric oxide (NO), which being synthesized in the endothelium, is responsible for the mechanisms of endothelial dependent vasodilatation, whereas the ability of the endothelium to produce NO decreases with aging, depending on sex and the presence of other factors. The aim of the survey is to determine: the degree of the decrease of the endothelium ability for the endothelial dependent vasodilatation with aging and its mutual correlation with the increase of the peripheral arteries stiffness.
Methods: The test of reactive hyperemia is the most adequate test for the noninvasive evaluation of the degree of endothelial dependent vasodilatation. The index of stiffness is a parameter for the evaluation of the vascular remodeling. The examination was carried out on 60 healthy respondents of both sexes and different age, who did not manifest the risk factors and symptoms of cardiovascular diseases, by estimating the degree of endothelial depending vasodilatation on brachial artery and index of stiffness on common carotid artery.
Results: The functional ability of the endothelium for the endothelial dependent vasodilatation decreased with aging- for men already in their twenties and continues at the rate of p= 0.03, whereas for women the rate of decrease is p< 0.01 and a more significant decrease is noticeable after the age of forty. We registered a significant increase in stiffness for the respondents of both sexes with aging (p<0.01) with the evidence of higher values for men than women.
Conclusion: Endothelial dysfunction in men occurs about twenty years earlier than in women and results in earlier and higher arterial stiffness. The decrease of the peripheral arteries' ability for the endothelium-dependent vasodilatation is in mutual relation and reversed correlation with the increase in the peripheral arteries' stiffness. Assessing endothelial function is important to identify vascular abnormalities.

Abstract ID: 359

Rapid ventricular pacing-induced postconditioning decreases ischemia/reperfusion injury

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Abstract:
Background: Repetitive brief cycles of ischemia/reperfusion performed at the onset of reperfusion after prolonged ischemia called ischemic postconditioning (IPC), which attenuates excessive myocardial oxygen supply thereby decreasing ischemia/reperfusion injury. Therefore, our aim was to investigate, whether increased myocardial oxygen demand induced by short periods of rapid ventricular pacing (RVP) during the early phase of reperfusion attenuates ischemia/reperfusion injury.
Methods: Hearts were isolated from male Wistar rats, perfused according to Langendorff, and subjected to 30 min regional ischemia and 120 min reperfusion. Postconditioning was either induced by 6x10/10-s consecutive cycles of ischemia/reperfusion (IPC) or by rapid ventricular pacing the heart for 6x10-s periods (600 beats/min; RVP) at the onset of reperfusion. Infarct size was determined by standard triphenyltetrazolium chloride staining and evaluated by planimetry at the end of reperfusion. Arrhythmias were monitored and recorded by epicardial ECG during the entire perfusion protocol.
Results: Infarct size normalized to area at risk was significantly reduced both in the IPC (38±5%) and in the RVP (27±5%) groups when compared to the ischemic-reperfused control group (53±4%, p<0.05). Postconditioning induced either by IPC or by RVP significantly decreased the frequency (from 1.67±0.36 to 0.75±0.19 and 0.40±0.16) and duration (from 45±12 s to 18±5 s and 15±3 s) of reperfusion-induced ventricular tachycardia compared to control group (p<0.05).
Conclusion: We conclude that short periods of RVP performed at the onset of reperfusion decreases infarct size and reperfusion-induced ventricular tachycardia similarly to IPC, thus RVP-induced postconditioning may serve as an effective alternative experimental model to classic IPC.

Abstract ID: 404

The impact of STEMI and NSTEMI on mortality in patients after invasive treatment of acute myocardial infarction complicated by cardiogenic shock

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Abstract:
Background: Cardiogenic shock (CS) is a state of heart failure caused by impaired ejection function. The most common reason of CS is myocardial infarction (MI). Therefore, the aim of this study was to determine the prognostic significance of ST elevated myocardial infarction

(STEMI) and non-ST elevated myocardial infarction (NSTEMI) in a population of patients with acute MI complicated by CS treated with percutaneous coronary intervention (PCI).
Methods: 122 patients, who in the last two years had suffered from acute MI complicated by CS, were divided into two groups. The 1st group consisted of 102 patients who had suffered from STEMI complicated by CS. The 2nd group consisted of 20 patients who had experienced NSTEMI complicated by CS. Comparative analyses were performed between each of these 2 groups. Independent predictors of death were identified with the multivariate Cox-regression model and expressed as hazard ratio (HR) with a 95% confidence interval (CI). Regression model was developed after stepwise backward selection.
Results: The mean value of ejection fraction (EF) in the 1st group was 33,15% (SD 11,48), while in the 2nd group 29,93% (SD 10,91), p = 0,33. There were no differences between groups with respect to values of heart rate on admission 90,34 per minute (SD 28,83) vs 98,68 per minute (SD 23,58), p = 0,24 and the width of the QRS on admission, 97,74 ms (SD30,84) in the STEMI group and 98,42 ms (SD29,11) in the NSTEMI group, p = 0,93. The value of post-PCI Thrombolysis In Myocardial Infarction (TIMI) grade flow in 1st group was 2,17 (SD 1,11) and in the 2nd group 2,46 (SD 1,13), p = 0,37. Glomerular filtration rate (GFR) value on admission in the 1st group was 57,1 ml/min (SD 24,29) and in the 2nd group 52,9 ml/min (SD 21,88), p = 0,47. NSTEMI occurrence was associated with markedly increased in-hospital mortality (85% vs 52%), p = 0,006 as well as total mortality (90% vs 61,8%), p = 0,14. Multivariate Cox-regression model showed that low EF – under 35% was the strongest risk factor for death HR 2.43 (2,19-2,67). Other independent risk factors for death were: post-PCI TIMI grade flow – under 3 HR 2,4 (2,15-2,65), GFR below 60 on admission HR 2,11 (1,86-2,36), NSTEMI HR 1,92 (1,64-2,2) and increase in QRS on admission value of 1 ms HR 1,009 (1,005-1,013).
Conclusion: The analysis indicates that, in a population of patients with MI treated with PCI who are in a CS, NSTEMI is a significant factor which predispose to death.

Abstract ID: 410

Evaluation of paclitaxel and everolimus eluting biodegradable polymer coated stents in the porcine model of neointimal hyperplasia

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Abstract:
Background: Biodegradable polymer-coated stents may have positive effects on arterial healing, and reduce the need for prolonged antiplatelet therapy. OBJECTIVES: To assess the vascular effects of the biodegradable polymer proposed as a stent coating, as well as to evaluate inhibition of intimal hyperplasia by biodegradable Polymer-Coated Paclitaxel-Eluting (BP-PES, LUC-Chopin, Balton) and Everolimus-Eluting Stents (BP-EES, Carlo, Balton) in porcine coronary arteries.
Methods: A total of 50 stents were implanted into the coronary arteries of 14 pigs: eighteen BP-PES, sixteen EES and sixteen bare metal stents (BMS) which constituted a control group. Animals were followed up for 30 and 90 days. Thirty and 90 days after stent implantation, the control coronary angiography was performed. Subsequently, the animals were sacrificed, their hearts were extracted and the coronary arteries were isolated for further histopathological analysis.
Results: After 30 days, BP-PES stent more effectively limited neointimal hyperplasia in comparison to EES and the control group (LL = 0.15 +/- 0.05 for PES, 0.40 +/- 0.4 for EES vs. 0.51 +/- 0.4 mm for BMS; p < 0.05). However the endothelilisation was incomplete and inflammation higher in PES when compared with BMS and EES. At three months, a 'catch-up' effect in neointimal formation in the BP – PES was observed (LL = 0,52) mm and it was unchanged in the EES group (LL=0,38 mm). Histopathology demonstrated favorable safety, with complete endothelialisation and low inflammation in all studied stents.
Conclusions: It seems that the biodegradable polymer-coated, paclitaxel as well as everolimus-eluting stents show safety and feasibility in the porcine model of neointimal hyperplasia. Despite of acceptable results achieved in both tested stents the different pattern of vascular response has been observed – this finding reflects different properties of two antiproliferative drugs tested.

Abstract ID: 425

Carotid Artery Intima Media Thickness, but not Coronary Artery Calcium, Predicts Coronary Microvascular Dysfunction in Patients Evaluated for Coronary Artery Disease

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Discipline: Cardiology

Abstract:
Background: There is growing evidence that coronary artery disease (CAD) affects not only the conduit epicardial coronary arteries but also the microvascular coronary bed. Moreover, coronary microvascular dysfunction (CMVD) often precedes the stage of clinically overt epicardial CAD. An increased CAC score and C-IMT were found to be associated with CMVD. It is therefore of interest to explore and compare the potential of CAC against C-IMT to reveal CMVD, particularly after correction of traditional risk factors.
Methods: We evaluated 120 patients (mean age 56 ± 9, 58 men) without a documented history of CAD in whom obstructive CAD was excluded by means of invasive coronary angiography (ICA) or computed tomography coronary angiography (CTCA). All patients underwent C-IMT measurements, CAC scoring, and vasodilator stress 15O-water perfusion PET/CT. The CAC score, C-IMT, myocardial blood flow (MBF) and minimal coronary vascular resistance (CVR) were analyzed.
Results: Minimal CVR increased significantly with increasing C-IMT (p < 0.01). Mean hyperaemic MBF progressively declined across increasing C-IMT levels (p = 0.03), whereas resting MBF and coronary flow reserve

were comparable across all C-IMT groups. Minimal CVR increased significantly with increasing CAC score ($p < 0.01$). In addition, hyperaemic MBF declined with increasing levels of CAC score ($p = 0.01$), whereas resting MBF and CFR did not show a significant decrease with higher CAC scores. Multivariate analysis revealed that only age, male gender, BMI and C-IMT were independently associated with minimal CVR.
Conclusion: C-IMT, and not CAC score, acts as a predictor of CMVD. This non-invasive method may become a useful surrogate for the assessment of CMVD in patients with multiple cardiovascular risk factors and suspected of CAD.

Abstract ID: 442

Are we facing a new epidemic of coronary heart disease?

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Abstract:
Introduction: In the UK there are more than 110 000 myocardial infarctions, resulting in excess of 70 000 deaths per annum. The deaths from Coronary Heart Disease (CHD) between 1980 and 2000 fell by 50% and have continued to decrease. This is largely attributed to a reduction in risk factors, along with advances in treatment and management. There are emerging fears that successes in reducing mortality could be undermined by a rise in risk factors including obesity, physical inactivity and diabetes in the 35-54 age group.
Methods: Data from the Office of National Statistics obtained from death certificates and the British Heart Foundation Statistics database were analysed. Trends in mortality overall and for different age groups were analysed over time. The mortality rates from the catchment area of the Royal Sussex County Hospital, Brighton, were compared to national figures. Statistical analysis including JoinPoint regression were employed.
Results: The national trend for mortality in CHD has decreased. Local data suggests that there has been a significant decrease in the 55-64 and 65-74 age groups ($p<0.05$). The two youngest age groups analysed (35-44 and 45-54) showed small declines of 0.02% (SE ± 0.12) and 0.1% (SE ± 0.22) per annum respectively.
Discussion: The success in reducing mortality from CHD runs the risk of being reversed. Local data suggests there is no decrease in mortality in the 35-54 age group, supporting national trends. More effective reduction of risk factors is required in this age group.

Abstract ID: 444

Bone Marrow-derived Stem Cells as an Adjunctive Treatment for Acute Myocardial Infarction in Aging People – A Systematic Review and Meta-analysis

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Abstract:
Background: Mutliple randomized controlled trials (RCTs) have indicated that bone marrow-derived stem cells (BMCs) therapy can improves cardiac clinical parameters and long-term outcomes in aging AMI patients after undergoing primary intervention when compared to placebo. However, there is no meta-analysis that included double blind RCTs only. Moreover, no pooled data analysis using long-term follow-up results pertaining to all-cause mortality, recurrent myocaridal infarction (MI) and rehospitalization for heart failure (HF) has been published yet.
Methods: We searched multiple database (MEDLINE, CENTRAL, CINAHL) through January 2011 for randomized, double-blind, placebo-controlled trials evaluating the efficacy and safety of BMCs for the treatment of AMI. We subsequently performed a random-effect meta-analysis to assess the eligible studies included related to the primary outcomes (mean LVEF, LVESV, and LVEDV changes from baseline) and secondary outcomes (all-cause mortality, recurrent MI, rehospitalization for HF).
Results: 10 RCTs (total=906 patients) were included. BMCs therapy was proven superior to placebo regarding mean LVEF change (2.07%; 95% CI, 0.55% to 3.59%; [I2=57%; p=0.008]), LVESV (5.52 mL; 95% CI, -7.68 mL to -3.36 mL; [I2=16%; p<0.00001]), and LVEDV (.08 mL; 95% CI, -5.57 mL to -0.58 mL; [I2=23%, p=0.02]) from baseline. BMCs therapy showed no difference with regards to mortality events when compared to placebo (OR 1.01; 95% CI, 0.35 to 2.94; [I2=0%; p=0.98]), but exerts protective effects toward recurrent MI (OR 0.45; 95% CI, 0.09 to 2.16; [I2=8%; p=0.32]) and rehospitalization for HF (OR 0.39; 95% CI, 0.08 to 1.85; [I2=0%; p=0.24]). All outcomes were sustained for a long period of time (up to 5 years).
Conclusion: The resulting meta-analysis concluded that BMCs therapy consistently improves cardiac performance parameters (LVEF, LVESV, and LVEDV) when compared to placebo, even after the establishment of primary intervention. It is also safe to use and prevents the development of recurrent MI and HF.

Abstract ID: 484

Long-term outcome of STEMI patients with peripheral atherosclerosis

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Abstract:
Background: According to the European Society of Cardiology recommendations, ST-Elevation Myocardial Infarction (STEMI) should be treated with primary percutaneous coronary intervention (pPCI) if there are no contraindications. On average, 30% of patients develop arteriosclerosis not only in the coronary vessels but also in other peripheral arteries.
Aim: The aim of our study was to find out if concomitant peripheral atherosclerosis in STEMI patients treated by pPCI is related with worse short- and long-term outcome.
Methods: 1650 consecutive patients with STEMI were analyzed. They were allocated into two groups : patients with peripheral atherosclerosis based on past medical history (PA) and patients without peripheral atherosclerosis (WPA). Peripheral atherosclerosis (PA) was present in 108 patients (6,6 %).

Results: The demographic characteristic of both groups was similar, however, in the PA group patients were older (67±11 vs 64±12, p=0,004). Also in PA group previous myocardial infarction and chronic renal failure were significantly more common (21,3% vs 12%, p=0,017 and 11,1% vs 1,6%, p<0,0001 respectively). The median time from the beginning of symptoms to the reperfusion therapy did not differ in both groups (206,5±191 vs 230±200, p=0,12). The periprocedural complications such as no-reflow syndrome and embolisation occurred with the same frequency in PA and WPA groups. In PA group bleeding complications during hospitalization (puncture site hematoma , blood loss requiring transfusion) was more common in the PA group (14,8% vs 6,8%, p=0,002). No relevant difference concerning in-hospital mortality (all-cause and cardiac) was noticed (6,5% vs 3,7% p=0,16). In one-year follow-up mortality was higher in patients with peripheral atherosclerosis (13% vs 8%, p=0,07).
Conclusion: Patients with coexisting peripheral atherosclerosis comprise 6,6% of subjects treated by primary PCI in our cohort. Despite comparable early in-hospital mortality PA patients had worse long-term clinical outcomes. Moreover, occurrence of multilevel atherosclerosis was associated with numerous co-morbidities.

Abstract ID: 531

Clinical characteristics and outcomes in patients with genetic dilated cardiomyopathy caused by lamin a/c mutations

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Abstract:
Background: Dilated cardiomyopathy (DCM) is characterized by left or bi-ventricular dilation associated with global systolic dysfunction, and is the most common indication for heart transplant in the UK. Mutations in Lamin A/C (LMNA gene) are the most common cause of genetic DCM. DCM prognosis is well described but has not been stratified by aetiology. LMNA mutation carriers have been shown to have high rates of sudden cardiac death (SCD) before the onset of DCM. Aims: To examine clinical characteristics and outcomes in a cohort of LMNA mutation carriers compared with a control cohort of patients with a desmosomal gene sequence variant.
Methods: Data from a single center was retrospectively collated for a cohort of 27 LMNA mutation carriers and 16 controls. A composite outcome of cardiac death/heart transplantation/appropriate implantable cardioverter defibrillator (ICD) discharge was used for survival analysis.
Results: LMNA mutation carriers had a lower mean age at diagnosis (p=0.03) and bivariate clinical predictors for carrier status were a family history of SCD (89% vs 32%) and DCM (89% vs 56%); both p<0.01. Cardiac symptoms measured by New York heart association (NYHA) class were more prevalent at follow-up (p=0.02). PR interval prolongation (159(35) vs 176(27)ms, p=0.03), and increasing left ventricular end-diastolic (LVEDD) (5.59(0.66) vs 5.71(0.73)cm) and systolic (LVESD) (4.11(0.80) vs 4.33(0.91)cm) diameters in mutation carriers was observed over a mean follow-up of 5.0(3.7) years (both p=0.02). At first presentation mutation carriers had a shorter QRS duration (90.9(18.5) vs. 118.5(37.8)ms; p<0.01), smaller LVEDD (5.59(0.67) vs 6.18(0.62)cm; p<0.01) and LVESD (4.11(0.80) vs 5.00(0.80)cm; p<0.01), and higher ejection fractions (52.3(12.7) vs 36.7(12.6)%; p<0.01). Time-to-event was significantly shorter in mutation carriers compared to controls; mean time 10.5 years (95% CI 6.8-14.2) vs 17.8 years (95% CI 12.6-23.0); p=0.05.
Conclusions: LMNA mutation carriers have a poorer prognosis and evidence of conduction abnormalities before the onset of overt DCM. Disease progression was characterized by worsening cardiac symptoms, conduction abnormalities, and morphological changes in the left-ventricle consistent with DCM. Genotyping is recommended in patients with mild LV dilation and evidence of conduction abnormalities. Family screening, appropriate risk stratification and ICD implantation will improve the future management of patients with LMNA mutations.

Abstract ID: 542

The Effect of Negative Chronotropic Agents on Lowest Heart rates and Morning Surge

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Abstract:
Background: Negative chronotropics like Beta blockers (BB) and non-dihydropyridine Calcium Channel blockers (nCCB) are widely used, mostly independently, and at times in combination. We conducted this study to find out which is the most appropriate therapy to lower the Heart rate in patients on either the BB, nCCB or both. Data is scarce on which of these chronotropic agents achieve the lowest heart rate.
Methods: This was a comparative cross sectional study conducted at the Aga Khan University Hospital, Karachi, Pakistan. Data was collected from all patients aged (1-96yrs) who presented to the cardiopulmonary service for 24-hour ECG monitoring (Holter Monitor) between January 2008 and December 2010. Patients were categorized into four groups; beta-blockers, calcium-channel blockers, calcium + beta blockers and drug-naïve patients. A Philips Zymed Holter 2010 Plus was applied to these patients by trained technicians. Data was collected on a predesigned proforma and included 24-hour heart rate variations and the time at which lowest HR was recorded. We divided the 24 hours into 2 periods, Period I (5 a.m. to 10 a.m.) was the early morning period and period II (10.01 a.m. to 4.59.am.) in order to determine the effect of the morning surge in heart rate in these groups. Data was entered and analyzed using SPSS17 software.
Results: Six hundred patients were included with 369 males (61.5%) and 231 females (38.5%) with mean age 54.9±19.2. There were 80(13.3%) patients on BB, 50(8.3%) on nCCB, 16(2.7%) were on combination therapy and 454(75.7%) patients were drug naïve. On comparison; the mean lowest heart rate (HR) of the patients on Beta blocker was found to be 50.13±9.5 bpm, those on nCCB was 51.10±11.4 bpm, on combination was 48.94±6.85 bpm and for drug naïve was 51.57±11.14 bpm (p value<0.576). The mean highest heart rate of the patients on BB was 112.88±21.9 bpm, nCCB was 113.88±18.4 bpm, combinations was 104.31±25.3 bpm and drug naïve was 123.82±24.8 bpm (p value<0.001). The mean average

HR on BB was 71.14±11.4 bpm, nCCB was 72.38±11.95 bpm, combination was 66.88±10.37 bpm and drug naïve was 76.47±13.63 bpm (p value<0.001). 42.5% of patients on BB had the lowest HR in period I(early morning period) with mean value of 50.47±10.27 bpm, 36% of patients on nCCB had lowest HR in period I with mean value of 51.7±13.6 bpm, 50% of patients on combination had lowest HR in period I with mean value of 47.38± 8.3 bpm and 39.86% patients who were drug naïve had lowest HR in period I with a mean of 50.87±10.47 bpm (p-value <0.801). On the other hand 57.5% of patients on BB had the lowest HR in period II with a mean of 49.87±9.15 bpm. 64% of patients on nCCB had the lowest HR in period II with a mean 50.75±10.23 bpm. 50% of patients on combination had the lowest HR in period II with a mean of 50.5±5.01 bpm and 61.14% of patients who were drug naïve had the lowest HR in period II with a mean of 52.04±11.56 bpm (p value<0.612).
Conclusions: Our study shows that a combination therapy (calcium+beta blocker) was most effective in reducing overall HR. Most patients on BB and nCCB had lowest rate recorded before 5 a.m., while in the combination therapy 50% of patients had the lowest heart rates in early morning with mean values which were not only significantly lower than the other drugs (BB and nCCB) in period I, but also lower in period II as shown by the results.

Abstract ID: 558

Evaluation of an MSC-seeded polycaprolactone graft in a rat model of myocardial infarction

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Abstract:
Background: Experimental approaches in the field of cardiac tissue engineering indicate that an epicardially implanted cell-seeded polymer graft stimulates endogenous repair mechanisms in a paracrine manner. Major considerations for graft development lie in the creation of a suitable environment for cells to organise into a functional tissue. In this regard, micro-fibrous matrices, enriched with oxygen functional groups were designed and seeded with bone marrow derived mesenchymal stem cells (MSCs). In the current rat in vivo study, we evaluated the feasibility of epicardial implantation of the developed biograft and its effect on heart regeneration.
Methods: Microfibrous poly(ε-caprolactone) (PCL) nonwovens were produced by electrospinning and surface-coated by an RF plasma process (CO2/C2H4 gas). MSC were characterised by FACS and 2 Mio cells were cultured for 7-10 days on the fibrous patches (150 mm2). Cell mortality was assessed by LDH release, viability and morphology by MTT staining and SEM imaging, respectively. Two weeks post LAD ligation, Lewis rats with reduced ejection fraction (EF of 48 ± 8%) were randomised into 4 groups: MSC-seeded patches glued onto the infarcted area with Tisseel fibrin glue (n=7), cell-free patches (n=8), glue only (n=4) and sham operation (n=5). Echocardiography was recorded after 28 days, followed by histological and immunofluorescence analysis.
Results: CD90+, CD45- and CD31- MSC were viable and spread on the matrix, producing a homogenous cell layer. Implantation was shown to be safe, without signs of rejection, encapsulation or inflammation. Grafts were permanently glued onto the myocardium. Relative to pre-treatment, MSC-seeded grafts induced an EF stabilisation after 4 weeks (48±10% and 48±7% respectively, p=0.99). Cell-free patches did not induce a stabilisation (EF of 45±9% and 39±4% respectively, p<0.05). Similarly, relative infarct size was significantly smaller for MSC treated rats compared to the other groups (15±6% vs 20±5%, p<0.05). Preliminary results furthermore indicate the recruitment of sca1+ cells to the infarcted zone.
Conclusion: Preliminary data on EF analysis demonstrate that epicardial implantaion of plasma coated, MSC-seeded PCL biografts represents a safe treatment and attenuates cardiac remodelling. Further analysis will characterise cytokine secretion, macrophage invasion, angiogenesis and stem cell recruitment and possibly confirm a beneficial effect on myocardial regeneration.

Abstract ID: 560

Non-Heart-Beating Donors: Ex vivo Evaluation of Heart Acceptability Prior to Transplantation

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Abstract:
Background: Lack of donor hearts is a challenging problem in cardiac transplantation. As an addition to hearts retrieved from brain-dead donors, organ supply could be increased with a currently untapped source, non-heart-beating donors (NHBDs). However, NHBDs are subjected to a period of warm ischemia which leads to tissue injury and, thereby, precludes transplantation. Protocols specifically adapted for the procurement and evaluation of cardiac function of hearts from NHBDs have not yet been characterized. Therefore, techniques to assess heart suitability and predict contractile recovery prior to transplantation would be of major clinical relevance. With this study, we aimed to investigate whether cardiac recovery following global ischemia can be predicted.
Methods: Hearts (n=15) excised from male Wistar rats were aerobically perfused (modified Krebs-Henseleit buffer containing 1.2mM palmitate) in an isolated rat-heart system in working-mode for 20 minutes, subjected to global, no-flow ischemia for 55 minutes at 32°C and reperfused for 60 minutes. Reperfusion consisted of 20 minutes unloaded perfusion, followed by 40 minutes loaded perfusion (working-mode). Left ventricular (LV) function was measured using an intraventricular micro-tip pressure catheter.
Results: After 60 minutes reperfusion, hearts were considered either to recover or not according to percent recovery of the rate-pressure product (RPP; peak systolic pressure-heart rate product); values (expressed as mean±SD) were 47.7±14.7% in hearts that recovered (n=10) and 7.9±3.2% in hearts that did not (n=5). During early reperfusion (10 minutes after ischemia), end diastolic LV pressure and dP/dtmin were significantly correlated with percent recovery of RPP after 60 minutes reperfusion (p=0.019 and p=0.046, respectively). Conclusions: Recovery of cardiac function after ischemia is related to intraventricular pres-

sure measures during initial reperfusion. We believe that these findings could be of potential use in the clinic, especially in the setting of NHBDs, for assessing potential transplantation eligibility, thus, increasing the donor pool.

Abstract ID: 579

Analysis of complications in patients with implanted pacemaker

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Abstract:
Background: Pacemakers are used when the sinus node, due to various diseases, permanently stops to fulfill its role or there are impaired conduction through the natural electrical connection between the atriums and ventricles of the heart. With the progress of cardiac care in Poland the number of pacemakers implanted is steadily growing. The purpose of this study is to analyze the complications occurring in patients with implanted pacemakers.
Methods: The retrospective analysis included 981 patients who in the years 2004 to 2010 have implanted pacemaker. The study group included 109 patients who experienced a complication whereas a control group consists of 42 patients. Statistics based on the nonparametric chi-square tests.
Results: 11, 11% of patients experienced complications. The largest part of them were lodge infections with the presence of an abscess – 22, 03%, perforation – 10, 17% and pacing threshold increase – 9, 32%. The most common pathogens causing infections were Staphylococcus epidermidis – 44, 44% and Staphylococcus aureus – 37, 04%. Patients in the study group have significantly more frequent history of PTCA or CABG compared with patients in the control group (34,18% vs. 21,42%). Significantly more patients in the study group had LVEF <39% compared with patients in the control group (41,54% vs. 26,93%), significantly more patients in the study group had a BMI> 25 (73,59% vs. 58,85%). The study group consisted of 1% of patients with AAI, 2% VDD, 6% CRT, 19% VVI, 23% ICD, 49% DDD. Compared with the control group, significantly more patients had ICD (23% vs. 3,42%) and CRT implanted (6% vs 3,42%).
Conclusion: The analysis indicates that the factors predisposing to postoperative complications are overweight and obesity, previous coronary revascularization procedures and advanced heart disease. Implantation of ICD and CRT has higher complication rate.

Abstract ID: 581

Characteristics of patients undergoing cardioverter-defibilator implantation in primary and secondary prevention

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Abstract:
Background: The main reason for cardioverter-defibrilator (ICD) implantation is prevention of sudden cardiac death (SCD). In general there are two groups of patients that are at great risk of SCD – patients with heart failure (HF) with ejection fraction ≤35% in NYHA class II or III with life expectancy over one year and patients who experienced cardiac arrest in the past. It seems that risk of SCD is connected with proarrhythmic state developed in HF. This is attributed to changes in ionic channels and loss of control of impulse transmission in the heart by adrenergic system. In this study we wanted to describe population characteristics including indications for implantation and comorbidities of patients undergoing ICD implantation.
Methods: Data was collected from 208 patients (34 women and 174 men), who had undergone ICD implantation or revision in 1st Department of Cardiology of the Medical University of Warsaw between April 2010 and January 2011. Program STATISTICA version 9.0 was used.
Results: The mean age of implantation was 65 ± 10,8 years (men=64.6; women=69.9; p=0.008). More than half of the patients (67.3%) were implanted in primary prevention (n=141). Among women 20 patients were implanted in primary prevention (59%) and in men 121 (70%). The main reason (70%; women 79%, men 68%) for cardiomyopathy development was ischemic heart disease (IHD). The second cause was dilated cardiomyopathy, present in 15.4 % of examined population (women 8 %; men 16.6%). We observed no differences between cause of cardiomyopathy and type of prevention. The leading cause in both types of prevention was ischemic heart disease. There was no difference in the occurrence of myocardial infarction, but further analyses showed that there was a difference between incidence of non-ST elevation myocardial infarction (p=0.006). There were no differences between sex of patients or comorbidities such as diabetes, renal insufficiency, dislipideamia, stroke, carotid stenosis, except for hypertension (p=0.02) and heart failure (p<0.001) and type of prevention.
Conclusion: The most common reason for cardiomyopathy regardless of the type of prevention was IHD. There was a difference between incidence of non-ST elevation myocardial infarction between patients with indications for primary or secondary prevention. Patients with primary prevention suffered from hypertension and heart failure more often. Men undergo ICD implantation in younger age than women.

Abstract ID: 652

FHL1opathies in zebrafish embryos

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Abstract:
Background: Myofibrillar myopathies (MFM), as a progressive human skeletal muscle disease, often lead to severe physical disability and premature death. To date, no specific treatment is known for this group of hereditary disease. Although the cause of about half of the MFM is known to be mutations in genes that encode sarcomeric and extrasarcomeric proteins such as desmin and FHL1 (Four and a half LIM domain Protein 1), the other half is caused by yet unknown genetic defects. Moreover, the underlying molecular mechanisms are still poorly under-

stood. The identification of additional MFM genes and understanding the pathogenesis of the known mutations is therefore subject of current research. The aim of this study was to evaluate the zebrafish as an in vivo model for the identification and characterization of FHL1opathies, one of the major diseases in MFM group.
Methods: In this study, morpholino antisense oligonucleotides were used to generate selective knockdown of zebrafish orthologs of FHL1. The cardiac and skeletal muscle functions of these were then assessed at different development stages.
Results: The knockdown zebrafish embryos show similar defects as reported in human FHL1opathies such as muscle weakness and cardiac arrhythmia. Using immunostaining in this study, FHL1-homologs have been localized in zebrafish for the first time. They are co-localized to the z-disc with nexilin and are also ubiquitously expressed in the nucleus. Two of the known FHL1 mutations, H123Y and C132F, were also examined in this study. The overexpression of their mRNA molecules do not cause any phenotypes in zebrafish embryos up to the 5th day after fertilization, however, the knockdown phenotypes cannot be rescued by the co-injection of the mutated mRNA molecules. This indicates that these mutations lead to a loss of function of the proteins in zebrafish embryo. The two orthologs of FHL1 appear to belong to two different signaling pathways in zebrafish. Besides being expressed in different organs of zebrafish, these two molecules do not replace each other's function, as shown in cross-rescue experiments. The human FHL1 mRNA could rescue the two phenotypes, suggesting that the human FHL1 protein may compensate the loss of both zebrafish FHL and FHLa proteins.
Conclusion: In summary, this study showed that zebrafish can be a good model for the identification and characterization of MFM and in this case FHL1opathies.

Abstract ID: 660

Digital analysis of the ealrly diastolic colour Doppler-m-mode flow of left ventricle

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Abstract:
Introduction: The protodiastolic filling is governed by the intraventricular gradient, developed between the base and the apex of LV as a result of elastic recoil (diastolic suction phenomenon = DS). Studies of DS demonstrated the relationship between the myocardial contraction and the protodiastolic filling (between systole and diastole).
Aims: find a noninvasive method for studying the DS by assessing the early diastolic intraventricular pressional gradients; thus we conceive software for the off-line analysis of the protodiastolic filling flow obtained at Colour M-Mode. MATERIALS AND METHOD: 1 - We used a Hewlett Packard Sonos 1500 echocardiograph. The 4 C and 2C images were acquired with a 2.5 MHz array probe; we selected the early diastolic flow imagines at Colour M-Mode. Thus, the obtained images were then converted to bmp files. The Colour M-Mode images are chosen because they depict the velocity of erythrocytes in connection with time and space, parameters used for calculating the pressional gradients with the Navier-Stokes' equation (which governs the three-dimensional flow of incompressible fluids). By simplifying this equation we got the one-dimensional Euler's equation which, after integration along a direction of blood flow from base to apex, allowed a non-invasive estimation of the pressional differences. The 30 normal subjects, age 54 + / - 12 years, 62% men were examined echocardio-graphicaly (clinical examination, resting and exercise ECG, echocardiography, all normal). Thus, were calculated: relative pressures (RP) at any point within the early diastolic flow; pressure differences between the base and apex (SG=suction gradient); the suction time (ST=the time interval between the moments of minimum pressures at the base and the apex). 2 - In order to evaluate the new method, the cardiac catheterization was performed – gold standard for haemodynamical measurements - and then the results from both methods were compared.
Results: Showed no statistically significant correlation between the differences of the two methods. RPbase 3.72 + / - 0.8 mmHg at cardiac catheterization and 3.36 + / - 1,2 mmHg ($p > 0.01$); RPapex 1.27 + / - 0.32 mmHg respectively 1.04 + / - 0.38 mmHg ($p > 0.01$), SG was 3.25 + / - 0.7 mmHg, respectively 3.32 + / - 0.8 mmHg ($p > 0.01$), and TIPmin was 38 + / - 4 ms compared to 38 + / - 5 ms ($p > 0.05$).
Conclusions: The noninvasive estimation of pressure gradients proved to be as good as the invasive method.

Abstract ID: 672

Early and Long Term Results of Left Anterior Descending Artery Drug Eluting Stenting in Comparison with Minimally Invasive Direct Coronary Artery Bypassing

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Abstract:
Background: The minimally invasive direct coronary artery bypassing (MIDCAB) has proven its superiority over bare metal stenting of proximal left anterior descending (LAD) artery in reducing the need of repeated revascularizations. Nevertheless, the long term outcome of percutaneous coronary intervention (PCI) utilizing new generation of drug eluting stenting (DES), in this lesion subset is unknown.
Methods: This is a multicenter retrospective registry of 463 consecutive patients, enrolled between 2004 and 2009 with proximal, significant (>70% DS) LAD disease who underwent either PCI with exclusive use of DES (72% of 2nd. generation) or MIDCAB. We excluded patients with myocardial infarction (MI) on admission, concomitant lesions in the right and/or circumflex coronary arteries, previous PCI within 6 months, or previous CABG . A propensity score was utilized for patients baseline characteristics matching.
Results: One hundred and eighty seven patients underwent PCI with DES while 276 MIDCAB. Patients in PCI group were older (63,6 ± 9,3 vs. 59,7 ± 10,2; $p<0,05$), more often female (32 vs. 21%; $p<0,01$) had higher CCS class

(2,53 ± 0,9 vs. 2 ± 0,3; p<0,01), higher Euroscore (4 vs. 2,2; p<0,01) and more often presented with peripheral artery disease (8 vs. 2%; p<0,01), At 30 day follow up there were no deaths in both groups. There were also no differences in the occurrence of major adverse cardiovascular and cerebral events (MACCE) defined as death, stroke, myocardial infarction or repeated revascularization between PCI and MIDCAB groups (0% vs. 0,7%;p=0,22). However there were less serious adverse events (SAE) defined as atrial fibrillation, wound infection, low output syndrome or serious bleeding in patients who underwent PCI (0 vs. 5%; p<0,01). After adjustment at 4 year follow up there were no differences in survival (93,5 vs. 95,7%; p=0,56), MACCE free survival (64,9 vs. 74,4%, p=0,12) and MI – free survival (94,9 vs. 95.8%; p=0,46) between PCI and MIDCAB respectively. There was significantly higher freedom from repeated revascularization in patients who underwent MIDCAB (86,4 vs. 64,1%; p=0,01).
Conclusions: Both procedures show exceptional safety, with no deaths and only minor adverse events rate at periprocedural period. At long term PCI with DES was non inferior to MIDCAB with regard to safety endpoints.

Abstract ID: 769

Diastolic response to acute myocardial stretch in the normal and ischemic heart

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Abstract:
Background: Acute myocardial stretch induces an adaptive response both at systolic and diastolic levels. Myocardial ischemia leads to hemodynamic overload and, in this setting, the adaptive diastolic response to stretch is impaired. The mechanisms responsible for the failure of diastolic adaptation remain largely unknown. Therefore, we aimed to evaluate and characterize the diastolic response to an acute hemodynamic overload and its modulation during an ischemic insult.
Methods: Rabbit papillary muscles (0.2Hz, 30ºC) were acutely stretched from 92% to 100% of Lmax in a modified Krebs-Ringer solution in the absence (A) or presence of (B) an inhibitor of Rp-8-Br-PET-cGMPS (an inhibitor of PKG, 10-6M, n=7). Group C was stretched during ischemia and other protocols were performed in the ischemic setting in the presence of (D) 8-Bromo-cGMP (an agonist of PKG, 10-5M, n=7), (E) BDM (an inhibitor of actin-myosin interaction, 3%, n=8) and (F) 8-Bromo-cGMP and BDM (n=7). Immediate and delayed responses to muscle stretch were evaluated. Results are presented as mean±standard error of mean (P<0.05).
Results: Under basal conditions, the presence of an inhibitor of PKG attenuated the decrease in passive tension (PT) after myocardial stretch to 26.3±1.1% (15 minutes after stretch) versus 46.2±1.8% in group A. The presence of an agonist of PKG (group D) promoted a decrease in PT of 20.6±3.2% in the 15 minutes after acute overload during ischemia, contrasting with an increase of 16.6±15.7% in group C. The diastolic response of group E to acute stretch during ischemia was characterized by a decrease in PT of 28.6±1.0% (15 minutes after stretch). When both 8-Bromo-cGMP and BDM were present (group F), there was a decrease in PT of 28,3±1,5% in the 15 minutes following acute overload during ischemia.
Conclusion: During ischemia, the activation of PKG signaling pathway improved the diastolic response to an acute hemodynamic overload, with a decrease in myocardial stiffness, promoting lower filling pressures and decreasing the odds of pulmonary congestion. Furthermore, the modulation of the actin-myosin interaction may represent an important therapeutic target in this setting.

Abstract ID: 697

Comparison of results of treatment and prognosis of patients with myocardial infarction without ST segment elevation (NSTEMI) treated with percutaneous coronary intervention (PCI) according to the infarct related artery (IRA)

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Abstract:
Background: There is little data on the correlation between the infarct related artery (IRA) and prognosis in patients with myocardial infarction without ST segment elevation (NSTEMI) treated with percutaneous coronary intervention (PCI). Objective: To compare results of treatment in patients with NSTEMI treated with PCI, depending on the IRA.
Methods: Patients with NSTEMI treated with PCI were examined. They were divided into 3 groups, depending on the IRA. Group I - LAD, Group II - Cx, Group III - RCA.
Results: The analysis included 482 patients. The group I-173, group II-176 and group III-133 patients. Patients with LAD infarct related artery were older than patients in groups II and III (65.66 vs. 63.14 vs. 62.99 years, p = 0.028), during the treatment they were given more contrast media (193.11 vs 192.89 vs 161.23 ml, p = 0.027). Patients in group III were more often treated for hypertension, they had PCI more often in the past.

Abstract ID: 714

Paraoxonase and arylesterase activities of serum PON1 in young healthy Bulgarian subjects

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Abstract:
Acute coronary syndrome including unstable angina, NSTEMI andSTEMI is a worldwide leading cause of death. Serum paraoxonase (PON 1) is a HDL - associated enzyme, that is believed to be protective factor against cardiovascular diseases , inhibiting oxidation of LDL complexes. PON 1 belongs to the family of paraoxonases, consisting of 3 isoenzymes: PON 1, PON 2, PON 3. PON 1 and PON 3

are expressed in the liver and secreted into the blood where they are associated with HDL. PON 2 is not present in blood but expressed in many tissues including liver, lung, brain and myocardium. PON1 is a Ca^{2+} dependent hydrolase, degrading aromatic esters mainly of acetic acid, toxic oxone metabolites of organic phosphate insecticides, neuroparalityc gases, lactones of hydroxyl derivates of polyunsaturated fatty acids (PUFA), certain phospholipid oxidation products and estrogen ester at position 3 of the steroid A-ring. Probably the latter two activities – lactonase and 3 esterase are underlying properties of PON1 to protect LDL and HDL from oxidation changes and thereby reducing the risk of cardiovascular diseases. In this respect, the aim of the current pilot study was to asses the paraoxonase (PON) and arylesterase (ArEs) PON1 activities in serum of young individuals from the area of Stara Zagora, Bulgaria in order to estimate the normal range of these enzyme activities of PON1, which would serve in our further prospective studies with patients with myocardial infarction.

Materials and methods: The present study includes a control group of 26 healthy volunteers – students from the Medical Faculty of Trakia University, Stara Zagora. The group consisted of 10 (38%) men and 16 (62%) women, aged between 19 and 27 years (mean age of 22.42⊕2.45 y., median of 21 y.) Measurements of enzyme activities were carried out in serum by applying adapted kinetic methods based on the continuous spectrophotometrically recording of the products generated after hydrolysis of two substrates: paraoxon for paraoxonase and phenylacetate for arylesterase activity, respectively.

Results: The serum levels of both PON1 enzyme activities were with great variability in either groups: the paraoxonase activity ranged between 40.10U/l and 327.04 U/l, (median of 103.92 U/l and the mean of 131.07⊕78.08 U/l); the arylesterase activity ranged between 50.59 kU/l and 125.29 kU/l, (median of 86.62 kU/l and the mean of 88.38⊕16.70 kU/l). There was no difference between the values.

Abstract ID: 732

Effect of initial flow in the infarct-related artery at 12-month mortality in patients with myocardial infarction without ST segment elevation (NSTEMI) treated with percutaneous coronary intervention

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Abstract:

Background: According to reports, there is an association between baseline TIMI flow in infarct-related artery (IRA), and the prognosis in these patients. Objective: To compare treatment results and prognosis in patients with NSTEMI treated with PCI based on the initial TIMI flow in the IRA.

Material and Methods: Patients with NSTEMI treated with PCI were examined. Patients were divided into two groups depending on the initial TIMI flow in the IRA. Group I: patients with TIMI flow 0/1. Group II: patients with TIMI flow 2/3. Selected clinical and angiographic aspects were compared.

Results: Group I was composed of 413, and group II 84 patients. Patients in group I had more often triple vessel coronary artery disease (38.3 vs 26.19%, p = 0.028). In Group II, fluoroscopy duration was longer (13.2 vs. 10.38 min, p = 0.003), X-ray radiation absorbed dose was higher (1.05 vs. 0.79 mGy, p = 0.006), indicated a greater amount of contrast media (192.3 vs 158ml, p = 0.015). In patients of group I observed a higher 30-days (4.36 vs. 1.19%, p = 0.16), 6-month (7.99 vs. 3.57%, p = 0.15) and nearly twice 12-month-mortality (11.14 vs 5.95%, p = 0.15). These differences, did not reach statistical significance. The multivariate analysis did not reveal the impact of the initial flow in the IRA on 12-months mortality.

Conclusion: Despite higher mortality in patients with baseline TIMI flow 0/1 we did not show an independent correlation between baseline TIMI flow in the IRA and the 12-month prognosis in patients with NSTEMI treated with PCI.

Abstract ID: 782

Influence of ventricular fibrillation episode during reperfusion on prognosis in patients with acute myocardial infarction treated with percutaneous coronary intervention.

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Abstract:

Background: Influence of ventricular fibrillation (VF) episode during reperfusion on prognosis in acute myocardial inferction (AMI) was evaluated mainly in fibrinolytic treatment. The aim of the study was to assess the influence of VF episode during reperfusion on prognosis in AMI treated with PCI.

Methods: We analysed consecutive patients with acute myocardial infarction and VF treated with PCI, admitted to III Chair and Department of Cardiology, Medical University of Silesia, Silesian Center for Heart Diseases in Zabrze, Poland, between 1998 - 2009. Patients were divided into 2 groups. The first group included patients with VF during reperfusion and the second group included patients without VF during PCI. For the purpose of this study selected parameters were compared during inhospital and one-year observation.

Results: We examined 3036 patients with AMI treated with PCI. There was 114 patients in the first group and 2922 in the second group. In patients with episode of VF during reperfusion, higher percentage of MI in history (29,46 vs. 18,29%;p=0,003), anterior wall MI (50 vs. 40, 38%; p=0,04), cardiogenic shock (54,39 vs. 8,08%; p<0,0001), balloon angioplasty (28,95 vs 11,96%; p<0,0001), reocclusion (17,43 vs. 3,51%;p<0,0001) and reopro treatment (26,79 vs. 11,55%;p<0,0001) was observed. Patients from the first group had lower percentage of stent implantation (73,68 vs. 81,83%;p=0,027) and final TIMI 3 flow (68,42 vs. 89,63%;p<0,0001). Episode of VF during reperfusion was connected with higher inhospital (45,37% vs 4,18%;p<0,0001) and one-year mortality (50,88% vs 9,21%; p<0,0001). In multivariate analysis independent factors influencing one-year mortality were: cardiogenic shock [HR=4,67(3,58-6,09); p<0,0001], VF during reperfusion [HR=2,98(2,17-4,09); p<0,0001], diabetes [HR=1,35(1,06-1,73); p=0,016],

anterior wall MI [HR=1,32 (1,04-1,67); p=0,02], age [HR=1,05(1,04-1,07); p<0,0001], glucose level on admission [HR=1,03(1,01-1,05); p=0,003], time from start of chest pain to PCI [HR=1,01(1-1,03); p=0,038], LVEF [HR=0,95 (0,94-0,96); p<0,0001] and final TIMI 3 flow [HR=0,65(0,49-0,86); p=0,0003] and stent implantation [HR=0,62(0,48-0,82); p=0,0006].
Conclusions: The incidence of VF episode during reperfusion was connected with higher inhospital and one-year mortality.

Abstract ID: 791

Role of vagal tone in initiation of paroxysmal atrial fibrillation

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Abstract:
Background: Involvement of autonomic nervous system (ANS) in heart rhythm regulation is a well-known fact. The studies in heart morphology and electrophysiology showed an important role of ANS in adequate heart rhythm reaction to biorhythms of healthy organism. The slightest changes in autonomic tone can be the substrate of heart rhythm and conduction disturbances. Objective: Influence of vagal tone on induction of paroxysmal atrial fibrillation (P-AF) was studied.
Materials and methods: 424 patients (Pts) with diagnosis of P-AF were enrolled in the study. There were 239(56.4%) women and 185(43.6%) men. Mean age 46.9±11.2. 24-hours Holter ECG monitoring and transesophageal electrophysiologic study (TEEPS) with vagal maneuvers (VM) were performed in order to detect vagal activity. Sinus node recovery time (SNRT) was evaluated before and after VM.
Results: Acording to results of Holter ECG monitoring Pts were divided into 4 groups depending on mechanism of AF development. Group1 (ectopic type)–91(21.5%) Pts, had frequent atrial ectopic beats during 24 hours (>3000 a day) with episodes of unstable AF. Group2 (adrenergic type)–76(17.9%) Pts, had atrial extrasystoles (<3000 a day) and AF paroxysms only during daytime. Group3 (vagal type)–121 (28.5%), had <1000 atrial ectopic beats during 24-h of monitoring and paroxysms of AF occurring at night and early morning. Group4 (mixed type) –136(32.1%) Pts, with atrial extrasystoles (<1000 a day) and AF episodes occurring during both daytime and night. Pts with vagally mediated AF had heart rate of 60.2±6.8 (mixed AF group–67.2±11.2; adrenergic AF group–74.6±8.2) and more often had concomitant conduction disorders. Pts of Group3 and Group4 underwent TEEPS with VM. SNRT was evaluated before and after VM. There were no significant difference in SNRT before VM between Group3 and Group4 (1276.5±254.6 ms vs. 1203.0±149.9 ms, ð>0.05). But comparison of SNRT after VM between vagal P-AF group and mixed type P-AF showed significantly higher levels in vagally mediated P-AF group (1563.1±121.0 ms vs. 1243.0±105.7 ms, ð<0.05). This parameter shows higher vagal tone in Group3, but the values are in normal range, that excludes sinus node dysfunction.
Conclusion: Autonomic nervous system imbalance with predominance of vagal tone plays an important role in initiation of P-AF, predisposing to trigger mechanism. Thus studying methods to correct vagal activity in Pts with P-AF is important in effective prevention of AF paroxy.

Abstract ID: 808

The quality of life during recovery of patients who underwent coronarography from femoral artery approach

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Abstract:
Background: Coronarography is an invasive procedure of coronary arteries imaging. The recovery is connected with some difficulties such as the necessity of long term immobilization and the presence of the pressure dressing after catheterization of femoral artery. The aim of the study was to determine the quality of life (QoL) during recovery of patients after coronarography and to define the difference in pain perception between men and women.
Methods: The consecutive data on 46 patients who underwent coronarography from femoral artery approach in University Hospital in Krakow were gathered. All of the patients (mean age 60,9 (±9,2)) were allocated into 2 study groups: 32 men (69,57%) and 14 women (30,43%). Their quality of life was measured 2 to 4 days after the procedure using two QoL questionnaires. One 7-item questionnaire was designed by us and the other was Short-Form McGill Pain Questionnaire.
Results: In our 7-item questionnaire patients as the most bothersome described backpain after the coronarography (Men: 2,93 in 5-point scale vs Women: 0,88, p=0,034), necessity of long term immobilization associated with the procedure (M: 2,42 vs W: 3,56, p=0,005) and discomfort during catheter removal (M: 1,79 vs W: 0,75, p=0,008). The intensity of pain was marked by the patients at the horizontal scale and there was no significant difference between two study groups. In the McGill Pain Questionnaire patients the most frequently described the pain as bothersome (61%, 1,54 in 3-point scale) and tender (37%, 1,35). Women described the pain more often as exhausting (W: 42,9 % vs M: 12,5%, p= 0,025). Conclusions: The valuation of pain intensity in both groups was similar, however description of symptoms was different. Men and women pointed different aspects of recovery as burdensome.

Abstract ID: 817

Has acute pulmonary embolism different clinical manifestation in particular prognostic groups?

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Abstract:
Background: Acute pulmonary embolism (APE) is a common cardiac event. It is very difficult to establish proper

diagnose because of unspecific, variable symptoms. Moreover, it is not clear if the severity of APE is reflected at clinical symptoms. Therefore I assessed potential differences in clinical presentation of APE according to the level of risk of early death.
Methods: I evaluated 413 consecutive patients (mean age 64,1 +/- 18,5 year, 172 male) with APE. Clinical symptoms (dyspnoea, chest pain and its character, syncope, cough, haemoptysis and signs of concomitant deep venous thrombosis (DVT) were assessed on admission. Patients (pts) were divided according to the current ESC Guidelines on 3 groups: high-risk PE (HR), n=24, intermediate-risk PE (IR), n=231, low-risk PE (LR), n=158.
Results: The most common symptom of APE was dyspnoea (80%). Dyspnoea was reported significantly rarer in LR pts (71%) than in IR (84%, p=0,01) and HR (87,5%, p=0,045). Chest pain was less frequent in HR subjects (17%) compared with IR (38%, p=0,021) and LR pts (39%, p=0,018). Substernal chest pain was more common in HR and IR groups (12,5% and 10% respectively) than in LR one (4%). In contrast, pleuritic pain was more frequent in LR and IR pts (28% and 20% respectively) compared with HR (8%). Syncope proved more common in HR group (54%) than IR (29%, p=NS) and than LR (12%, p<0,001). Frequency of cough in HR, IR and LR groups were respectively 21%, 24% and 23% (p=NS). Symptomatic DVT occurrence was: 17%, 9%, 12% for HR, IR and LR respectively (p=NS). Haemoptysis was more frequent in LR pts (8%) compared to IR and HR subjects (both 4%).
Conclusion: Acute pulmonary embolism has different clinical manifestation in relation to group of early death risk. Frequency of dyspnoea and syncope increases with worsening prognosis. Chest pain is more common in patients with lower risk of death than in high-risk individuals, however, pleuritic chest pain occurs more often in subjects with better prognosis, while substernal pain is more frequent in high and intermediate-risk patients. Haemoptysis occurs more often in low-risk individuals than in others. Cough and deep venous thrombosis frequency is very similar in all groups of mortality risk in patients with APE.

Abstract ID: 818

Comparison of N-terminal pro B-natriuretic Peptide and echocardiographic indices in patients with mitral regurgitation

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Abstract:
Introduction: Echocardiographic indices can form the basis of the diagnosis of systolic and diastolic left ventricular (LV) dysfunction in patients with Mitral regurgitation (MR). However, using echocardiography alone may bring us to a diagnostic dead-end. The aim of this study was to compare N-Terminal pro B-natriuretic peptide (BNP) and echocardiographic indices in patients with mitral regurgitation.
Methods: 2D and Doppler echocardiography and BNP serum level were obtained from 54 patients with organic mild, moderate and severe MR.
Results: BNP levels were increased with symptoms in patients with mitral regurgitation(NYHAI: 5.7 ± 1.1, NYHAII: 6.9 ± 1.5, NYHAIII: 8.3 ± 2 pg/ml, $P < 0.001$). BNP plasma level were significantly correlated with MPI (myocardial performance index) ($r = 0.399$, $P = 0.004$), and following echocardiographic indices: LVEDV ($r = 0.45$, $P < 0.001$), LVESV ($r = 0.54$, $P < 0.001$), LVEDD ($r = 0.48$, $P < 0.001$), LVESD ($r = 0.54$, $P < 0.001$), dp/dt ($r = -0.32$, $P = 0.019$) and SPAP ($r = 0.4$, $P = 0.006$).
Conclusion: The present study showed that BNP may be useful in patients with MR and may confirm echocardiographic indices.

Session: Dentistry

Abstract ID: 113

Flour ion migration analysis from conventional glass-ionomer cement restorants treated with flouride solution, In vitro study

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Abstract:
Background: Glass-ionomer cement (GIC) restorative materials used in dentistry have the ability to release fluoride into the saliva and enamel-dentin substance which affects both the remineralization of restored tooth, its surface and the surface of the adjacent teeth. The aim of our study was to analyze the fluoride release in young permanent teeth with glass-ionomer cement restoration (FujiIX, GC, Japan) treated with low concentrated fluoride solution (334mg/l) in artificial saliva medium.
Methods: In this study, we used 12 premolars extracted due to orthodontic reasons. At the vestibular surface of all teeth Class V cavities were prepared with 3x2x2 mm dimensions and restored with conventional GIC (FujiIX, GC, Japan). The glass-ionomer cement restored teeth (GICrT) were immersed in artificial saliva medium and incubated at 37°C. GICrT were divided into two groups of 6 teeth. The first group, which was treated daily with low concentrated fluoride solution (334mg/l) and the second, control group was not treated with fluoride. Both groups were divided into 3 subgroups of 2 teeth, depending on the length of the study (7, 14 and 21days). After the experiment, the artificial saliva samples were sent to a fluoride concentration analysis using the ion selective electrode.
Results: A comparative analysis of the mean values using Students t test showed a statistically significant difference of the fluoride concentration in the artificial saliva, between fluorinated and unfluorinated teeth filled with GIC after 14 and 21 days ($p<0.05$), while the analysis after 7 days showed that the difference exists but is not statistically significant ($p = 0,076$).
Conclusion: The results obtained in this in vitro study indicate that fluoride low concentrated solutions can be used for a fluoride recharge of GIC restorations and thus contribute to the increase of the fluoride content in saliva and dental hard tissues. This process is more important if a longer time has passed from the GIC restoration because the concentration of fluoride in the GIC is reducing with time.

Abstract ID: 174

Stability of aesthetic dental materials – in vitro

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Abstract:
Introduction: The ability of tooth-coloured restorative materials to resist staining in the oral cavity that originates from food and different drinks is an important characteristic of restorative materials. The most precise way for measuring the color of dental materials is by using a spectrophotometer.
The aim: The aim of this study was to evaluate the effect of three beverages - tea, coffee and coca-cola on the color stability of four dental materials after a period of 24h, seven and fourteen days.
Methods: Twenty disk-shaped specimens of each dental composite and glass-ionomer cements (GJC) were prepared. Half of the specimens were polished and the other half was left unpolished. Also, twenty all ceramic crowns for each staining material were tested. Color measurement was done using reflectance spectrophotometer based on the Commission Internationale de l'Eclairage - CIE L*a*b* colour scale. Mean values of the different groups were compared using multifactorial analysis of variance and Tukey–Kramer test with 0.05 as significance level.
Results: All tested materials showed color change. The results showed that coffee was the most intensive staining agent. Ceramics was found to be the most color stable material. Distilled water also caused perceptible color change. The effect of surface finish on staining was statistically significant ($p < 0.05$).
Conclusion: All materials were susceptible to staining by all beverages. All efforts should be made to minimize discoloration of restorative dental materials by adopting excellent polishing techniques

Abstract ID: 206

Comparison of reasons for prescribing antibiotics to patients between government and private dental practitioners

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Abstract:
Background: Inappropriate use of antibiotics has contributed to worldwide problem of antimicrobial resistance. Information on knowledge, understanding and training of dental practitioners in use of antibiotics working in public and private sectors is scarce. As evidenced by Journal of Dental Education, perioperative use of antibiotic agents in third molar surgery and endodontic procedures has not been shown to reduce postoperative complications. Thus, routine use of antibiotics following third molar surgery and endodontic treatment in healthy patients is firmly contraindicated by the current literature as costly and harmful, with little or no effect. We aim to determine and compare the prevalence and probability of antibiotic abuse without medical indication between government and private dental practitioners.
Methods: This study was comparative cross sectional. The participants were dental practitioners of government and private dental institutes whom were selected on the basis of non probability convenient sampling. All medical practitioners were excluded from the study. The data was entered on Statistical Package for Social Sciences (SPSS) version 16 and analyzed. The sample size calculation was done using the World Health Organization, Geneva, software for sample size calculation where alpha=0.05, 1-Beta= 90, P1=0.65, P2 =0.55, n (sample size) =89. The researchers recruited 299 subjects to avoid the chances of type 2 error.
Results: Government dentists had a high prevalence of prescribing antibiotics for surgical removal of third molar in contrast to private dentists (133/220; 60.5% v 32/79; 40.5%, p-value =0.002). Surgical removal of third molar was the strongest predictor for prescribing antibiotics in dentists. Government dentists prescribed 2.24 times (95% CI, 1.32 – 3.79) more antibiotics than private dentists. Non surgical removal of third molar was the second significant predictor for prescribing antibiotics in dentists. Government dentists prescribed 1.93 times (95% CI, 1.146 – 3.259) more antibiotics as compared to private dentists.
Conclusion: Based on our results we came to the conclusion that antibiotics were inappropriately prescribed more by government dentists as compared to private dentists. Key messages: 1. Education about current antibiotic indications for use at the graduate levels should be disseminated. 2. Evidence based research to document clinical advantage of antibiotic use, thus eliminating regular prescription patterns.

Abstract ID: 248

Parotidectomy vs. excision, comparison of recurrence rates

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Abstract:
Background: Benign tumors represent the most often histopathological finding regarding the pathology of parotid gland which is requiring surgical treatment. In view of localization and size of these tumors, two surgical methods are applied today: parotidectomy and excision of the parotid gland. The parotidectomy is a surgical method of parotid gland removal that is carried out with identification and preservation of facial nerve, whereas the excision is a surgical method that is done without identification of this nerve. Our aim was to evaluate the recurrence rates and eventual complications regarding this two surgical methods of removal of benign tumors of parotid gland, in view to that in modern professional literature exists an opposite opinion about these surgery interventions.
Methods: A retrospective study of patients with surgically removed benign tumors of parotid gland was performed for the period from 2006 to 2010. The collected data was analyzed and statistical processed in our research.
Results: The five -year study included 313 patients of whom 260 patients had undergone parotidectomy and 53 had undergone excision. The most often histopathological finding was pleomorphic adenoma in 49% cases, fol-

lowed by cystic adenolymphoma in 41 %. The percentage of recurrence in the group of patients who had undergone excision was 20 %, and for the group of patients who had undergone parotidectomy it was 1,17%.
Conclusion: Based on our results, we found that there is no significant difference between our and data published in significant international professional literature.

Abstract ID: 375

Fluoride ion release from glass-ionomer cement in artificial saliva medium (in vitro study)

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Abstract:
Background: Glass-ionomer cement (GIC) restorative materials have great anticariogenic potential due to the ability to release fluoride ions, and in the terms of constant presence of fluoride in the oral cavity also have shown the ability of fluoride reabsorption. The aim of this study was to analyze the concentration of released fluoride in artificial saliva- medium from premolar models made of conventional glass-ionomer cement with and without low concentrated fluoride solution treatment (334mg/l).
Methods: In 12 premolar shaped acetate crowns, of the same size, a glass-ionomer cement (FujiIX, GC, Japan) was applied. After bonding of GIC, acetate crowns were removed, and the models were immersed in a solution of artificial saliva and incubated at 37°C. All premolar models of Glass-ionomer cement (mpGIC) were divided into two groups of 6 samples. The first group of samples was treated daily with low concentrated fluoride solution (334 mg/l), while the second, control group, was not fluoridated. Both groups were divided into 3 subgroups of 2 samples, depending on the length of the study (7, 14 and 21 days). For fluoridation of the first group of samples mpGIC (1min/24h) fluoride solution was prepared, composed of 10 ml low concentrated fluoride solution (334mg/l) and 0.5 ml of artificial saliva. After the designated time has passed ,artificial saliva samples were sent for fluoride concentration analysis using ion selective electrode.
Results: Fluoride ion release from mpGIC in artificial saliva medium was the highest in the first week in both groups: fluoridated mpGIC (0.890±0.416mg/g) and non-fluoridated mpGIC (1.301±0.411mg/g). Cumulative value of fluoride ions released after the 14th day was the highest for non-fluoridated mpGIC (1.652±0.295mg/g) and for daily fluoridated (1.357±0.322mg/g), but seven days later those values were for fluoridated mpGIC (1.204 ±0.523mg/g) and non-fluoridated (1.461±0.257mg/g).
Conclusion: This in vitro study showed that the migration of fluorine ions (absorption and release) is present in all fluoridated and non-fluoridated premolar models of GIC and that fluoridation of GIC restorations is recommended after a period of time from placing GIC, when the level of fluoride in the fillings has decreased.

Abstract ID: 653

Evaluation of good oral hygiene effects on success rate of coronally advanced flap

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Abstract:
Background: Having good oral hygiene is essential and useful for all people especially for those who have coronally advanced flap operation due to gingival recession treatment in their dental history. Already there are many differences in coronally advanced flap procedure results, six months after surgery a wide range of root coverage has been reported. This study aims to determine the effect of good oral hygiene as one of the affecting factors on the success rate of coronally advanced flap procedures. Methods and materials: 35 patients referring to periodontology department of Tehran dental faculty that there was a coronally advanced flap operation in their dental history. During the past 3 months, were selected randomly and divided to two groups of patients. The study group (18 patients) and control group (17patient). Study group members participated in weekly oral hygiene instruction lectures for 6 months. They also took part in weekly oral checkups and recording of dental plaque index. They received free dental floss, toothpaste and a toothbrush. There was no lecture for the control group. After 6 month the results were reported:
Results: Title Control group Study group Recession width(RW) 2/6mm 2/1mm Recession depth(RD) 2/4mm 2/1mm Gingival sulcular depth(GD) 2/4mm 1/8mm Percentage of root coverage 52 61 All variables exhibited significant improvement between tow groups ($P < 0.0001$),
Conclusion: Good oral hygiene can have a significant effect on success rates of the coronally advanced flap procedure and raises the success rate but maybe there are other influential factors that need new study.

Abstract ID: 794

What cement to use,due to its sollubility in different pH solution?

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Abstract:
Introduction: One of the most important features which determines durability of cement in oral cavity is it's resistance on solubility and disintegration. The possibility of disintegration of cement in oral solutions is different for different types of cements.
Aim: The aim of this research was to analyze the level of disintegration of two different types of glass ionomer cement materials, and to determine if the pH value of a solution and time that cement spends in different environments have any effect on the level of disintegration of these materials.
Materials and methods: In this research was used traditional glass ionomer cement (GC Fuji I, GC America) and resin modified glass inomer cement (GC Fuji Plus, GC America). Out of each cement was made 45 specimens

(diameter 5,3 mm, thickness 1,8 mm). Specimens of cement were held in artificial saliva with three different pH values: 6,9; 4; 2,7 for 7, 15, i 30 days. Mass of cement samples was measured three times with accurate analytic scale (Mettler PE 600, Switzerland). The first measurment was done one hour after preparation of speciments (M1) the second one was done after the samples had been removed from solution (M2). After this, the speciments were held in exicators for 7 days.Constant mass is marked with M3,and it was measured 24h after removing specimens from exicator.In order to calculate the volume (V) of specimen, thickness and diameter of specimen must be measured. Solubility (Wsl) in micrograms per cubic millimeter is calculated for each specimen with following formula: Wsl= (M1 - M3) / V

Results: The results of this research have shown that solubility of analyzed cements is incresing with time and that lowering the pH value of saliva results in great increase in solubility. Resin modified glass ionomer cement shows smaller level of solubility comparing to glass ionomer in all time intervals and different pH values of artificial saliva.

Conclusion: Based on the results of this research, we can conclude that usage of glass ionomer cement for permanent binding of fixed crowns, considering its lower solubility, contributes to longer duration of fixed restoration in oral environment.

Session: Dermatology

Abstract ID: 438

The Report of Unexpected Cutaneous Reactions in Prediabetic and Diabetic Patients with Fatty Liver Treated with Salsalate

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Abstract:

Background: The reported salsalate adverse reactions are gastrointestinal effects such as: Nausea, heartburn, stomach pain and gastrointestinal ulceration, hemolytic anemia, weakness, dyspnea, rash and anaphylactic shock. The few cutaneous side effects reported in other studies for salsalate is the rash, in almost less than 10 % Objective To assess the prevalence and types of cutaneous side effects among the diabetic/prediabetic patients receiving salsalate for the treatment of fatty liver

Methods: In a randomized placebo-controlled trial, evaluating the effects of salsalate in treatment of fatty liver for prediabetic/diabetic patients, we assessed cutaneous side effects related to salsalate. Participants were 46 diabetic and 113 prediabetic patients, 80 received 3 gram/day salsalate and 79 were in placebo group for 4 weeks. Evaluation was done every week by a checklist filled by a single general practitioner.

Results: There was a significant difference between the salsalate and placebo groups in overall prevalence of cutaneous reactions (27% vs. 21.4%; p <0.05). Detailed side effects were as follows: 9 (10.1%) urticaria, 5 (5.6%) rashes, 6(6.7%) purities, 2 (2.2%) edema, 1 (1.1%) erythema nodusome, and 1 (1.1%) vasculitis in the salsalate and 6(8.6%) urticaria, 3(4.3%) rashes, 5(7.2%) purities and 1(1.4%) edema in the placebo group. In the salsalate group, 3 (3.3%) patients discontinued the therapy by the physician because of acute and severe vasculitis, erythema nodusome and uticaria and 2 (2.2%) stopped to use themselves because of incompliance in the result of mild urticaria. fatty liver were detected In 120(75%) participants. There was also a significant difference between the patients presenting cutaneous side effect and who did not represented such effects (48.5% vs. 58.3%; p <0.05) Conclusions: Salsalate can cause several cutaneous side effects which seem to be more remarkable in patients with fatty liver. Since these cutaneous eruptions could cause various concerns and patients incompliance, there should be more attention to dermatological problems in patients undergoing with the treatment of salsalate.

Abstract ID: 467

Evaluation of knowledge about acne vulgaris among selected population of adolescents of Tricity schools

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Abstract:

Background: It is estimated that approximately 80% of adolescents have different forms of acne vulgaris. Due to the high prevalence of the disease and its psycho-emotional impact on the quality of life, it is important to prevent the spreading of misconceptions. False beliefs can provoke complications and lead to longer treatment periods. The aim of the study was to analyze the basic knowledge and misconceptions concerning acne vulgaris among adolescents.

Methods: The study included 900 adolescents aged 15 - 19 y. (mean age 17.47 ± 1.04), 401 females, 493 males attending high schools (n=481) or technical colleges (n=419). The study was based on a direct anonymous questionnaire that consisted of fourteen multiple choice questions. All participants were required to complete the survey.

Results: On average, 50.3% of questions were answered correctly. 57.8% of participants stated that they had suffered from acne. However, those who had never had acne, underestimate it: 73.9% believe that it touches less than 40% of adolescents. As regards the causes, more than half (59.5%) of participants stated that acne is connected to eating and hygiene habits. 40.5% of students, and even 37.7% of those who have acne, considered acne infectious. The study revealed that many “false beliefs”, like curing acne through sunbathing or physical exercises exist. 26.4% of adolescents believe that starting sexual activity can influence curing of. Considering the effectiveness of curing acne in adolescence, 24.2% of participants do not see a point in early treatment. Finally, regarding the sources of knowledge about acne, most adolescents use the Internet, teenage newspapers, and friends' opinions. Only 41.2% wish to learn more, and almost 90% consider their knowledge sufficient.

Conclusions: The results from a large population-based study indicate that the knowledge about acne is insuffi-

cient, which reveals the need for introducing educational programs in schools.

Abstract ID: 666

Intercellular interactions in malignant melanoma

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Abstract:
The incidence of malignant melanoma, a malignant skin tumor in the Czech Republic increased from 1970 until now 4 times (approx 19.5 per 100 000 inhabitants, 2007 SZÚ). Despite progress in cancer treatment, the prognosis of patients with malignant melanoma is poor, especially for metastatic disease, which may play a significant role in complex tumor environment. Nodular melanoma is a prognostic poor form, here we observed in the periphery of the tumors and above the tumors, significant hyperplasia of the epithelium, there were even present in significant changes in the level of specific keratins, mainly of keratin 14 and 10. Malignant melanocytes induce expression of keratin 19, keratin 8 and epithelial-mesenchymal transition in cultured keratinocytes. In contrast, these changes do not cause healthy melanocytes. These results are comparable with the experiment when keratinocytes are exposed to the influence of neural crest stem cells from which melanocytes originate. Tumor environment doesn't consist only of the tumor cell, but from tumor associated fibroblasts too. These stromal fibroblasts isolated from skin metastases of malignant melanoma can also affect the healthy keratinocytes, but only at the level of keratin 14 and the presence of epithelial mesenchymal transition. Stromal fibroblasts can´t make changes such as malignant melanocytes or tumor stromal fibroblasts from other skin tumors. This research demonstrates to the complexity of the tumor microenvironment, where the tumor melanocytes induce stem cells like phenotype of keratinocytes and epithelial mesenchymal transition. This effect is similar to the results of neural crest stem cells from which melanocytes originate.

Session: Emergency Medicine

Abstract ID: 27

Changes in Hemodynamic Parameters during Interscalene Brachial Plexus Block

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Abstract:
Introduction: Anesthetic technique options are determined by considerations such as patient comfort and safety as well as postoperative pain management. Regional anesthesia allows to minimise the involvement of organ systems, reduce many of the body's normal stress reactions to surgical intervention, and decrease the probability of anesthesia related side effects and complications. Interscalene brachial plexus block (ISBPB) regional anesthesia is increasingly gaining popularity in shoulder surgery. Risks related to the use of ISBPB are generally low as regards hemodynamic change although there is evidence of fluctuations in arterial blood pressure (ABP) during the surgery. The changes can be ascribed to the factor of sitting position (decrease in preload), effects of the Bezold-Jarisch reflex, and the block of sympathetic trunk cervical ganglions.
Aim: The present study aimed to investigate fluctuations of central circulatory variables during the surgery. The focus is on the examination of ISBPB affected changes in central circulatory variables such as systolic index, cardiac output, cardiac index, systemic vessels resistance index and acceleration index.
Material and methods: The analysis is based on data of 36 patiens who underwent shoulder surgery. The patient population includes both sexes between 18 and 60 years of age with the ASA physical status I and II, weight from 50 to 100 kg and height between 155 and 190 cm. The patients were divided into 2 groups: the first group consists of 19 patients who underwent left shoulder surgery applying ISBPB; the second group of 17 patients had riht shoulder surgery applying ISBPB. Patient exclusion criteria: refused consent of enrollment in the investigation, coexisting diseases that were likely to impact changes in hemodinamics during the surgery. Central circulatory variables were assessesed by noninvasive transtoracal approach. The data was measured before and after the interscalene brachial plexus block, after the patient was placed in a semi-seated position, and every ten minutes during the first hour of the surgery. Data were recorded on the systolic, diastolic and mean arterial blood pressure, heart rate (HR), systolic index (SI), cardiac output (CO), cardiac index (CI), systemic vessels resistance index (SVRI), and acceleration index (ACI) combined with assessing changes in these parameters during the surgery.

Abstract ID: 93

Prophylactic antibiotic therapy in contaminated traumatic wounds: 2-days versus 5-days treatments

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Abstract:
Aim: Simple non-bite wounds and lacerations are commonly managed in emergency departments. We aimed to compare the clinical efficacy of the 2-day regimen of prophylactic antimicrobial agents with the 5-day regimen in simple traumatic highly contaminated wound management in the emergency department.
Methods: Between January 2010 and May 2010, 140 patients with simple traumatic contaminated wounds or lacerations that were highly contaminated with soil, debris or feces in different parts of the body and had come to emergency department of a referral educational hospital in Tehran (Rasool-Akram hospitals), Iran, were sutured. The patients were selected in a convenience sampling and were divided into two groups of 70 patients using table of random numbers. All of patients had indication of prophylactic antibiotic according to the responsible physician idea. Group A were supposed to receive 2-days of oral

prophylactic antibiotics after discharge and group B were prescribed 5 days of oral prophylactic antibiotics to take at home. The patients were warned about the signs of infection including long-lasting erythema, purulent discharge and inflammation and were supposed to inform the responsible physician. Oral Cephalexin 500 mg qid was prescribed for all included patients as prophylaxis.
Results: Of the 140 patients followed-up, 11(8.2%) patients developed sutured site infection (Six out of 70 (8.57%) in group A and 5 out of 70 (7.14%) in group B (P= 0.31)). The infection rates were 8.6% in men and 6.25 % in women which were not different significantly (P>0.05).
Conclusion: Our study showed that 2-day prophylactic antibiotic therapy using Cephalexin is at least as effective as a 5-day regimen in relation to surgical site infection in patients with simple traumatic contaminated wounds or lacerations.

Abstract ID: 722

Role of apoptosis in the course of traumatic disease in old patients with multiple trauma

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Abstract:
Background: In old patients' organism there are morphologic and functional changes that can lead to decreasing of oxygen transport system functioning and tissue hypoxia. At the same time, the course and prognosis of traumatic disease depends on the reactivity of organism that depends on anatomic and physiologic peculiarities of different patients. The aim of the study was to investigate the dependence of systemic oxygen transport on the level of markers of apoptosis and its effect on the course of traumatic disease in old patients with multiple trauma.
Methods: 70 patients treated for multiple trauma (ÀÐÀÑÍÅ II 31,8±4,2) were prospectively studied. Patients were divided into two groups which received the same complex of intensive care: under the age of 60 years were the first group (n = 38) and over the age of 60 years were the second group (n = 32). We analised parameters of central hemodynamics, morphometry parameters of erythrocytes, level of cytokines (TNF-α, IL-1, IL-6, IL-8), level of caspase 8, endothelin-1, oxygen transport parameters (DO2, VÎ2 and ERÎ2). We studied oxygen metabolism in peripheral tissues using polarography method on the 1st, 3rd, 5th, 10th and 21st days.
Results: During the examination of patients we did not reveal the differences in the parameters of central hemodynamics and morphometric parameters of erythrocytes between the patients of I and II groups. In patients of the I group the level of TNF-α, IL-1, IL-6 was higher (ð<0,05) than in patients of group II on the 1st, 3rd, 5th and 10th days of treatment, indicating a better reactivity of the organism. The oxygen transport parameters and the state of oxygen metabolism in tissues were significantly lower (ð<0,05) in patients in II group during the survey period. Endothelin-1 level also was significantly (ð<0,05) lower in patients in II group from 3rd to 21st days of treatment. The DO2, VÎ2, ERÎ2 and endothelin-1 level had a negative strong correlation with the level of caspase-8 in II group, the level of which they have been significantly (ð<0,05) higher than in group I during the observation period.
Conclusion: Thus, we can conclude that the course of traumatic disease in old patients with multiple trauma depends on the state of endothelium and decreasing precisely of functional activity of erythron system.

Abstract ID: 785

Influence the form of postoperative analgesia on the state of plasticity of the nervous tissue in old patients with multiple trauma

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Abstract:
Background: The course of traumatic disease determines the reactivity of the organism, which depends on the anatomical and physiological characteristics of each patient. Particular attention should postoperative pain, one of the negative effects of which is a breakage of the plasticity of the nervous tissue. This leads to a slowing of its recovery and the emergence of neuropathic pain. The aim of the study was to search a rational approach to postoperative analgesia in old patients with multiple trauma, which aims to maximum effective control of pain, minimal negative effects improve the regeneration of nervous tissue.
Methods: 72 patients treated for multiple trauma (ÀÐÀÑÍÅ II 32,2±4,4, ISS 40,3±4,2) were prospectively studied. Only old patients without traumatic brain injury (GCS more than 13) were selected. Patients were divided into three groups. Patients treated analgesia of NSAIDs were in first group (22 patients). Second group consisted of 28 patients. They treated analgesia of NSAIDs and agonist-antagonist of opioid receptors. 22 Patients treated analgesia of NSAIDs and anticonvulsants in the therapeutic dosages during the early period (fourteen days) of traumatic disease. We analised parameters of pain intensity by visual analogue scale, quality of analgesia on verbal Likert scale, the SF McGill Pain Questionnaire, neuropathic pain assessment scale NPSI. We studied biopsies of the skin flap, concentration of nervous fibers in the upper layers of the skin, the effect on C-fiber pain on the 1st, 3rd, 5th, 10th and 14th days of treatment.
Results: Established that the use in old patients with multiple trauma complex postoperative pain management, which includes anticonvulsants (gabapentin), improves (ð<0,05) the plasticity of the nervous tissue, significantly (ð<0,05) reduces the severity of pain. This version of analgesia in the postoperative period (ð<0,05) helps minimize the negative effects on the body's vital functions, which was confirmed by biopsy.
Conclusion: Thus, appointment anticonvulsants in the early period of traumatic disease in old patients is contributes to regeneration of nerve tissue that helps to reduce the number of complications and improve quality of life.

Abstract ID: 806

Recovery of the of gastrointestinal tissue during inflammatory diseases of the abdominal cavity

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Abstract:
Background: The problem of restoring the integrity of the mucosa of the gastrointestinal tract in inflammatory diseases of the abdominal cavity remains relevant in light of the continuing increase in the incidence and the lack of uniform criteria for the protection of the epithelium. The aim of the study was to to search criteria for the state of the digestive tract mucosa to estimate the treatment.
Methods: To determine the outcome and prognosis of inflammatory (purulent necrotic) disease of the abdominal cavity we examined 110 patients. For processing were selected most indicative parameters such as leukocyte index of intoxication, interleukins 1, 2, 6 and 8 and their relationship. Was established a mathematical model of the state of the mucous of the gastrointestinal tract and established the formula for calculating the forecast outcome of inflammatory diseases of the gastrointestinal tract.
Results: Established that if the relationship interleukin-1, interleukin-2, leukocyte index of intoxication to interleukin-6 and interleukin-8 above 5 there is a high probability (ð<0,05) adverse prognostic outcome. When the ratio of these parameters is less than 5 expected in most cases (ð<0,05), a favorable outcome.
Conclusion: Thus, this statistical analysis showed that the dynamics of the interleukin-1, interleukin-2, interleukin-6, interleukin-8 and leukocyte index of intoxication can predict the outcome of necrotic complications in inflammatory diseases of the gastrointestinal tract.

Session: Endocrinology

Abstract ID: 55

Thyroid antibodies in patients with diabetes mellitus type 1

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Abstract:
Diabetes mellitus type 1 (DM 1) is often associated with other autoimmune diseases, with autoimmune thyroid disease as the most common one. It can be manifested as subclinical thyroid gland dysfunction, hypothyroidism,or as euthyiroid state with positive antithyroid antibodies and rarely as Hyperthyroidism (Graves-Basedow).
The aim of the study was to determine the level of thyroid antibodies and the frequency of autoimmune thyroid disease in patients with diabetes mellitus type 1. The study has included 38 DM 1 patients, 20 women and 18 men with an average duration of DM 12 ± 4.7 years. Clinical assessments included level of Thyroid stimulating hormone receptor antibodies (TRAb), antibodies to thyroid peroxidase (TPOab), thyroglobulin antibodies (TGab) and hormon status (T3, T4, TSH) were calculated . As the findings were considered positive values TRab greater than 1.5 U, TPOab greater than 12 U and TGab greater than 34 U. Positive TPOab are found in 9 patients (23.7%), TGab in 7 (18.4%) and by 4 patients (10.5%) positivity was defined by both antibodies. Positive TRab were not established even in one patient. Total of 20 respondents (52.6) had positive antibody titers. Notable is the frequent thyroid antibody presence in females. Also 12 pts (31,5%) had increased level of TSH, 5 pts (13.2%) had hipotiroidsm and only one(2.7%) had hipertiroidsm. Four pts (10.5%) had suffer subclinical hipotiroidsm. The results indicate a high frequency of occurrence of thyroid antibodies and autoimmune diseases in patients with DM 1. Therefore, it is recommended screening thyroid antibodies because regular screening for thyroid abnormalities in all diabetic patients will allow early diagnose of thyroid dysfunction, especially in patients with subclinical dysfunction.

Abstract ID: 83

Hypoglycemic effect of aqueous extract of Ocimum Gratissimum on alloxan induced diabetic wister strain rats.

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Abstract:
Introduction: Diabetes mellitus is a metabolic disorder characterized by concentrations of blood sugar. Treatment costs and numerous side effects such as tachyphylaxis, nausea and hypoglycemia associated with various treatment options, have resulted in treatment failure. This study examined the potency and efficacy of Ocimum gratissimum in 130mg/kg alloxan induced diabetic rats with the glibenclamide treatment group. The result showed that extract of Ocimum gratissimum is equally effective as glibenclamide but with a faster onset of action.
Materials And Methods: 20 male albino rats, normal saline, syringes(1ml,2ml,5ml),test tubes, measuring cylinders, fine test glucometer, fine test glucometer test strip, weighing balances ,hand gloves, alloxan(powder form),distilled water, spatula, ethanol, lancet, metabolic cage, beakers, oral cannula, Crude aqueous extract of Ocimum gratissimum, glibenclamide 5mg, ratpellet, blender,cotton wool.
Results: The results of the study has shown both glibenclamide and crude extract of Ocimum gratissimum to significantly reduce the serum blood sugar of the rats ($p<0.05$) Comparison of the anti-diabetic activities between the two agents showed no significant difference ($p>0.05$), giving an implication that both glibenclamide and crude extract of Ocimum gratissimum exhibited their blood sugar reduction in rats at almost the same frequency.
Conclusion: This study has established alloxan as an efficient inducer of hypoglycemia in rat models and it has also been proven that crude aqueous extracts of Ocimum gratissimum possess anti-diabetic property. The experiment suggests that there is urgency to further explore the therapeutic importance of this extract in the treatment of diabetes mellitus.

Abstract ID: 153

Drosophila as a model system for studying sugar metabolism

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Abstract:
Introduction: Adiposity is increasingly becoming a world epidemic with the costs of its related chronic effects climbing into unpredictable heights. Adiposity is known to impair insulin signaling causing a state of prolonged hyperglycemia. Hyperglycemia in turn is the main pathomechanism of diabetes-related chronic effects. Interestingly statistical analysis showed that the effect of adiposity on mortality can be questioned. Therefore to show causality and to do efficient research the use of model organisms is essential. As Drosophila is one of the most frequently used and easily manipulative model organism it is surprising that its mechanisms of glucose homeostasis are not well understood. It is still unknown whether there are major differences between mammals and Drosophila in regulating circulating sugars. In this study our experiments aimed at establishing the fruit fly Drosophila melanogaster as a model system for studying sugar metabolism and Diabetes Mellitus.
Material and methods: All flies were maintained at 25°C on standard food medium. Trehalose was quantified with anthrone reagent (Sigma) and used as readout for circulating sugars. Fat was quantified by enzymatic colorimetric assay (Sigma-Kit). Motility was assayed by countercurrent distribution (Benzer S, 1967). Whole Fly RNA was isolated with Trizol®Reagent (Invitrogen), reverse transcribed (Superscript II, Invitrogen) and used for real-time q-PCR (Applied Biosystems, SYBR-Green)
Results: Circulating sugar levels fall after starvation. Upon refeeding with a high glucose solution sugar levels rise again and are then kept at a prestarvation level, indicating that the homeostatic mechanisms keeping glucose levels in a narrow range are evolutionary conserved. Furthermore we confirm that, as in mammals, a diet rich in sugars can elevate fat levels and cause an adiposity-like state with decreased motility. Interestingly the pattern of insulin-like-peptide 2 expression is also altered towards downregulation on a High-Glucose-Diet.
Conclusion: In mammals it is known that the blood glucose concentration is a very critical internal parameter that requires a strict homeostasis. Here we provide data supporting the hypothesis that Drosophila melanogaster shows similar evolutionary conserved regulation patterns of glucose homeostasis as observed in mammals. In summary we claim that one day drosophila melanogaster will be a suitable model for studying human pathologies involving sugar metabolism.

Abstract ID: 264

Normalization of glucose levels after transplantation of DiO-labeled islets to the recipients with alloxan diabetes

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Abstract:
Cell transplantation and cell therapy as one of its important aspects is a way of biological tissue remodeling and repair. Many experimental and clinical studied showed that cell transplantation may cure diabetes mellitus. However, most of these curing are still in a developmental stage, because of there are many questions, which should to be clarified. Therefore, the current medicine and biology requires the correct evaluation of cell-based therapy outcomes.The method of fluorescent-based cell monitoring is the most widely spread and used. We used a fluorescent labels such as DiO and PKH26 for evaluation of outcome of transplantation of endocrine gland's cells (islets, adrenocytes, thyrocytes). The goal of this work was to study survival of DiO-labeled islets after transplantation to diabetic animals. Rabbits were bred at the IPC&C of the NAS of Ukraine. All animal experiments have been approved by the institutional review board. Neonatal porcine islets were obtained by Korbutt G.S. et al.,1996. Diabetes in rabbits was induced by the injection of alloxan (100 mg/kg body weight). Porcine islets (4,5–5,5×106) were stained with DiO and transplanted without immunosupression into rabbit's liver (through portal vein) or spleen on the 20-21 day after alloxan treatment. Glucose blood level was tested weekly. Surgical resection of the liver lobe and total spleenectomy were performed on the 20 day after transplantation. Fluorescent confocal microscopy and flow cytometry were used for islets visualization and analisys. The glucose blood level declined from 20-25 to 5 mmol/l during first week after islets transplantation to liver as well as to spleen. Surgical elimination of the graft-bearing liver lobe and spleen on the 20 day after transplantation led to the sharp increase of glucose in the blood up to 18-20 mmol/l. Islets were purified from the liver lobes or spleens by the ficoll gradient separation. The presence of DiO-labeled islets in the cell suspension obtained after purification was confirmed by fluorescent microscopy. FACS analisys demonstrated about 2,5% and 0,5% islets in the suspensions derived from the liver lobe and spleen, respectively. Normalization of glucose levels in rabbits was achieved due to function of transplanted islets, which was confirmed by reversal of diabetes after removal of the graft-bearing liver and spleen. DiO-labeled islets were found in the sites of transplantation for 20 days after injection.

Abstract ID: 306

Effectiveness of Diabetes Education

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Abstract:
Background: Education of patients with diabetes is considered a fundamental aspect of diabetes care and aims to

empower patients by improving knowledge and skills. The aim of this study was to conduct a systematic review of reports published about educational interventions on Iranian patients with diabetes.
Methods: All published articles in Iranian and international journals and those presented in relevant congresses were reviewed using standard key words. Studies published from April 2002 to December 2008 that met the eligibility criteria were included for this systematic review.
Results: A total of 18 discrete studies were identified. These studies were heterogeneous with respect to patient population, educational intervention, outcomes assessed, study quality, and generalizability. However, positive effects of self-management training on knowledge, frequency, and accuracy of self-monitoring of blood glucose and glycemic control were demonstrated in studies with short follow-up (less than 6 months). Effects of interventions on lipids, nutritional diet, weight, blood pressure, and quality of life were variable.
Conclusions: There are insufficient and conflicting findings to obtain any firm conclusions regarding diabetes education in Iran. However, the appropriate diabetes health education appears to have short-term effects on glycemic control and knowledge of diabetes. The heterogeneity of studies made subgroup comparisons difficult to interpret with confidence. There is a need for long-term, more rigorous methodology. It is also highly recommended to health policy makers in Iran that a special course for training diabetes educators be designed because it would enable them to tailor appropriate education intervention for people with diabetes.

Abstract ID: 318

Predictive factors of myocardial infarction using Weibull model: A population based study

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Abstract:
Background: Cardiovascular diseases are at the head of etiologies of death in the most of countries. About 30 to 40 percent of the total deaths in middle-aged population are related to heart diseases. Prediction time of myocardial infarction and its association with risk factors of classical cardiovascular diseases is very important to prevent of myocardial infarction. This study was designed to evaluate the relationship between classical heart diseases risk factors and myocardial Infarction using Weibull model.
Methods: In the prospective population base cohort study 5183 men and women, aged over 30 years, without cardiovascular disease in East Tehran were studied. The participants in this study were followed 6.5 years, from 1998 to 2008. Variables, age, sex, LDL, SBP, DBP, HDL, TG, smoking, BMI were measured in the base line. Time of observation was recorded as the period initial examination until first hospitalization from MI. disappearance, immigration or survival without MI was defined as censoring time. Data for analyzes by Weibull accelerate failure time models. Time ratio (TR) and hazard ratio (HR) were considered as association criteria.
Results: A total of 83 new cases of MI (53 men(65%) and 30 (35%) women) accrued during follow up time. Weibull regression model showed that there are significant relationship between FBS, sex, SBP and smoking with MI($p<.05$). Coefficients of Wiebull model show that FBS more than 127 mg/dl ,adjusted on , age, sex, LDL, SBP, DBP, HDL and TG, decrease time to MI 2.87 times(Time ratio, TR=2.78 ,Hazard ratio HR=5.68,$p<0.01$).Time ratio in Weibull model showed that the time of MI in patient with FBS>126 is 2.78 times sooner than other patients. HR showed that the Hazard of MI in patient with FBS>126 is 5.68 times patients with FBS<126.
Conclusion: Variables of FBS ,age, sex, LDL, SBP, DBP, HDL,TG ,and smoking are important predicted factors of Myocardial Infarction using Weibull distribution .

Abstract ID: 384

Obesity in a population of students

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Discipline: Endocrinology

Abstract:
Introduction: Obesity is disease that characterized by increasing body fat mass that leads to serious health problems and a series of complications.
Aim: The aim of this study was to determine prevalence of obesity in the population of students using different criteria for its definition (BMI, BF %) and to evaluate the importance of self-recognition obesity.
Materials and methods: The study group consisted of 154 students of both gender at the University of Novi Sad: 54 students from Faculty of Medicine, 50 students from Faculty of Economics and 50 students from Faculty of Physical education. From the total number of subjects 83 were female subjects and 71 male subjects. The subjects were aged between 20 and 25. We measured the body height, weight, calculate body mass index (BMI), and for analyses of body composition we used bioelectrical impedance measurement and made a survey of self recognition obesity - and the degree of nourishment.
Results: Research has shown, considering BMI, that at the Medical Faculty there is no obese subjects, and by measuring the precentage of body fat 15% of students were obese. In this survey, we obtained information that 20% subjects self-reported as obese. According to BMI at Faculty of Economics there is 2% of obese subjects and regarding to body fat precentage is 14%. Only 12% subjects self-reported as obese. Faculty of Physical Education, according to BMI, 4% of students are obese and by measuring the body fat precentage there is 8% of obese. A questionnaire obtained the fact that 6% of subjects considered themselves overweight. Conslusions: Among tested student population there was found 6,5 % using only the increased BMI in determining the level of nutrition, obesity would not have been detected in 8,44 % subjects. At the Faculty of Medicine there would be 15% of undiagnosed subjects, at Faculty of Economics 12%, and at Faculty of Physical Education 4% subjects. In terms of self-reported data about the nutritional status, medical students have overestimated obesity in 5% cases, at Faculty of Economics, students have underestimated obesity in 2% cases and the same percentage was recorded at the Faculty of Physical education.

Abstract ID: 393

Osteoporosis Related with Lifestyle among Older Women

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Abstract:
Aims: The lifestyle risk factors of lack of exercise, smoking, alcohol intake, and caffeine consumption are reviewed for physiological effects which place women at risk for osteoporosis.
Methods: The study applied among those women ages 60 to 64 years of age who are at increased risk. The best risk factor for indicating increased risk is lower body weight (weight < 70 kg), with less evidence for family history. There was insufficient evidence to make recommendations about the optimal intervals for repeated screening and the appropriate age to stop screening. Clinical prediction rules are available to guide selection of women ages 60–64 for screening. The Osteoporosis Risk Assessment Instrument (ORAI) may be the most sensitive strategy
Results: Study results indicated that better educated women who living with healthy lifestyle had more knowledge about osteoporosis than women with a low education level, regardless of age, even though this knowledge and lifestyle ware rather fair. Older women got more weight-bearing physical activity at home and less at place of employment than reported by the younger women; however, neither group performed sufficient high-intensity WBPA to improve bone mass. Regardless of age, the most women consumed 60% or less than the Dietary Reference Intake of calcium and depend on household income, lactose intolerance and coffee rather than milk consumption.
Conclusion: there are medications that can be used for prevention of spine fractures and support the building up of muscles. Fall prevention can help prevent osteoporosis complications.

Abstract ID: 421

How obesity may protect against or expose to osteoporosis

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Background: There is a common belief that high weight and body mass index (BMI) prevents osteoporosis1, although dispute upon this belief and their exact relevance remains2. Inflammatory markers (infMs) are reported to be elevated in obese patients. Meanwhile infMs are imperative in bone remodeling also. This study was conducted to investigate obesity-osteoporosis interaction considering body composition (BC) and infMs.
Methods: Adult obese participants with BMI≥30kg/m2 entered the study. Their BC elements, fat mass (FM), visceral FM (VFM) and lean body mass (LBM), were recorded by bioelectric impedance analysis (BIA) along with anthropometric features. Bone mineral density (BMD) was estimated by dual-energy X-ray absorptiometry (DXA) within hip, as total, (HBMD) and lumbar spines, L2-L4, (LBMD). InfMs including C-reactive protein (hsCRP), interleukin6 (IL6) and tumor necrosis factor-α (TNF-α), were measured by Immunoturbidimetric assay and enzyme-linked immunoassay (ELISA) respectively. Correlations were calculated by Pearson's test.
Results: 220 adults with obesity participated in the study. FM positively correlated both HBMD and LBMD. But BMI and VFM only correlated with HBMD (r=0.44, p<O.OO 1 and r=0.4, p=O.OOI). Regression analysis confirmed these correlations after adjustment for age. Based on BMD T-score, osteopenia prevalence in lumbar spines and hip was 30.6% and 8.5% respectively. We found significant lower LBM in osteopenic patients in both region of BMD. Regarding BMI, FM and VFM this significant reduction was only found in hip osteopenia. TNF-α, hsCRP and IL6 all were higher in osteopenic patients, but only IL6 showed significant elevation comparing patients with normal BMD.
Conclusion: These findings suggest that: various BC characteristics, fat distribution and different proportions of excess FM, may affect BMD differently, which many mechanisms can contribute to that. Association of high infMs and osteoporosis3 is reported previously. This study showed low LBM is associated with osteopenia along with raised infMs, thus inflammation is a probable way of BC-BMD interaction and infMs as potent regulators. Despite previous reports of high BMI protection against osteoporosis, our study proposes other characteristics to enroll BMD prominently.

Abstract ID: 473

Association of passive smoking with metabolic outcomes among people with type 2 diabetes: Results of a multi-center study

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Abstract:
Background: The co-existence of risk factors further worsens the health outcomes as compared to their individual effect.1 Diabetes mellitus and passive smoking are independent risk factors for poor metabolic outcomes.1,2 The metabolic outcomes can be further worsened if diabetes mellitus and passive smoking co-exist. The study aimed to assess the association of passive smoking with individual metabolic components among diabetics.
Methods: A multi-centered cross-sectional study was conducted in four out-patient clinics in Karachi,Pakistan. All in all 889 adults with type-2 diabetes were recruited in the study. Diabetics exposed to passive smoke for at least 30 minutes/day for at least 5 days/ week since last 6 months and more were defined passive smokers. Patients' medical records were used to verify the values of metabolic components. Means were calculated and multinomial logistic regression was done to find the association of passive smoking with metabolic components.
Results: Mean values of metabolic components were higher among patients exposed to passive smoking compared to non-exposed patients: body mass index (28.70vs26.83), fasting blood glucose (219.20vs 189.97), fasting triglycerides (225.48vs192.53), systolic blood pressure(140.84vs129.41) and diastolic

blood pressure (86.62vs81.74). In univariate analysis passive smoking was associated with all the metabolic components (p<0.001). Multivariable analysis showed passive smoking to be independently associated with triglycerides (AOR=1.005,95%CI=1.003-1.007) and systolic blood pressure(AOR=1.041,95%CI=1.030-1.007).
Conclusion: Passive smoking is associated with poor metabolic outcomes among diabetes patients Diabetic-passive smokers need proper counseling and comprehensive care by the clinicians.
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Abstract ID: 488

The influence of weight and body composition upon bone mass in pre and posmenopausal women: cross- sectional study

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Discipline: Endocrinology

Abstract:
Background: Osteoporosis has been intensively studied all over the world. The pathogenesis, the contributing factors, the hormones involved. It is a fascinating and fast evolving subject. My study has not only reinforced an already consacrated idea, that adipose tissue has a positive effect on bone density but also rises new questions. Better overweight with strong bones or skinny with high risk of fractures? We are further investigating and have not finished our study. There is a positive correlation between body weight and bone mass. It is known the fact that not only gravitation stress stimulates bone turnover but also the endocrine function of adipocytes.
Materials and methods: Cross-sectional study including six groups varying from 8 to 15 pre- / postmenopausal healthy volunteers with different weights (lean BMI < 25 kg/m2, overweight BMI 25-30 kg/m2, and obese BMI > 30 kg/m2), not exposed to antiosteoporotic therapy. Lumbar bone mineral density (BMD) and body composition (BC) were evaluated by dual X ray absorptiometry (DXA, Hologic).
Results: Lean and overweight postmenopausal women had lower lumbar BMD than premenopausal women (p < 0.05). Bone mass of obese postmenopausal women did not differ from that of premenopausal women. Body weight and compartments were all positively correlated to bone mineral content and lean mass is a better predictor of bone mass. We are further investigating which one of the Z and T scores is a better predictor of osteoporosis, the relationship between adipose tissue hormones such as leptin and adiponectin and bone mineral density and also adipose tissue effects on men osteoporosis.
Conclusion: Increased body weight prevents bone loss after menopause. Lean mass predicts bone mass independently of body weight irrespective of age. Fat tissue influences bone mass through gravitational stress.

Abstract ID: 609

Oyster (Pleurotus ostreatus) Extract as New Innovation for Regeneration Therapy of Pancreatic Islet Cell in Type II Diabetic Mice

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Abstract:
Introduction: Diabetes is a major health problem in 21st century. App. 150 million people suffered from diabetes in 2003. 333 million people are expected to suffer from diabetes in 2023. Diabetic patients will suffer from occasional hyperglycemia and morphological changes in pancreatic islet cells. Objective: To evaluate the anti-diabetic effect of oyster extract in Type 2 diabetic mice based on blood glucose, hematopoietic stem cell (CD34), pancreas weight and islet morphology.
Materials and Method: Type 2 diabetes in BALB/c mice was induced by a single i.p Injection of Streptozotocin (100 mg/ kg) and Nicotinamide (240 mg/kg). Ethanolic extract of Oyster (25mg/kg, 50mg/kg and 100mg/kg per day) was administered to the mice model per oral for 12 day. At the end of the treatment, blood was analyzed for glucose and CD34 expression. The pancreas of each mouse was studied to check whether there were any mass difference and histological changes.
Result: Treatment of type 2 diabetic mice with Oyster Extract produced a significant fall in blood glucose (p<0.05) for about 43% (dose 25mg/kg), 55% (dose 50mg/kg) and 46% (dose 100mg/kg). Significant increase (p<0.05) in cell expressing CD34. Value of linear correlation between Oyster extract dose and pancreas weight show significant and strong correlation (r=0.663). Pancreatic islets showed an increase in numbers.
Conclusion: Oyster extract has significant Type 2 anti-diabetic activity and this may be due to increasing release of hematopoietic stem cell which may able to regenerate pancreatic islet cell.

Abstract ID: 648

Correlation of echosonography characteristics and presence of thyroid auto-antibodies in patients with autoimmune diseases of the thyroid gland

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Abstract:
Abstract Objectives: Echosonography is a modern diagnostic method which is used to determine the density of thyroid tissue. This is relevant as the density of thyroid tissue can be used to determine stromal size, as well as the extent of homo- or heterogenity of stromal structure. The

use of a standardized ultrasonographic grey scale allows for the objective determination of tissue density. In autoimmune diseases lab results show altered levels of thyroid hormones. Specifically, thyroid stimulating hormone (TSH) is increased while the titer of thyroid peroxidase antibodies (TPO-Ab) is significantly higher than in the normal population. Studies have previously suggested a positive correlation between thyroid density, and therefore structure, as determined by echosonography and the presence of autoimmune disease. Aims: To confirm the positive association between thyroid characteristics as determined by echosonography and the presence of anti-TPO-Ab in patients diagnosed with autoimmune disease of thyroid gland, and to determine the usefulness of echosonography as a diagnostic tool for thyroid autoimmune disease. Matherials and methodes: 20 patients with autoimmune desease of the thyroid gland were included in the study. To analyze the corelation between anti-TPO-Ab and thyroid structure as determined by echosonography we used the Pearson correlation. Due to the wide range of absolute values obtained, logarithmic values for thyroid antibody concentrations were used for correlation analysis.
Results: Standardized thyroid density (std = thyroid muscle density / thyroid gland desnity) was not corelated to the plasma concentration of anti-TPO-Ab, however measured values of thyroid gland density significatly correlated with logarithmic values of TPO-At (r= -0.475, p= 0.034) , and with TSH concetration (r = 0.447, p= 0.048).
Conclusions: Our results suggest that thyroid echosonography is a useful adjunct to the diagnostic toolbox available to clinicians for the determination of the presence of thyroid autoimmune disease.

Abstract ID: 663

Gravesa disease and gene polymorphism of TNF-a, IL-2, IL-6, IL-12, and IFN-c

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Abstract:
The role of genetic factors in the pathogenesis of Gravesâ€™ disease (GD) is not clear. The purpose of this study was to investigate the association between single nucleotide polymorphisms in pro-inflammatory cytokine genes and GD in Iranian patients. A caseâ€“control hospitalbased study was carried out on 107 GD patients and 140 healthy controls. Cytokine typing was performed by polymerase chain reaction with sequence-specific primers (PCR-SSP) assay. The allele and genotype frequencies of the following cytokine genes were determined: TNF-a (-308A/G, -238A/G), IL-2 (-330T/G, ?166G/T), IL-6 (-174C/G, A/G nt565), IL-12 (-1188A/C), and IFN-c (UTR 5644A/T). The following alleles and genotypes were significantly overrepresented in patients: TNF-a -308A allele (P\0.01) and AA genotype (P\0.05), IL-2 -330G allele (P\0.01) and GG genotype (P\0.01), IL- 6 -174C allele (P\0.01) and CC genotype (P\0.01), IL-12 -1188C allele (P\0.01) and CC genotype (P\0.01), IFN-c UTR5644T allele (P\0.01) and TT genotype (P\0.01). In conclusion, this is the first study to show a significant association between GD and IL-2 -330G, IL-12 -1188C, and IFN-c UTR 5644T alleles. Our results support the hypothesis that polymorphism in pro-inflammatory cytokines might be involved in predisposition to GD.

Abstract ID: 787

Treatment with EGCG elicits neuroprotective and antinociceptive effects in an animal model of diabetic neuropathic pain.

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Abstract:
Diabetes is accompanied by several complications which may include painful diabetic neuropathy. It is responsible for spontaneous pain, mechanical hyperalgesia and tactile allodynia and affects more than 25% of diabetic patients with neuropathy. Previous findings showed that during diabetes the numbers of serotoninergic neurons in the rostroventromedial medulla (RVM) decrease probably due to oxidative stress and neuronal death. Since serotoninergic RVM neurons are involved in descending nociceptive modulation, it is likely that this accounts for painful diabetic neuropathy. This study aimed to evaluate the effects of the antioxidant treatment with Epigallocatechin gallate (EGCG) on behavioral pain responses and on serotoninergic neuronal population of the RVM in streptozotocin (STZ)-diabetic rats. Diabetes was induced in male Wistar rats (250-300g) by an intraperitoneal injection of STZ. Control rats (CTR) received only the vehicle solution. Three days later, a group of STZ rats started a treatment with an aqueous solution of EGCG (2g/l; STZ+EGCG) during 10 weeks while the remaining experimental groups were given water (STZ+water and CTR). Before onset of treatment and at its completion, behavioral evaluation was performed using the paw pressure test and the dynamic plantar aesthesiometer for determination of mechanical hyperalgesia and tactile allodynia. RVM serotoninergic neurons were identified by immunohistochemistry against tryptophan hydroxylase (TpH), the rate-limiting enzyme in serotonin synthesis. The number of immunorreactive neurons for TpH (TpH-IR) was counted in RVM, which encompasses the raphe magnus nucleus and the gigantocellular pars alpha area. Means were compared by One-Way Analysis of Variance (ANOVA) followed by Tukey post hoc test for multiple comparisons. STZ rats showed hyperglycaemia three days after injection and EGCG treatment had no effects on the hyperglycaemia. Treatment with EGCG prevented tactile allodynia and mechanical hyperalgesia detected in untreated STZ rats, along with the decrease in the number of TpH-IR neurons at the RVM. The results of the present study show that EGCG treatment prevents serotoninergic neuronal loss in the RVM in diabetes. This study suggests that antioxidants may prevent the pathophysiological changes of serotoninergic descending pain modulation pathways during diabetes, giving rise to new perspectives on the development of therapeutic strategies for the treatment of painful diabetic neuropathy.
Session Enterology:

Abstract ID: 392

Quantification of BAX-immunopositive cells in lymphatic follicles during different stages of chronic tonsillitis

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Abstract:
Background: Bax is proapoptotic protein which, by increasing permeability of outer mitochondrial membrane, enables the passage for the cytochrome C to the cytoplasm, where apoptosis occurs as the definitive outcome. The aim of the study was to show possible differences in the number of apoptotic cells in chronic and reccurent tonsillitis by quantifying bax-immunopostive cells in germinative centers and mantle zones of lymph follicules.
Methods: As a material we used tonsils taken after a tonsillectomy. The quantification of bax-imunopostive cells was performed on 5μm thick serial paraffin tissue slices, which were stained by using bax monoclone antibody. For quantification of bax-immunopostive cells we used Image J software.
Results: Results of quantification of Bax-immunopositive cells in germinal centers and mantle zones of lymphoid follicules show no statistically significant importance in the number of Bax-immunopositive cells in tonsils with a RT or a HHT.
Conclusion: Although main proapoptotic factor, Bax probably doesn't have the role in pathogenesis of HHT and RT.

Abstract ID: 754

The subarcuate foass and its postnatal development: A computer-tomographic study

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Abstract:
The subarcuate fossa (SF) is an anatomical structure situated on posterior wall of the petrous part of the temporal bone, superior and lateral to the internal acoustic meatus. It originates under anterior semicircular canal (ASC) and is well developed in fetuses and children up to second year of life. In older children and adults SF is a shallow depression and the subarcuate canaliculus (petromastoid canal) starts within it. SF houses the dura mater and subarcuate vessels supplying mastoid cells. Awareness of postnatal changing morphology of this region is important especially for otosurgeons (i.ex. involved in otogenic intracranial complications, especially in young children). Description and morphometry of SF in children up to 5 years using Computed Tomography. The study was performed on CT scans of 58 children aged 1 month-5 years from the Bogdanowicz Memorial Hospital for Children in Warsaw. Children were divided into 3 age groups: I (0-1) yr, II <1-2) yrs, III <2-5> yrs. Several dimensions of SF were measured: length of the pyramid (PD), distance between ASC and the pyramid apex (FA), outer diameter of ASC (ASCD), width of SF inside ASC (FAW), maximal width of SF lateral to ASC (FW), distance between fundus of SF and ASC (FDS) and posterior pyramid wall (FDL). Presence of the subarcuate canaliculus (SC) was noted. Images were analyzed with DicomWorks software. All data was analyzed statistically. SF was found in all cases. Average value of all distances measured were given: PD 51.71±6.21 mm; FA 25.42±3.55 mm (raised with age); ASCD 8.52±0.69 mm (similar in all groups); FAW 2.61±0.91 mm (group I), 1.97±0.72 mm (group II); FW 2.36±1.11 mm (group I), 1.58±0,37 mm (group II). FDS 3.53±1.08 mm (group I), 2.65±1.35 mm (group II). FDL 6.76±1.20 mm (group I), 4.13±2.24 mm (group II) and 1.72±1.08 mm (group III). SC was found in 9 cases (9/38) in group I, 26/38 in group II, 33/40 in group III. FAW, FW and FDS were impossible to assess in group III. Petrous part of the temporal bone grows with age up to 5 years old whereas ASC does not. SF diminishes with age: lateral to ASC is well developed in newborns and infants (up to first year), rapidly diminishes in children aged 1-2 yrs and is totally absent in children >2 yrs. SF medial to ASC is constant and diminishes with age. In children older than 3 years morphology of SF is similar to adults. SC is difficult to identify in children up to the first year.

Session: Epidemiology

Abstract ID: 371

Prevalence of metabolic syndrome in Zahedan, southeast Iran

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Abstract:
Background: The aim of the present study was to determine the prevalence of the metabolic syndrome (MES) as well as cut-off points for waist circumference (WC) for diagnosis of MES in Zahedan, southeast of Iran.
Methods: In 1802 individual (735 men and 1067 women) MES was determined according to National Cholesterol Education Program Adult Treatment Panel III (NCEP ATP III) and the International Diabetes Federation (IDF) criteria.
Results: The prevalence of MES was higher in women than in men. In both sexes the prevalence increased with age. The prevalence of MES among 1802 individual aged ≥19 years according to NCEP ATP III and IDF were 21.0% (15.4% in male, 24.9% female) and 24.8 (20.0% in male and 28.1% in female), respectively. Using obtained WC cut-off values (93.5 cm in men and 85.5 cm in women) in our population the prevalence of MES was 22.8% (20.0% in male and 24.6% in female). The results showed that reduced HDL-C (60.6%) and WC (43.3%) was the most common components of the metabolic syndrome, followed by high triglycerides (32%), elevated glucose (17.1%) and high blood pressure (13%).
Conclusion: This study shows a high prevalence of MES in Southeast of Iran.

Abstract ID: 372

Is Type D Personality contributing to Cardiovascular diseases in Major Depressive patients?

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Abstract:
Type D personality is defined as the joint tendency towards negative affection and social inhibition. Large body of evidence consistently shows strong correlation between Type D personality and morbidity of cardiovascular diseases. On the other hand, Major depression (MD) is associated to various co morbid cardiovascular disorders, as well as Type D personality. The aim of our study was to investigate possible role of Type D personality as a risk factor for cardiovascular morbidity in MD patients compared to healthy subjects.
Methods: Our investigation included 60 MD outpatients in remission and 55 mentally healthy controls. The Type D personality was measured by self-rating 14-item scale. Demographic and clinical data were obtained by interviewing the subjects and reviewing their medical records. Statistical analyses were performed using SPSS for Windows v. 13.0
Results: Nearly 2/3 of subjects were females in both study groups. MD patients and controls were age-matched (48.17 ± 9.55 vs. 42.17 ± 7.25, respectively). The prevalence of Type D personality was high in both patients and controls (81.7% vs. 77.6%, respectively), without statistically significant difference among study groups (X2=0.28, p> 0.05). Cardiovascular morbidity was significantly more prevalent in MD patients compared to healthy controls (X2= 30.73, p< 0.001). 56.7% of MD group had cardiovascular morbidity in contrast to 6.1% of controls. The predictive value of male gender, MD and the Type D personality for a cardiovascular risk was analyzed. The overall predictive model was statistically significant (X2 = 25.348, p <0.001), and it explained 26.6 to 35.7% chance for a person to develop a cardiovascular condition. However, the only significant predictor of cardiovascular risk was the presence of Major depression (Exp B = 28.93, p <0.01).
Discussion: This was the first study exploring Type D personality in MD patients. Our results showed surprisingly high prevalence of Type D personality in both groups. Previous studies in general population indicate approximately 20% of Type D's. In contrast to other findings, Type D was not related to risk for cardiovascular morbidity itself.
Conclusion: Our study suggests that Type D personality contributes to cardiovascular morbidity in approximately 1/3 male MD patients.

Abstract ID: 476

Effect of Hepatitis Coinfection on Hemoglobin Level in HIV Patients in Pokdisus RSCM Jakarta, Indonesia

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Discipline: Epidemiology

Abstract:
Introduction: Under an immunocompromised status, HIV patients are very prone of being infected by other diseases. Hepatitis infection, especially hepatitis C, is one of the most commonly found infections in HIV patients. Previous studies found out that patients under hemodialysis treatment infected with Hepatitis C have higher level of hemoglobin, while those with Hepatitis B infection have lower level instead. Since both hemodialysis and HIV patients have impaired immune system, our goal in this research is to observe and compare the hemoglobin level of HIV patients with hepatitis B, hepatitis C, both hepatitis B and C, and those without hepatitis infection.
Methods: A cross-sectional study was done on a total of 249 adults infected with HIV in POKDISUS RSCM, Jakarta-Indonesia in January-December 2010. The subjects are divided into 4 groups, those with hepatitis B coninfection, hepatitis C coinfection, both hepatitis B and C coinfection, and without hepatitis infection. The HIV infection was tested by ELISA test and the hemoglobin level was measured using cyanide free hemoglobin method. Lastly, the hepatitis infection status was assessed by sandwich ELISA test. The average of the hemoglobin level in each group was then calculated and compared.
Results: Among the HIV patients, 6 were coinfected with hepatitis B, 86 with hepatitis C, and 16 with both hepatitis B and C, while the other 141 patients were not coinfected with hepatitis. The mean hemoglobin level of those with coinfection of hepatitis B, hepatitis C, both hepatitis B and C, and those who do not have hepatitis coinfection are 7.22 g/dl, 12.3 g/dl, 8.66 g/dl, and 11.2 g/dl respectively.
Conclusion: The result of this study shows that HIV patients with hepatitis C infection are more likely to have higher hemoglobin level compared to those with hepatitis B, both hepatitis B and C, and patients without hepatitis coinfection. Therefore, greater concern regarding complications of low hemoglobin level should be more stressed on the three criteria above. Further study needs to be conducted to examine the underlying cause of this phenomenon.

Abstract ID: 478

Hepatitis B and Hepatitis C coinfection among HIV infected patients: A Study in Indonesian National Referral Hospital

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Discipline: Epidemiology

Abstract:
Introduction: As an infectious disease, the mode of transmission is important in the spreading of HIV. As the result

of the shared mode of transmission, many co-infections of HIV such as Hepatitis B and Hepatitis C virus are found more common in drug abuser than in the general population. This is a large problem as hepatitis may lead into long term problem such as cirrhosis. Even though in Indonesia there are more than three millions drug users and considered a great public health threat, no previous study had been done to find out the joint infection between HIV, Hepatitis B and Hepatitis C. This study aims to find out the prevalence of HIV, Hepatitis B and Hepatitis C in Indonesian national referral hospital.
Methods: A cross-sectional study was done on a total of 222 adult patients which is already diagnosed as HIV positive by ELISA. The hepatitis B and C virus were checked with sandwich ELISA method to find out the HBsAg and HCV value. This study was done in Rumah Sakit Cipto Mangunkusumo, Jakarta which is the national referral hospital of Indonesia. The data which were taken from the patients are the value of HBsAg to indicate whether the patients are considered as hepatitis B positive and anti HCV to indicate whether the patient has hepatitis C infection or not.
Results: From the 221 HIV positive patients, 88 patients have coinfection of HIV and hepatitis C. The coinfection of HIV, hepatitis B and hepatitis C is less common with only 15 patients are having them. Hepatitis B co-infection is the least common with only 7 patients have coinfection of HIV and hepatitis B. 111 patients are considered only having HIV as the result test of both HBsAg and anti HCV are negative.
Conclusion: The result of this study shows that hepatitis virus co-infection especially hepatitis C is common in patients who are having HIV. Therefore, further precaution is needed in patients with HIV and hepatitis co-infection in order to prevent further deterioration of liver function. Another study must be done in order to investigate the hepatotoxicity of antiretroviral drugs that is commonly used in Indonesia.

Session: Gastroenterology

Abstract ID: 157

To assess the Prevalence of Constipation and its Association with an urban Lifestyle in students

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Abstract:
Background: To assess the prevalence of constipation and its association with urban life style in Students . METHOD: In order to meet the objective, the study used was a cross sectional population based including urban dwelling Students of Karachi aged 18-25. The survey was conducted in different Universities of Karachi with a sample size of 800 (266 males , 534 females , mean age 22 yrs.'). The period of study conducted was for 6 months starting from August 2010 to January 2011. We collected data using questionnaire method that contained relevant questions regarding bowels habits, frequency and its consistency and life style associated risk factors such as diet, physical activity and stress related conditions that precipitate it. Constipation was defined using Rome Criteria III. Subjects suffering from any gastrointestinal disorder or with a positive drug history for laxatives, analgesics, antacids were excluded. . Data was entered and analyzed on Statistical Package for Social Sciences (SPSS) version 16.0.
Results: The Prevalence of constipation in students according to our survey was calculated to be 11% and no significant difference in prevalence was found among sexes. 8.7% of subjects reported to have bowel frequency of 3 times and less in a week. The most common symptom reported was that of straining comprising 26.4% of the subjects followed by 25% with an affirmative answer to bloating and 11.5% to feeling of incomplete evacuation. Fruits and vegetable intake seemed to effect the bowels as 52% of subjects complaining of constipation lacked fruits in their regular diet and 29% did not take enough vegetables. Smoking and coffee also had significant results.
Conclusion: Constipation is becoming one of the serious medical problems in our society that is still neglected and mostly our population does not consider it to be a significant issue ignoring the serious consequences it can lead to. Unhealthy diet, lack of exercise and decreased intake of fluids and fibers are some of the factors reported to be influencing bowel habits of our young population.

Abstract ID: 339

Hepatic Stellate Cell Transplantation – Cause of Fibrosis or Liver Regeneration?

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Abstract:
Background: Hepatic Stellate Cells (HSC) are the special population of the liver, localized in the space of Disse, in contact both with hepatocytes and endothelial cells, thus involved in all processes of pathology and liver regeneration. It is known that they are one of the first hepatic cells, reacting to unfavorable conditions like toxins and chemicals exposition, virus infection. In response to them HSC activate and transform into myofibroblast, start to produce collagen molecule and enzymes for remodeling the extracellular matrix of the liver. Due to this reason activated HSC are thought to play the pivotal role in liver fibrosis and cirrhosis development. On the other side HSC secrete growth factors necessary for hepatic microenvironment creation and hepatocytes regeneration. The aim of our project was to study whether transplantation of fresh isolated HSC leads to transformation of HSC into myofibroblasts and fibrosis of intact rodent liver.
Methods: HSC were isolated from rat liver by pronase – collagenase liver perfusion with following centrifugation on histodenz density gradient. The cells were labeled by adeno-associated virus expressing EGFP and transplanted into the portal vein of intact rats' liver. Results were checked on the 2nd, 7th and 14th day after the transplantation by immunocytochemistry assay.
Results: Transplanted HSC were detected by immunocytochemistry to EGFP and desmin on all periods, they most-

ly localized near endothelium of the blood vessels. After transplantation we observed increased desmin expression in inherent HSC of the recipient liver. At the same time there were no cells positive to a-SMA – marker of myofibroblasts, it means that there was no HSC activation nor among inherent nor among transplanted cells and signs of further liver fibrosis development. Singular cells were in parenchyma of the liver tissue and had polygonal form like hepatocytes, we suppose that some of the transplanted cells differentiated into hepatocytes. Conclusions: Consequently transplantation of HSC into intact liver does not lead to transformation of HSC into myofibroblasts with further development of liver fibrosis and some of the transplanted HSC could be the source of new hepatocytes.

Abstract ID: 383

Effects of different kinds of immunomodulators on eradication and factors of specific and non-specific immune resistance in Helicobacter Pylori induced peptic ulcer disease.

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Abstract:
Background: Appearance of widespread antibiotic-resistant H. Pylori (HP) strains and suppression of immune system by exo- and endogenous factors causes more difficulty in HP eradication using standard schemes of treatment. This research is conducted :- (a) to investigate the influence of immunomodulators Licopid®(a synthetic bacterial preparation) and Derinat®(a preparation of nucleic acid) in combination with "quadro-scheme" therapy(QST) on efficiency of eradication in patients with peptic ulcer disease(PUD)caused by HP. (b) to reveal interrelation of changes of intensity of specific immunity(levels of Immunoglobulins and population T-lymphocytes) and non-specific immunity(lysozyme activity in saliva and gastric juice) for the given group of patients.
Methods: 1. This research is carried out on 70 patients within the age range of 20-55 years with PUD of stomach caused by HP. 2. Depending on types of received therapy, three groups of patients have been allocated:- (a) Group A(control group) consisting of 20 patients receiving "quadro-scheme" therapy(QST) consisting of bismuth colloidal subcitrate, omeprazole, amoxicillin and furazolidon. (b) Group B of 25 patients receiving QST with Licopid® (c) Group C of 25 patients receiving QST with Derinat® 3. Before and six weeks after application of preparations, the histomorphological tests of biopsy material taken endoscopically from stomach, blood immune test and nephelometric test of saliva and gastric juice from patients are done.
Results: Six weeks after treatment, bacterial contamination test reveals that absence of HP is essentially higher in Group B(94.8%) and C(95.3%) compared to Group A(73.7%). Blood immune test revealed that levels of CD-3, -4 and -8 T-lymphocytes and Immunoglobulin A, M and G are increased in Group B and C, more pronounced for Group C. In contrast, their levels are decreased in control Group A. The maximal authentic increase of lyzosymal activity in saliva is observed in Group C(on 12.3 % compared to initial level) whereas in Group B its activity reliably increases(8.1%). Activity of lysozyme in gastric juice increased 7.4 % for Derinat® and 3.6 % at application Licopid®. In Group A, the lowest activity of lysozyme in saliva and gastric juice is marked.
Conclusion: Application of immunomodulators on background of QST leads to increased eradication of HP and improved factors of specific and non-specific immune resistance, more pronounced at application Derinat®.

Abstract ID: 431

The faecal calprotectin is more sensitive marker for the assessment of intestinal inflammation in IBD patients than the C-reactive protein.

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Abstract:
Background: The C-reactive protein (CRP) is the most commonly used laboratory marker for the assessment of intestinal inflammation in patients with inflammatory bowel disease (IBD). Recently, several studies have shown that it is uncertain and has low sensitivity in the assessment of intestinal inflammation and does not adequately reflect disease activity. Over the last years, the widespread in the clinical practice, biomarkers clearly demonstrated their priority over CRP. The best clinical application of these has the faecal calprotectin (FCP). The aim of the present study was to investigate the correlation of FCP sensitivity and specifity with CRP values in patients with IBD. Materials and
Methods: This study enrolled 87 patients (50 females and 37 males; age range 18-82, median 43,1) with IBD (42 with Crohn's disease – CD; 45 with ulcerative colitis – UC), studied in the Department of Gastroenterology, University Hospital "Tsaritsa Yoanna-ISUL" in Sofia for the period from August 2010 to April 2011. The diagnosis was made on the basis of the conventional criteria. FCP was measured, in all the patients, using a commercial enzyme linked immunoassay (ELISA) method. The FCP is expressed in mg of calprotectin per kilogram of wet faeces within a normal reference range of <70 mg/kg. During the examination, endoscopic findings with activity were observed in 63 (27CD; 36UC) of the patients, while 24 had no endoscopic findings. Furthermore, CRP was investigated in 67 of the patients - 58 (27CD; 31UC) of them were with endoscopic activity, and 9 were without activity. CRP was measured by immunoturbo dimetric test (cut off point of 0,6 mg / dl).
Results: FCP, compared to the endoscopic features for presence or absence of active IBD, showed sensitivity of 100%, specificity of 58,3%, area under the curve (AUC) - 0.792, negative predictive value (NPV) – 100% and positive predictive value (PPV) of 86,3%. CRP showed sensitivity of 56,9%, specificity of 88.9%, AUC – 0.729, NPV – 24,2% and PPV – 97%.
Conclusion: The results in this study have shown that FCP is more sensitive for the assessment of intestinal inflammation than CRP in IBD patients. FCP values below the accepted cut-off point of 70mg/kg practically exclude active IBD – NPV of 100%. We believe that FCP

can be used as a screening for patients with IBD-like symptoms.

Abstract ID: 446

Presence of Brunner's glands in duodenal mucosa and their influence on morphometric features of mucosa

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Abstract:
Background: Morphology and morphometry of pathologically altered tissue from the small intestine was often a subject of researches, while there is significant lack of informations about quantitative characteristics of healthy human small intestine mucosa, including the one of duodenum. The aims of this study were to verify the presence of Brunner's glands in duodenal mucosa and to determine their influence on structural features of the mucosa.
Methods: 30 bioptic specimens of duodenum were included in the study (processed by standard histological techniques). All of them were required to have preserved mucosa with a minimum of 5 consecutive and properly oriented villi. Two groups were formed: A - specimens which do not contain Brunner's glands in mucosa; B - specimens which contain these glands in mucosa. Each specimen was photographed. Using a computer program, measurements were performed on selected photographed microscopic fields. Mucosal thickness and villi height were measured in both groups. Additionally, in group B, glands thickness was measured and number of acini per microscopic field was counted.
Results: The presence of Brunner's glands in duodenal mucosa was registered in 50% of cases. Differences in the values of the mucosal thickness and villi height were noticed in favor of group A, but those differences were not statistically significant. Brunner's glands occupied approximately one-fourth of the mucosal thickness while the average number of acini per field was 16. Many examples in the form of branched tubular and tubuloalveolar glands were observed. A significant variation in the shape of duodenal villus was found.
Conclusion: Our research showed that the presence Brunner's glands in the deeper parts of the mucosa would not be properly regarded as an atypical occurrence. Also, there were no significant differences in the characteristics of the mucosa with and without Brunner's glands.

Abstract ID: 568

Blood changes in chronic hepatitis C treatment with Interferon and Ribavirin

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Abstract:
Background: Latest researches say that treatment with pegylated interferon alpha (Peg-IFN) plus ribavirin (RBV) is the most effective current regimen associated with a sustained virological response (SVR) of 54-56% (42-46% for genotypes 1 , 4 and 76-80% for genotypes 2, 3) is currently considered standard treatment for chronic hepatitis C. Because of the substantial cost and considerable side effects, this regimen is recommended in patients with chronic HCV infection and moderate or severe hepatic injury. These side effects have been demonstrated during treatment with pegylated interferon alpha: fatigue, muscle aches, headache, low grade fever, injection site irritation, weight loss, irritability, depression, personality disorders, hair loss. Many of these effects are mild to moderate severity and can be improved. Are more pronounced during the first weeks of treatment, especially after the first injection. After that, side effects diminish. Ribavirin may also have adverse effects, thus being harder combined therapy tolerated than monotherapy. Adverse effects of ribavirin are anemia, irritability, fatigue, itching, rash, skin, nasal obstruction, sinusitis, cough. In the combination therapy were found following side effects: thrombocytopenia, neutropenia marked, autoimmune diseases, severe bacterial infections, seizures, depression, suicide attempts, retinopathy. In conclusion, antiviral treatment in chronic hepatitis C has a strong haematological response. The purpose of our research was to identify adverse effects of this treatment in patients suffering from chronic viral hepatitis C in our clinic and to observe in what percentage they appear and there methods of prevention in this respect. It is important to hold this information so that each population has different external factors that can influence and under this treatment side effects of interferon and ribavirin would otherwise occur and a different measure and the data may differ from those in the literature.
Methods: We realized a prospective study in our clinic since 2008 to 2011 on a group of 50 patients suffering from chronic viral hepatitis C. We took in consideration all patients with this pathology in this period who were hospitalized in our clinic, so we did not took in consideration the account age, gender or area of origin. We followed patients undergoing treatment with interferon and ribavirin.

Abstract ID: 747

Entecavir Efficiency in Chronic Hepatitis B

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Abstract:
Background: Hepatitis B is a worldwide healthcare issue, with Entecavir, a nucleoside analog, being one of the treatment options for this disease. The aim of our study was to assess the efficiency of Entecavir in Romanian patients with chronic hepatitis B, with particular interest in those which developed resistance to previous treatment with Lamivudine.
Methods: 648 patients with residence in Southern Romania (10 counties and Bucharest) were included in this study. We obtained data from the Romanian National Health Trust database. Patients' response to the treatment with Entecavir was assessed through alanine aminotrans-

ferase (ALT) and HBV DNA levels; subsequently, treatment response was compared between these patients according to various criteria: previous antiviral treatment, presence of HBe antigen, liver fibrosis as graded by liver biopsy or FibroTest, liver cirrhosis.
Results: Of the 406 who reached the 24 weeks follow-up 48.03% achieved a HBV DNA level of 0; this same level was seen in the rest of the patients at subsequent follow-ups. Patients with Lamivudine resistance had higher ALT and HBV DNA medians compared to those considered naive, but reached 0 HBV DNA too. Similar differences were noted in the case of patients with HBe antigen at the beginning of treatment, and in patients with HBV and HDV co-infection. Seroconversion of the HBe antigen positive patients was noted in 14 patients (9.52%). Resistance to Entecavir was observed in 6 patients.
Conclusion: Entecavir is effective in treating patients with chronic hepatitis B, including those with Lamivudine-resistant strains.

Abstract ID: 774

Genetic polymorphism in IL28B genotype and its correlation with Sustained Virologic Response in patients with chronic hepatitis C

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Abstract:
Background and aim: Multiple variables influencing the sustained virologic response (SVR) in chronic hepatitis C were evaluated. One of them is the genetic polymorphism near the IL28B gene. The aim of our study was to evaluate the prevalence of IL28B genotypes in Western Romania and its influence on the SVR rates. Material and method: A retrospective study was performed in 107 consecutive patients, previously treated with standard of care medication for chronic hepatitis C, recalled from two centers databases. Patient demographics, viral load before treatment, at 12, 24 and 72 weeks from the treatment start and IL28B genotype were evaluated.
Results: From the study group, 54/107 patients had SVR (50.5%), 62/107 (57.9%) having complete early virologic response (cEVR). Regarding IL28B genotype structure of the cohort: 26(24.3%) patients were genotype C/C, 67(62.6%) genotype C/T and 14(13.1%) genotype T/T. The SVR rates according to IL28B genotype were: 73.1% in genotype C/C, 40.9% in genotype C/T and 57.1% in genotype T/T (73.1% in C/C genotype vs. 43.7% in the no C/C genotype group, p=0.0126). The cEVR rates were 80.8% in C/C genotype vs. 51.2% in the non C/C genotype (p=0.011). Conclusions: In our cohort of 107 Caucasian HCV patients, the SVR rate was 50.5% on standard of care treatment. One quarter of the patients had a C/C favorable IL28B genotype, the most frequent one being C/T (62.6%). The SVR rate was directly related to the IL28B genotype: 73.1% in C/C genotype vs. 43.7% in the no C/C genotype group (p=0.0126). Key words: genetic variation, IL28B, chronic hepatitis C, sustained virologic response

Abstract ID: 781

Disaccharidases- new blood markers of small intestine injury

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Abstract:
Heading: Most of the diseases, traumas and procedures involving abdominal surgery, cardiopulmonary bypass, small bowel transplantation result into the intestinal ischeamic or ischaemic/reperfusion injury. High morbidity and mortality rates create an important role for diagnostic methods in aiding earlier recognition and detection. There is still no evidence about the routinely used specific marker, which could be used for fast and reliable screening of small intestine damage and its quantification.
Aim: The aim of the present study was to show the usage of determination of blood disaccharidases activities (DA) as a novel rapid determination method of small intestine injury.
Methods: In the experiment, Wistar rats (n=96) were used. They were divided into negative control group C (n = 12) and 7 experimental groups: D0,1,2,4,6,12,24 (each n=12). Intestinal inury was induced in experimental groups by 1-hour ischemia of the cranial mesenteric artery followed by 0, 1, 2, 4, 6, 12, 24 hours of reperfusion. The bioptic samples for histological determination were obtained as a 1cm long segment of intestine. The histopathological injury index (HII) was scored after Hematoxylin-Eosin staining using Park/Chiu scoring system (0-8). Blood for biochemical determination of sucrase, maltase and trehalase was obtained from the tail vein (200μl) into the heparinized microtubes. Plasma was separated and activity of disacharidases was determined by assay adapted from Dalqwist.
Results: The increase in sucrase, maltase and trehalase activity measured in samples of blood was detected immediately after the ischaemia started when compare with physiological amounts measured in control group. Significant correlation between HII and DA was observed. The striking injury after one hour ischemia was expressed by increased HII as well as by increase in blood DA. The deepen in injury due to reperfusion was seen in first hours confirmed by HII but also DA changes. Improved morphology and decrease in DA in next reperfusion periods showed start of regeneration processes. The almost physiological values of HII were achieved after 24 hours of reoxygenation while physiological values of DA were observed.
Conclusion: The determination of the disaccharidases is perspective as a diagnostic tool according to present study, which showed the evidence of significant correlation between grade of the intestinal injury and the enzyme markers (saccharase, maltase, trahalase).

Session: Genetics

Abstract ID: 216

Alternative Splicing of the Human á7 Neuronal, Nicotinic Acetylcholine Receptor Gene (CHRNA7,) Novel isoforms and Potential Implications

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Abstract:
Background: Splicing is a highly dynamic process in which non-essential introns are removed and essential exons are ligated. Alternative splicing is the phenomenon by which multiple different mRNA transcripts may be formed from the same pre-mRNA; allowing the formation of different protein isoforms which may have varying functional effects. Alternative splicing is the main cause of proteomic diversity in multicellular eukaryotes. This project looked at the á7 gene, as it has been associated with Alzheimer's disease and schizophrenia. In total, nine alternatively spliced isoforms of the á7 gene have been previously discovered, though their tissue distribution and function is currently unknown. Objectives: This project investigated the different transcripts of the Human á7 Neuronal Nicotinic Acetylcholine Receptor Gene (CHRNA7/á7) produced from a panel of cell lines, including those derived from brain, lung and kidney tissue.
Methods: Three primer pairs were used to investigate the whole length of the CHRNA7 gene in the three different cell lines. Polymerase Chain Reaction products were visualised using electrophoresis on agarose gel and then sequenced.
Results: This study confirmed some previously denoted transcripts of the á7 gene and identified a novel transcript in the brain, lung and kidney cell line where exon 9 is completely spliced out. Discussion and
Conclusion: Bioinformatics predicted that this novel transcript yields 380 amino acids, as opposed to 520 amino acids seen with the full length á7 gene and that the subunit will span the cell membrane three times, as opposed to four times like with the full length gene. This means the C-terminus of the novel transcript will be intracellular instead of extracellular; so this may affect the internal signalling cascade. The next step is to investigate if the protein produced from the novel transcript, where exon 9 is spliced out, has any functional effects. This research is important as it may identify a cause of a disease (Alzheimer's disease and schizophrenia) which may then be therapeutically targeted for treatment.

Abstract ID: 304

Association of minisatellite UPS29 with symptomatic and cryptogenic epilepsy in women

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Abstract:
Background: For majority of the epilepsy forms the genetic factors that cause the appearance of epileptic states have not been identified. Therefore, at present it remains important to search for new candidate genes and genetic markers associated with epilepsy. Currently àbout 20 genes involved in the formation, functioning or pathological changes in the nervous system were described on short arm of human chromosome 1. Centaurin β5 gene (CENTB5, ACAP3) is localized in the same locus. CENTB5 function has not yet been determined. It is assumed that CENTB5 is an activator of low-molecular GTPases, is involved in the membrane transport, cell adhesion and cytoskeleton organization. The highest expression level of centaurin family proteins, including CENTB5, was found in human brain. Intron 14-15 of CENTB5 gene contains minisatellite UPS29. In silico analysis indicates that UPS29 may be gene expression modulator, similarly to cystatin B gene minisatellite associated with Unferrihta-Lundborg myoclonic epilepsy. Therefore, the aim of this study was to check for possible association of UPS29 with some forms of epilepsy.
Methods: DNA was extracted from peripheral blood leukocytes of the healthy volunteers (N=108) and the patients with symptomatic and cryptogenic epilepsy (N=84) with standard phenol-chloroform method and then analyzed with PCR.
Results: It was found that the presence of at least one short allele of UPS29 increased the relative risk of epilepsy development in women almost 3 times (RR=2,81; OR=3,83; 95% CI: 1,64-8,95; p=0,002), whereas in men the short allele of UPS29 did not affect the relative risk of epilepsy (RR=1,67; OR=1,90; 95% CI: 0,58-6,35; p=0,284). Frequency of UPS29 short alleles was increased in women both with symptomatic (32.5±7.4%) and cryptogenic (62.5±17.1%) epilepsy in comparison to control individuals (12.8±3.8%).
Conclusion: Thus, under some external influence the presence of the short allele of UPS29 can increase risk of symptomatic and cryptogenic epilepsy in women compared with women homozygous for the UPS29 long allele of 17 repeat units. The short UPS29 allele may be a new genetic marker of both symptomatic and cryptogenic epilepsy in women. This work was supported by grants RFBR [1]10-04-00676a and [1]11-04-00254a.

Abstract ID: 490

Frequency of the MTHFR polymorphism A1298C in Latvia in comparison with other populations

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Abstract:
Background: Methylenetetrahydrofolate reductase (MTHFR) catalyzes the conversion of 5,10-methylenetetrahydrofolate to 5-methyltetrahydrofolate, a co-substrate for homocysteine re-methylation to methionine. Mutations in the gene MTHFR influences susceptibility to occlusive vascular disease, neural tube defects, male infertility and others, the most frequently reported with the strongest association with diseases are polymorphisms C677T and A1298C.
The Aim: detect the frequency of MTHFR polymorphism A1298C in Latvia, and compare it with other populations

Materials and Methods: The control – 265 volunteers. DNA was extracted from whole blood and purified by standard phenol/chloroform extraction protocol. The presence of A1298C gene mutation was analyzed using PCR with subsequent restriction enzyme MboII digestion and detected in polyacrylamide gel. Literature was studied in data base Pub.med.
Results: The observed frequency of the C allele of the A1298C mutation is 0.321 and the genotype frequency was as follows: wild type 47.55% (n = 126), wild type/A1298C 40.75% (n = 108), A1298C/ A1298C 11.7% (n=31). There were no statistically significant differences between C allele and A1298C/A1298C genotype frequencies in Latvian and Irish populations, p values were 0.9 and 0.6 respectively, and in Latvian and Dutch populations (p=0.86; 0.36), and in Latvian and Portuguese populations, p values were 0.31 and 0.1. But there were statistically significant differences in C allele and A12908C/A1298C genotype frequencies between Latvian and Italian populations, where p values were 0.02 and 0.036 respectively.
Conclusions: 1. More than half of Latvian population have reduced MTHFR level, 11.7% of them are homozygous for A1298C allele 2. There is no explanation yet for statistically significant differences between Latvian and Italian populations, we can speculate on genetic diversity 3. To obtain more precise view about differences between population we should compare our results with more populations 4. Statistically significant differences between Latvian and Italian populations we can't explain. 5. To obtain more precise results about MTHFR polymorphism A1298C allele frequencies there should be performed investigations with bigger count of DNA samples.

Session: Gynecology

Abstract ID: 251

Clinical features of acute appendicitis at different stages of pregnancy

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Abstract:
The incidence of acute appendicitis in pregnancy is 1:2000 (1:700 ÷ 3000); 60% suffer from acute appendicitis in the first half of pregnancy. When perforated appendicitis complicated by diffuse peritonitis, maternal mortality rate reaches 16.7%, with perinatal loss in the 19,4-50%. Explainable limitation application of instrumental diagnostic methods at different stages of pregnancy makes to rely more on clinical experience of doctor. However, the ubiquitous phenomenon observed by the lack of clinical skills (hyposkiliya) sometimes leads to tragic mistakes. The purpose of the study: the use of mathematical analysis to identify pregnant significant symptoms of acute appendicitis.
Materials and methods: based on surgical and gynecological clinics of Moscow Medical State University I. M. Sechenov retrospectively analyzed 53 medical histories of pregnant patients with acute appendicitis. In the first half (up to 20-21 weeks) pregnancy was observed 73% of patients in the second-27%. On the first day since the disease come to the clinic 51% in the second 27%, the third-22%. Based on our experience and literature data, we identified 32 symptoms of acute appendicitis in pregnant women. With help a correlation, factor, cluster and regression analysis identified the most important 18. For the first half of pregnancy were typical symptoms that characterize the local changes (muscular protection of the right iliac region, palpation and percussion soreness abdominal wall infiltration in the pelvis, hypertonicity of the uterus), their reliability was 98%. The main diagnosis of acute appendicitis in the second half of pregnancy should take into account evidence of systemic response to inflammation (fever, tachycardia, high leukocytosis, shift to the left of leukocyte formula). Taken into account as nausea, repeated vomiting, the weakening of intestinal motility and diarrhea. Typical local symptoms of acute appendicitis are the symptoms of Brands, Michelson, Ridvan. Supplementing the physical examination ultrasound diagnosis has led to the establishment of a correct diagnosis in 90%.

Abstract ID: 260

Preoperative classification of adnexal masses using fuzzy decision tree learning

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Abstract:
Introduction: In the pool of more than 20 diseases causing adnexal mass, malignant and benign lesions should be differentiated, because benign lesions should not undergo surgery unless being symptomatic or causing subfertility while malignant lesions should be removed by surgery. No single imaging or laboratory study has been able to accurately differentiate malignant from benign adnexal masses while there are few experts who can accurately differentiate malignant from benign masses prior to surgery using patient's history, physical exam, laboratory tests, and ultrasonography results. The aim of this study was to simulate the thinking process of these experts in classifying adnexal masses using machine learning methods.
Methods: The dataset was provided by a European center. Fuzzy inference was combined with classic decision tree learning algorithms to learn a fuzzy decision tree from a dataset of 200 patients in three steps. In the growing step, a root node was made with two children, the attribute having the least error was selected for the root, the children were assigned labels for fuzzy estimation of membership in the malignancy class, the stopping criteria were assessed for each child, and if any child did not meet the stopping criteria, the algorithm recursively made subtrees rooted in that child until stopping criteria were met. In the pruning step, an algorithm based on critical value post-pruning method removed the overfitted nodes using a separate dataset of 55 patients. In the refitting step, the labels of the leaf nodes were optimized using the dataset of all 255 patients. The final fuzzy decision tree was tested on a separate dataset of 50 patients by a testing algorithm. All algorithms were coded in MATLAB programming language.
Results: The final resulted tree had 10 decision nodes and 11 leaf nodes. Performance testing of the tree gave AUC of

ROC of 0.91 and mean squared error of 0.1. Using 0.36 as the output class cutoff, the model had positive likelihood ratio of 9, and negative likelihood ratio of 0.1. The tree was then translated into a set of 11 fuzzy if-then rules and domain experts assessed the clinical plausibility of the rules. All rules were verified to be in agreement with medical knowledge in the domain.
Conclusion: This method gave accurate and, more importantly, clinically interpretable results. This model can be used to develop handheld software to help clinicians in preoperative diagnosis of adnexal masses.

Abstract ID: 289

Comparison between the effect of lumbopelvic belt and home based pelvic stabilizing exercise on pregnant women with pelvic girdle pain; a randomized controlled trial

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Abstract:
Background: Pelvic girdle pain is a common compliant of pregnant women. There are limited data on comparison between the effectiveness of stabilizing exercises and lumbo-pelvic belt on the treatment of these patients. We aimed to compare the effect of lumbo-pelvic belt plus information, home based pelvic girdle stabilizing exercises plus information and information alone on pain intensity, functional status and quality of life of pregnant women with pelvic girdle pain.
Methods: We conducted a prospective randomized clinical trial in a university-based research center. Pregnant women with pelvic girdle pain (n=105) in gestational age of 20 to 32 weeks were randomly allocated to three groups; Control group (n=35) received general information about anatomy, body posture and ergonomic advices regarding sitting, walking and lying. The patients in exercise group (n=31) in addition to the information were given to the control group, were asked to perform specific pelvic stabilizing exercises at home. The patients in belt group (n=31) received non-rigid lumbopelvic belt and the mentioned information pack. The primary outcome variables were pain intensity and functional status of the participants which were measured using visual analogue scale and Oswestry Disability Index (ODI) respectively. Quality of life of participants was measured using WHOQOL-BREF questionnaire. All measurements were performed at baseline, 3 and 6 weeks after the study conduction.
Results: The pain intensity of patients in belt group in comparison to other groups was decreased significantly at both 3 and 6 weeks follow-ups. The mean score of ODI of patients in belt group was also improved more than exercise and control groups significantly. Comparing exercise and control groups, significantly more pain reduction and ODI scores were found in exercise group at 6th week.
Conclusion: On base of our results, it can be found that in short term lumbopelvic belt and information in treatment of pregnant women with pelvic girdle pain is superior to exercise plus information or information alone.

Abstract ID: 331

The histopathological of endometrial biopsies in infertile women of Yazd

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Abstract:
Background: Infertility is generally defined one year of unprotected intercourse without conception. Therefore infertility affects approximately 10-15% of couples and women are responsible for 50% of infertile patients. The endometrial biopsy is one of the complementary tests in recognizing the infertility causes would determine some of the organic and functional disorders.
Methods: This retrospective, expressive-analytical study was done on 100 infertile women who referred to the infertility center of Yazd. They had an endometrial biopsy in the second half of the menstrual cycle for recognizing the causes of infertility. We also considered their procedure and pregnancy outcomes. The results were analyzed by SPSS software with Chi-Square test.
Results: The incidence of infertility causes recognized by the endometrial biopsy were: the anovulatory phase (38%), luteal phase defect (11%), chronic endometritis(17%) .Generally in 66% of infertile women we are successful to diagnosis the causes of infertility by endometrial biopsies. With regard to the treatment by the Clomiphene-Metformin, IUI, IVF and the medical treatment by Doxycyclin, there is not any considerable difference between the infertility causes that recognized by the endometrial biopsy (P=0.17, P=.0.15, P=0.96. P=0.8).In this research there isn't any significant relation between the pregnancy outcomes with infertility causes and types (P=0.66, P=0.90), but the pregnancy outcome has considerable relation with age of patients (P=0.03).
Conclusion: With regard to high percentage of luteal phase defect in this research (11%) and this point that we recognized the causes of infertility in more than half of the patients (66%) by endometrial biopsies, we suggest endometrial biopsy as a useful screening test in infertile women. Keywords: infertile women, infertility, endometrial biopsy.

Abstract ID: 422

Mode of delivery in twin pregnancies in Clinic of Gynecology and Obstetrics at UCCK (University Clinical Center of Kosovo)

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Abstract:
Background: Determination of delivery mode for twin pregnancies still consist an interesting topic for gynecologists and obstetricians because they are associated with high rate of preterm deliveries, IUGR, perinatal morbidity and mortality compared to single-embryo pregnancies.
Objectives: The aim of this study is to assess mode of delivery in twin pregnancies.

Methods: Depending on the delivery mode were retrospectively analysed: parity, gestational age, mean birth weight and mean Apgar Score of all twin pregnancies in 2009 delivered in Clinic of Gynecology and Obstetrics at UCCK. From 229 twin deliveries 29.69% were vaginal and 70.3% were Cesarean section deliveries and 56.76% of total number of cases were preterm. Among vaginal deliveries 32.4% were from primiparous women compared to Cesarean section deliveries among which 54% were from primiparous women.
Results: Distribution of deliveries according to parity and mode of delivery has shown significant difference p<0.001%. Mean gestative age was significantly lower in vaginal deliveries compared to Cesarean section ones (33.4+/-4.8 vs. 35.7+/-2.8, p<0.001).The average birth weight of twins delivered by vaginal route was lower than those delivered with Cesarean section. Mean values of Apgar score at min.1 and min.5 were significantly higher at twins born using Cesarean section compared to those delivered through vaginal route (5 vs. 6, p<0.001 for min.1 respectively 6 vs. 7, p<0.001, for min.5). Distribution of deliveries according to parity and mode of delivery has shown significant difference Mean gestative age and mean values of Apgar score at min.1 and min.5 were significantly lower in vaginal deliveries compared to those using Cesarean section.
Conclusion: The average birth weight of twins delivered with Cesarean section was higher than those delivered by vaginal route.

Abstract ID: 505

Ovarian changes in mammary gland carcinogenesis of the rat

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Abstract:
Background: The aim was to study the ovarian changes in rat mammary gland carcinomas. For our research we used the model of mammary gland carcinoma induction with 7,12-dimethylbenz(α)anthracene (DMBA).
Methods: The study was carried out on 35 female virgin albino Wistar rats (120±10g), 35–37 days old, divided in two groups. 10 control group animals did not undergo the treatment. Mixture of dimethilbenz(α)antracene (DMBA) and cholesterol-buffer was implanted by incision in the fifth left mammary glands of the 25 animals of the experimental group (2mg in each). After 90 days the rats were sacrificed and their left fifth mammary glands and both ovaries extirpated and sampled. The material underwent routine preparations and paraffin embedding. 4μm sections were stained by haematoxylin and eosin (H&E) and evaluated. Immunohistochemical reactions were performed with antibodies against cytokeratin AE1/AE3 (1:400; Dako) and PCNA (1:800; Dako).
Results: The material of the control group animals showed no pathological changes. The micromorphological examination of the mammary glands from the experimental group verified a spectre of hyperplastic-dysplastic changes known as fibrocystic disease. Mammary gland adenocarcinomas were verified in 19/25 experimental animals. The most frequent was intraductal carcinoma, found in 10 /19. Second was ductal invasive carcinoma in 7/19. In only one animal (1/19) lobular "in situ" carcinoma has been found. Same applies to lobular invasive carcinoma (1/19). Ovaries of rats without mammary gland tumours were not investigated. Ovarian surface epithelium (OSE) showed multifocal micropapillomatosis with low dysplastic changes. In ovarian cortex there were glandlike formations with prominent atypic changes. Their epithelium was dysplastic, stratified with changed nuclear polarity. Diffuse PCNA expression was present in oocytes and granulosa cells of the follicles, as well as new luteal bodies, epithelium of glandlike structures, follicular and inclusion cysts. Low expression PCNA was evident at atretic follicles and corpora lutea. Expression of cytokeratins AE1/AE3 was intensive in all lesions.
Conclusion: These morphological changes confirmed that DMBA is a pluripotent carcinogen capable of inducing a spectrum of preneoplastic lesions in the ovaries. The present dilemma is whether the changes described are the consequence of the direct effects of DMBA or of hormonal activity of the induced breast carcinomas, or both.

Abstract ID: 523

Factors associated with Cesarean deliveries

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Abstract:
Background: The risk and safety of cesarean section (CS) differ from place to place in the world. According to the World Health Organization, the best outcomes for mothers and babies appear to occur with CS. Increasing maternal age and high parity are among the chief determinants of cesarean deliveries.
Methods: This was a retrospective cohort study and Non probability convenient sampling was conducted. The sample size was calculated by using the World Health Organization, (WHO) geneva, software, where level of significance =5%, power of test, 1-=90, Po=0.19, Pa=0.22. The estimated sample size was n=1538. A total of 2907 patients were recruited to avoid chances of type 2 error. The Data was recorded from the labor ward registers. All CS at viable gestation were included. The Data was analyzed through SPSS version 17. The Factors associated with cesarean deliveries were analyzed. The Identification of determinants for cesarean deliveries was the primary objective. Chi-square test, Independent sample t test and Logistic regression analysis were conducted to determine the risk factors associated with CS. The level of significance was set at p=0.05 and confidence interval (CI) =95% respectively.
Results: Independent sample t test and Pearson chi-square test showed that significantly higher number of CS were performed at increasing maternal age and parity (p=0.0001 and 0.002 respectively). Gestational age less than 37 weeks prematurity was another significant associate for CS (p = 0.0001). Binary logistic regression showed significant association of increasing parity and prematurity (p = 0.02 and 0.0001 respectively). Primigravida had less odds of CS as compared to parous (394/848; 46.5% v 1084/2059; 52.6%, p-value = 0.02). Primigravida had 22% less odds, (95% CI, 0.66-0.91) of CS as compared to parous women. Gestational age group <37 weeks had high odds of CS as compared to gestation-

al age group >37 weeks (481/800; 60.1% v 97/2107; 47.3%, p-value =0.0001). Gestational age group <37 weeks had 67% high odds, (95% CI, 1.42-1.98) of CS as compared to gestational age group >37 weeks.
Conclusion: Increasing maternal age, parity and prematurity were identified as the determinants of CS. Immediate Feto-maternal outcome was comparable between vaginal and abdominal deliveries. Non-reassuring CTG was the most common indication. Secondary tests for evaluation of fetal well being might help to reduce the high CS rate.

Abstract ID: 563

Vitamin 25 OHD and POCS

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Abstract:
Vitamin D is a hormone which controls over 200 genes in a human body including those responsible for cell cycle control: proliferation, differentiation, apoptosis and angiogenesis. Vitamin D is an organic, fat-soluble compound indispensible especially in maintaining calcium-phosphoric balance. Apart from basic functions, vitamin D takes an active part in processes of proliferation, insulin secretion and fertility. Assuming that 30ng/ml (75nmol/l) is a lower limit of normal concentration of 25-OHD in serum, the number of people with vitamin D deficit equals about 1 billion worldwide. Vitamin D is characterised by many qualities which can be helpful in POCS treatment. Polycystic ovarian syndrome (PCOS) is a hormonal disorder which constitutes one of the main causes of female infertility. The POCS problem affects about 5-10% of women and is characterised by coocurrence of hirsutism, acne, the menstrual cycle and ovulation disturbances, obesity, dysfunctional tolerability of carbohydrates and enlarged and cystic ovaries. When not treated, POCS increases significantly the risk of the circulatory system diseases, diabetes and tumours. Vitamin D exerts a beneficial influence on the calcium balance and it regulates the menstrual cycle of women with POCS. Therefore it improves the control of body weight, allows for reduction of insulin resistance and it influences fertility increase. The aims of the paper: To assess the level of vitamin 5-OHD in a group of 471 female patients hospitalised in the Department of Endocrinology and Fertility of The University Hospital in Cracow in 2010; -to compare the 25-OHD level in a group of women with POCS and in the control group.
Materials and the method: a blood sample taken from the ulnar vein from female patients of the Department of Endocrinology and Fertility of The University Hospital in Cracow in 2010. The blood test was to show the 25-OHD level. Marking of the 25-OHD level in the group of 186 women with POCS and 285 women from the control group.
Results: the average level of 25-OHD in the population of women that underwent the research was significantly reduced in relation to the standards (>30) and it equalled 17, 16. In the group of women with POCS, the level of 25-OHD equalled 15, 45 and in the control group it was 18, 27. Statistical significance : p= 0,00071.
Conclusions: the research results reveal the necessity of vitamin D supplementation especially in people with PCOS.

Abstract ID: 569

Laparoscopic Surgery as Treatment for Polycystic Ovary Syndrome

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Abstract:
Background: Known as one of the most common female endocrine disorders, Polycystic ovary syndrome is characterized by a multitude of features out of which more frequent are obesity, high amounts of androgenic hormones, anovulation or amenorrhea. The purpose of this study is to determine the efficiency of laparoscopic surgery for treatment of Polycystic ovary syndrome. The diagnosis of polycystic ovary syndrome requires the presence of 2 out of 3 conditions according to the Rotterdam criteria: ultrasonographic images of polycystic ovaries, high amounts of androgenic hormones and anovulation or amenorrhea. The aim of surgical treatment in Polycystic ovary syndrome is to restore ovulation for patients with chronic anovulation.
Methods: A number of 107 patients diagnosed with Polycystic ovary syndrome have been followed for this study. The surgical procedure performed was ovarian drilling with the goal of restoring fertility. The elements taken into study and followed were: age, obstetrical history, the presence of obesity, hirsutism, acne, menstruation, blood levels of progesterone, androgenic hormones and Luteinizing hormone, previous ovarian stimulation, the presence of associated lesions found during surgery, number of drilling points made, number of menstrual cycles obtained and number of pregnancies obtained.
Results: Out of 107 patients, 98 patients were diagnosed with PCOS because of the presence of anovulation or amenorrhea. A number of 48 patients suffered from obesity and 36 of hirsutism. The blood levels of progesterone were low during the luteal phase of the menstrual cycle at 73% of the patients and normal for the rest. During surgery associated lesions were found in 85 of the total 107 patients. For 74% of the patients a number of menstrual cycles were obtained. A number of 26 pregnancies were obtained out of the 74%. No ectopic pregnancies were present. Conclusions: Laparoscopic surgery in Polycystic ovary syndrome, particularly ovarian drilling, is a procedure addressed to patients with anovulation and who do not respond to conservatory treatment. The benefits of ovarian drilling are limited in time, with the tendency of a decrease in menstrual cycles after 6 to 12 months. In order to obtain better results, the procedure must be repeated. Being an invasive procedure, laparoscopic surgery in PCOS is recommended only in case of failure of the ovulation stimulators or in case of the presence of other causes of sterility.

Abstract ID: 612

Delivery type in breech presentation

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Abstract:
Introduction: Breech presentation is a type of a position where a baby is in a longitudinal lie, entering the birth canal with its feet or buttocks first. The delivery is most frequently operational and followed by a vast number of complications and higher degree of perinatal mortality and morbidity. Aim of this report is to show the ways of breech delivery and perinatal result (weight, Apgar score).
Method and Material: Medical documentation for 226 patients has been analyzed. The research involves the pregnant women with breech presentation of fetus. All data has been analyzed by descriptive and analytic statistic, such as ANOVA test and Chi-square test.
Results: There is a statistically significant difference (F=8,086; p<0.05) regarding the age of patients who had vaginal delivery compared to those who had elective or urgent Sectio Cesarea (SC). The way of delivery compared to parity shows statistically significant difference (XÂ²=9,747;df=4;p<0.05) between vaginal delivery compared to elective or urgent SC. It is shown that there is a statistically significant difference in the weight of newborn babies delivered by elective SC and those delivered vaginally or by urgent SC (F= 8,343 ; p< 0,05).
Conclusion: Due to prevention of perinatal mortality and morbidity, it is necessary to: follow pregnancy properly, identify patients with high pregnancy risk. By liberal using of SC it is possible to get better perinatal result.
Key words: Breech presentation, vaginal delivery, Sectio Cesarea

Abstract ID: 655

Effect of infertility etiology and Helicobacter pylori infection on Implantation rates and early pregnancy loss after intracytoplasmic sperm injection

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Abstract:
Background: There is a need to elucidate what affects the implantation and early pregnancy course in pregnancies conceived with assisted reproductive technology (ART) so that pregnancy rates and outcomes can be improved. Our aim was to determine the role of maternal Helicobacter pylori infection.
Methods: We did a prospective study of 187 infertile couples undergoing intracytoplasmic sperm injection (ICSI) and segregated those according to underlying infertility aetiology. We assessed the status of Helicobacter pylori IgG antibodies and anti-CagA IgG antibodies by ELISA assay. All pregnancies were followed for early pregnancy loss (EPL, first 12 weeks).
Results: The likelihood of H. pylori infection increased with age (1.01, 1.0- 1.13; p=0.040) but there was no association with EPL. Women infected with CagA-positive strains were more likely to have EPL (19.39, 1.8-208.4; p = 0.014). Women with tubal factor or ovulatory disorder infertility were more likely to abort early (12.95, 1.28-131.11; p=0.030, 10.84, 1.47-80.03; p=0.020, respectively). There was no association between EPL and age, number of embryos formed or transferred or number of oocytes retrieved.
Conclusion: Our findings suggest that infection with CagA-positive H. pylori strains is linked to increase in in woman's potential to abort early (possibly through increased release of inflammatory cytokines). In addition, tubal factor and ovulatory disorder infertility are linked to EPL after ICSI due to unknown mechanisms. Proposals to eradicate H. pylori infection prior to ICSI could lead to decrease in EPL after ART.

Abstract ID: 765

Epithelial cell adhesion molecule (EpCAM) as a marker for chemotherapy response?

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Abstract:
Background: Ovarian cancer is the third frequent gynecological malignancy with very high fatality rates. The standard therapy consists of debulking surgery followed by six cycles of chemotherapy with Carboplatin and Paclitaxel. 25% of the patients do not respond to this treatment. The median survival of patients with a recurrency within the first six months after chemotherapy is 40 weeks. There is no possibility yet to identify these “non-responders” to Platin chemotherapy before treatment. The epithelial cell adhesion molecule (EpCAM) could be a possible marker to determine the chemotherapy response. This molecule is known to be overexpressed in ovarian cancer. EpCAM regulates target genes that are involved in cell growth, tumor progression and cell cycle. In this project we tested EpCAM as a possible marker for chemotherapy response.
Methods: We assessed the EpCAM expression by immunohistochemistry using the Avidin-Biotin Complex method on paraffin-embedded tissue samples. Clinical data was collected within the “Tumorbank Ovarian Cancer” network. Statistical analyses were performed using the SPSS software program for Windows.
Results: 78 ovarian cancer patients participated in our study including 57 “responders” and 21 “non-responders” to Carboplatin chemotherapy. Non-responders had significantly higher tumor stages T3 and T4 (100% vs. 74%; p<0,001) and more frequently distant metastases (28.6% vs. 3.5%; p=0.002) compared to responders. The tumor could be completely removed more frequently in responders (71.9%) than in non-responders (19%), p<0.001. EpCAM was overexpressed in responders (87.7%) and in non-responders (85.7%).
Conclusion: At this time we cannot state EpCAM as a possible marker for chemotherapy response. Further investigations with higher amounts of cases are necessary in

order to understand tumors to a greater extent that do not respond to Carboplatin.

Session: Haematology/Oncology

Abstracts ID: 117

Antitumoral activity of Cyclophosphamide and Doxorubicine in conditions of a short-term artificial hyperglycemia

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Abstract:
Aim: One of the most important directions of oncology is improving the efficiency of methods of antitumoral therapy, which can be gained by using medicine in different conditions, including a short-term artificial hyperglycemia. This research was performed to investigate the antitumoral activity of Cyclophosphamide and Doxorubicine in conditions of a short-term artificial hyperglycemia by observation of life expectancy of rats with a Pliss lymphosarcoma. Methods and Materials: Investigations were performed on rats of both sexes in mass of 150-300 gram with the Pliss lymphosarcoma, which was intertwined subcutaneously. Glucose entered intravenously in the form of 20 % solution in a dose of 80 mg/kg a minute throughout 90 minutes. Cyclophosphamide and Doxorubicine were entered intravenously in a dose of 3 mg/kg and 100 mg/kg of mass respectively in that group, which received only two drugs, and in a dose of 60 mg/kg and 2 mg/kg of mass with glucose together. Experimental animals have been distributed on groups: control group, "pure" Cyclophosphamide with Doxorubicine for 5 days; "pure" glucose; a glucose + Cyclophosphamide with Doxorubicine on 30th and 70th minutes of infusion of glucose. In all groups, which received glucose, injections carried out daily throughout 5 days.
Results: The combination of Cyclophosphamide and Doxorubicine with glucose considerably enlarges the life expectancy of rats with the Pliss lymphosarcoma: control – 36,6±2,3 days; "pure" Cyclophosphamide with Doxorubicine – 5 days – 49,3±7 days; "pure" glucose – 5 days for 90 minutes – 42,8±3 days; a glucose of 5 days for 90 minutes + Cyclophosphamide with Doxorubicine on 30th and 70th minutes – 211,5±45,1 days. In group of the rats receiving only antitumoral drugs, the inhibition of tumor`s growth was observed in 66 % of cases; in that group, which obtained Cyclophosphamide with Doxorubicine on 30th and 70th minutes together with a glucose – 85 %.
Conclusion: The effects speak about some the possible sides of action of glucose: depression of pH tumors, activation of lysosomal enzymes, which causes lysing tumoral cells, increasing of number of tumoral cells in sites of a mitotic cycle under the influence of a glucose, in which they are the most sensitive to antitumoral drugs.

Abstract ID: 294

The Potential of Cordycepin as an Anti-Cancer Drug

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Abstract:
Background: Cordycepin (3'-deoxyadenosine), a fungi extract, has been used in Traditional Chinese Medicine since 620 AD. It has been proven to exhibit anti-proliferative, anti-invasive and anti-metastatic action. Nonetheless its effects on human gastrointestinal (GI) cancer is yet unexplored.
Aim: The potential of cordycepin as an anti-cancer drug was investigated, examining it's effect on human GI cancer cells specifically.
Methods: Cell viability assays, combination chemotherapy assays, real-time polymerase chain reaction, and the poly (A) tail test using polymerase chain reaction, were employed in this study. The aim was to assess GI cancer cell sensitivity to cordycepin; the effect of cordycepin in combination with chemotherapeutic drug, 5-Fluorouracil (5-FU); the effect of cordycepin on cancer invasion-related genes; and its effect on poly (A) tail lengths in GI cancer cell mRNAs, respectively. In all the above assays, an untreated control was included for comparison. Oesophageal, gastric, pancreatic and colorectal cell lines were used.
Results: Cordycepin significantly upregulated E-cadherin gene expression in all cancer cell lines when compared to untreated controls. A 4-fold upregulation ($p<0.0001$) was identified in colorectal cancer cell line HCT116. In EIF4B and k-ras, two genes associated with cancer, cordycepin shortened mRNA poly (A) tail length. Poly (A) tails are mechanistic in mRNA stabilization. A shortened poly (A) tail rendered mRNAs more susceptible to degradation. Combination-chemotherapy assays indicated that cordycepin, in combination with 5-FU, significantly decreased cell viability by up to 20% ($p< 0.0001$) compared to treatment with 5-FU only. However, the cell viability assays revealed that cordycepin is not a potent cytotoxic drug in GI cells, as all IC50 values were in the micro molar range.
Conclusion: Cordycepin exhibits significant anti-cancer effects in human GI cancer. Its potential future uses in GI cancer chemotherapy would include chemoprevention, an adjuvant to current chemotherapy and prevention of relapse, but not as a cytotoxic anti-cancer agent.

Abstract ID: 458

Correlation between Tumor Suppressor Gene Nes-1 Methylation with Clinical Outcome in Childhood Acute Lymphoblastic Leukemia in Yogyakarta

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Abstract:
Background: Acute lymphoblastic leukemia is the most common hematological malignancy found in children. Despite its

good survival rate in developed countries, in developing countries like Indonesia it has a low survival rate due to socioeconomic status. Recent advancements in knowledge show that other than genetic mutation, epigenetic conditions such as DNA methylation also play a role in the pathogenesis of this disease. Methylation of the NES-1 gene has recently been indicated as a sign of poor prognosis of survival in ALL. Therefore the aim of this study is to determine the association between methylation of the NES-1 gene and the clinical outcome in children with ALL.
Methods: DNA from peripheral blood of 31 childhood ALL currently under protocol treatment in dr. Sardjito General Hospital in Yogyakarta were extracted, followed by methylation-specific PCR (MSP). Cox regression analysis was used to find out the most influential variables among clinical factors, followed by Kaplan-Meier analysis of overall survival in methylated group and unmethylated group (SPSS 17.0). p-value < 0.05 was considered as statistically significant.
Results: From all 31 samples, there are 16 (51.61%) males and 15 (48.39%) females. Eleven (35.48%) samples present with leukocyte count < 50.000/mm3 and 20 (64.52%) with leukocyte count > 50.000 mm3. 28 (90.32%) children are between 1 to 9 years, and the rest (9.68%) are less than one year old or more than 10 years old. Twenty out of 31 samples (64.52%) showed NES-1 methylation. On Cox regression analysis, methylation is the last influencing prognostic factor, followed by age during diagnosis, gender, and leukocyte count during diagnosis (p = 0,871; 0,597; 0,518; 0,093, respectively). Kaplan Meier analysis shows no consistent pattern and significant survival patterns difference between methylated and non-methylated groups (p = 0,755), and methylated group has a tendency to be a protecting factor, not a poor prognosis factor.
Conclusion: Methylation of NES-1 gene is not an independent prognostic factor of survival in LLA and there is no significant difference found between methylated group and unmethylated group on their survival pattern.

Abstract ID: 472

Methylation status of P15 and P16 gene promoters in new cases of acute promyelocytic leukemia patients treated with Arsenic Trioxide and their prognostic significance

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Abstract:
Background: P15 and P16 tumor suppressor genes inactivation due to aberrant CpG island hypermethylation has a significant role in cancerogenesis and survival in acute promyelocytic leukemia (APL) treated with all-trans retinoic acid (ATRA) but there are few reports considering these genes effects on survival in APL patients treated with Arsenic Trioxide (ATO). Objective: The objective of this study was to determine the prevalence of Promoter region methylation of P15 and P16 genes and their role in survival of Iranian APL patients treated with ATO as the main therapy regimen.
Methods: A total of 45 newly diagnosed APL patients undergoing treatment with ATO were enrolled in this study at the time of diagnosis. DNA was extracted from peripheral blood mononuclear cells and modified by sodium bisulfite reaction. Then methylation status was studied by methylation specific PCR and gel electrophoresis. Overall survival (OS) and disease-free survival (DFS) rates were calculated by the Kaplan–Meier method and differences were compared with the log-rank test.
Results: Of 45 patients, 31 patients (69%) had P15- and none had P16-methylation. The 6-year OS of patients (n=45) for methylated and unmethylated p15 was 73.5% and 58%, respectively (P=0.74); DFS was 76.5% and 50%, respectively (P=0.093). The OS in the 37 patients who achieved CR (excluding early mortality) was even significantly different (95.0% vs 62.5%;P=0.040).
Conclusion: Our study revealed that p15 methylation was not adversely associated with the survival of APL patients treated with ATO. It is in contrary to most of previous studies in which methylation of this gene was associated with poor survival in patients treated with ATRA and/or chemotherapy. It is reasonable to believe that ATO's unique metabolism and epigenetic changes including alterations in DNA methylation status during treatment with this agent may contribute to this effect in APL patients.

Abstract ID: 510

Impairment of glucose uptake in cancer cells by statins

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Abstract:
Background: The aim of the present study was to examine the influence of statins on glucose uptake in cancer cells. Inhibition of cholesterol and mevalonate synthesis can significantly influence the structure of the lipid bilayer where many proteins such as cell receptors are located. It has been recently reported that statins induce conformational changes in divert plasma membrane-localizing proteins such as CD20 marker of B cells and glycoprotein 100 (gp100). We consider that similar mechanism might have an impact on other proteins located in lipid bilayer, such as members of the glucose transporter family (GLUT) which 3D structure is far more complex than e.g. that of CD20.
Methods: Human B cell lymphoma (Raji, Ramos, Daudi, DoHH2) as well as human colon carcinoma (LoVo) cells were incubated with diverse statins or methyl-beta-cyclodextrin. Cytotoxic/cytostatic effects were assessed with a standard MTT assay. Glucose uptake was measured using flow cytometry with 6-NBDG (6-(N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)amino)-6-deoxyglucose) as well as by evaluation of 3H-2-Deoxy-D-glucose (2DOG) uptake. We used ETDG (4,6-ethylidine-d-glucose) as an inhibitor of 6-NBDG uptake. Cellular expression of glucose transporter family receptors was evaluated using reverse transcriptase PCR and real time PCR. To determine possible conformational changes and to detect GLUT1 in the plasma membrane we used Raji cells transduced with a gene encoding human GLUT1 protein with a haemagglutinin (HA) tag localized in the first extracellular loop.
Results: Statins effectively decreased glucose uptake by cancer cells and affected total cellular levels of GLUT 4, 5 and 7 but not GLUT 1 and 3. Mevalonic acid and water-soluble cholesterol reversed observed effects. No conforma-

tional changes in HA-GLUT1 upon incubation with statins were observed. Conclusions: Increased glucose uptake by cancer cells plays mayor role in positron emission tomography with fluorine glucose analog (FDG). This noninvasive diagnostic technique measures tumor metabolism and identifies sites with increased glucose uptake as "hot spots". When glucose transport to cancer cells is impaired, e.g. due to the treatment with statins, then it is harder to render the tumor visible. Statins are commonly used by elderly people, who also often suffer from neoplasms. Our studies might have significant clinical implications, as impaired glucose uptake by tumor cells could delay cancer diagnosis with PET

Abstract ID: 533

Quality of life in patients after resection for rectal cancer

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Discipline: Haematology/Oncology

Abstract:
Background: Measuring quality of life of patients with rectal cancer describes the side effects of the illness and the treatments. Surgery is the main and most important form of treatment for rectal cancer because only surgery can provide long-term survival and quality of life of patients. Goal: The aim of this study was to determine the quality of life of patients after low anterior resection of the rectum and frequency of symptoms, and indicate the most common psycho-social problems of patients.
Methods: The study included 24 patients with rectal cancer who were surgically treated with low anterior resection of the rectum. Patients answered to standardized questionnaires for measuring quality of life EORTC QLQ-C30 and QLQ-CR29, which were processed.
Results: during the processing of the results proved that global health status of patients is 60. Symptoms which the most impair quality of life are: flatulence (50.7), frequent urination (41.7), impotence (43.8), constipation (26.1) and the frequent bowel movements (25.4). Scores radiated and non-radiated patients are significantly different for the symptoms: leakage of stools from back passage (33.33: 20.51), dyspareunia (16.55:0), flatulence (40:58.97), skin irritation in the anal region (00:30.71).
Conclusion: Global health status of patients is not on high level. The most common symptoms of patients were: flatulence, frequent urination, constipation and frequent leakage of stools from back passage during the day and impotence. Patients treated with radiotherapy to a greater extent complain of leakage of stools from back passage and poorer sexual function.

Abstract ID: 537

Quality of life in rectal cancer patients after abdominoperineal resection

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Abstract:
Background: Colorectal cancer is on third place of all malignancies. Radical surgery is cornerstone in treatment, and one of the procedures that is performed is abdominoperineal resection of the rectum. As a result of this type of surgery, the patients have a permanent stoma pulled out on the front abdominal wall. Goals: To determine the quality of life of patients after abdominoperineal resection of the rectum using the EORTC questionnaires QLQ C30 and CR 29, and the prevalence of symptoms for irradiated patients and those who weren't, and to distinguish most common psycho-social problems of these patients.
Methods: This study included 25 patients at The Institute of Oncology in Sremska Kamenica. Data were obtained by the questionnaires EORTC QLQ C30 and CR29, and the additional questionnaire on quality of life. The questionnaire filled in during the period of December 2010 and January 2011.
Results: The overall quality of life is very good and it's represented with number 78 (on scale with in 0-100). Most of the patients are not a member of stoma association and 40% of the patients asked for someone's help in caring for stoma. Patients who are not irradiated have a better quality of life, fewer symptoms and better functioning than irradiated patients, two-thirds of patients didn't answered questions about their sex lives.
Conclusion: The patients have a very good quality of life, low number of symptoms, and high responses in the functional scales of the two EORTC questionnaires. Patients who are not irradiated have a better quality of life than irradiated patients.

Abstract ID: 600

Human epidermal growth factor receptor 2 in normal endometrium and endometrial cancer

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Abstract:
Background: Endometrial cancer (EC) is the most common neoplasm of the female reproductive system. Various histological subsets of EC (endometrioid, serous, clear cell, …) have been identified to date. There are two basic types of EC that have been designated, type I (endometrioid) (arises from endometrial hyperplasia, is estrogen related, with indolent behavior) and type II (non-endometrioid) (from atrophic endometrium, is unrelated to estrogen, aggressive behavior). Human epidermal growth factor receptor 2 (HER-2) is a 185 kDa oncoprotein transmembrane tyrosine kinase. Activation of HER-2 by dimerization triggers intracellular signalling events, which are crucial for cell growth, differentiation and survival. Overexpression of the Her-2 results in cellular transformation and is associated with a variety of human cancers. Its role in EC is largely unclear. The aim of the study is to evaluate an association between the morphological appearance of normal endometrium and EC, and the degree of Her-2 expression.
Methods: A total of 37 archived formalin-fixed and paraffin-embedded human biopsy hysterectomy and curettage tissue specimens, with normal proliferative and secretory endometrium, endometrioid (prototypic EC type I) the grade of histological differentiation G1 and G3, serous (prototypic EC type II) and clear cell histological subset

of EC of the Slovak women, were evaluated immunohistochemically, by light microscope semiquantitatively, for the Her-2 expression in cell membrane of endometrial epithelial cells.
Results: The Her-2 expression was low in proliferative and secretory endometrium. In EC, the Her-2 expression was gradually going up with the differentiation grade of endometrioid EC (less aggressive, type I) to serous EC (aggressive, type II). The expression of Her-2 was the highest in clear cell EC (type II).
Conclusion: There is low expression of Her-2 in normal endometrium. Malignant changes of endometrium are accompanied by an increase in Her-2 expression. The highest Her-2 expression is associated with aggressive (mainly clear cell, less serous) type of EC. Its evaluation in EC by immunohistochemistry could be relevant component which may be useful in biomedical research and clinical practice. Supported by the grant 2007/28-UK-05 MZ SR; dedicated to my dear dad Ing. T. Bucek, DG 2006-07 LCI D-122.

Abstract ID: 649

The effect of postoperative therapy with Lamivudine in patients undergoing hepatectomy for hepatocellular carcinoma

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Abstract:
Background: Hepatocellular carcinoma (HCC) is one of the most common cancers in the world, more than half a million new cases being diagnosed each year. 82% of cases are related to viral hepatitis, 55% to hepatitis B virus (HBV), and 89% of those in regions where HBV is endemic. There is a striking parallel between the geographical distribution of the rates of chronic HBV infection and that of HCC. In the majority of HCC cases (70-90%) there is underlying liver cirrhosis. However, because HBV is an oncogenic virus, it can cause HCC in the absence of cirrhosis. In this study we assessed whether administration of lamivudin of antiviral therapy after hepatectomy improves the prognosis of hepatocellular carcinoma (HCC) in preoperatively antiviral-naive patients with chronic hepatitis B virus (HBV) infection.
Methods: This study is a Retrospective analysis which involves 130 patients with HCC who had or had not undergone lamivudin therapy after hepatectomy.
Results: One hundred thirty patients received major hepatectomy for HB-related HCC from October 1, 2005, through November 1, 2010. Among them, 42 patients received antiviral therapy (treatment group) after hepatectomy, whereas 88 did not (control group). Patient demographics, preoperative liver function, tumor characteristics, and liver function at the time of tumor recurrence were comparable between the 2 groups. Disease-free and overall survival rates were significantly prolonged in the treatment group. The 1-, 3-, and 5-year overall survival rates in the treatment group were 84.5%, 72.3%, and 68.2%, respectively; in the control group, 79.5%, 41.2%, and 36.7%, respectively (P = .005). The 1-, 3-, and 5-year disease-free survival rates in the treatment group were 71.4%, 49.8%, and 44.9%, respectively; in the control group, 47.6%, 31.1%, and 30.8%, respectively (P = .05). Conclusions: Lamivudine therapy improves the prognosis of HBV-related HCC. It should be considered after hepatectomy for HBV-related HCC, especially in early-stage tumors.

Abstract ID: 707

Rapamycin Sensitivity And mTor Activity in Lymphoma/Leukemia Cells

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Abstract:
Acute lymphoblastic leukemia (ALL) is the most common malignancy diagnosed in children, representing nearly one third of all pediatric cancers. Recently, the mammalian target of rapamycin (mTOR) has gained more attention as a potential target in different tumors including hematological malignancies. In the present work we studied the expression of mTOR activity in different lymphoma/leukemia cell lines, in bone marrow/blood samples from pediatric ALL patients and in isolated normal PMNC-, B- and T-cells. The expression of mTOR activity dependent proteins (p-4EBP1, p- mTOR, p-S6, p-p70S6K) was examined. We statistically analyzed the expression results in clinical samples during the therapy and at the possible relapses based on minimum 2 years follow up. The effect of rapamycin treatment and the expression of mTOR complexes were also studied by flow cytometry and immunocytochemistry. Leukemia and lymphoma cell lines showed increased mTOR activity compared to normal lymphoid cells. More than 70 bone marrow samples from pediatric ALL and from non leukemic patients were analyzed. The p-4EBP1 expression was significantly higher (20-58x) in all ALL samples than in normal cells. The p-4EBP1 expression level showed significant correlation with the prognosis of the patients. According to the in vitro rapamycin treatment and the mTOR related protein expression studies, in cases where p-4EBP1 expression level was decreased by in vitro rapamycin treatment, apoptosis induction could also be occured. We also found that rictor/raptor expression can influence the rapamycin sensitivity of malignant lymphoid cells. Our results confirm that pediatric ALL cells have high mTOR activity. This could be detected by p-4EBP1 expression. The recent results suggest that mTOR activity measurments could be useful method to identify ALL patients with worse prognosis at diagnosis and to recognize early relapses. However, further studies are required to define the best way to sort ALL and other lymphoma patients for future rapalog treatments based on rapalog sensitivity prediction. Supported by OTKA K81624, K84262

Abstract ID: 739

Identification of factors determining natural course of early-stage breast cancer

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Abstract:
Background: Breast cancer is the most frequent invasive cancer in women in the world, however prognosis at an early stage is good. A range of studies proves several prognostic factors. Size of primary tumor and presence of metastasis were one of the most essential determinants. The purpose of this study was to investigate factors responsible for metastatic potential and advancement of breast cancer.
Methods: 162 patients radically operated on invasive breast cancer with assessment of sentinel node (SLND) in Department of Surgical Oncology in Medical University of Gdansk were enrolled. Age median was 54 years and 78.4% with invasive ductal carcinoma. Statistical analysis included clinical, pathological and biochemical types of variables were performed to indicate factors which correlates with metastasis in sentinel SLND and size of primary tumor.
Results: The strongest correlations between lymph (p= 0.000016) and blood vessels (p=0.001929) embolism in the marginal zone of tumor and metastatic SLND were revealed. Additionally the diameter of tumor correlated with 16 variables (e. g.: mitotic index, size of necrosis, presence protein Bcl-2), but not with presence of metastasis in SLND. Moreover indirect statistically significant relationship between tumor diameter and SLND metastasis was shown.
Conclusion: The study on early-stage breast cancer do not confirm correlation between tumor size and metastasis in SLND and between histolopathological type of tumor an metastasis in SLND which are found in studies researching advanced breast cancer.

Abstract ID: 744

Evaluation of the early morbidity in patients after HIPEC (Hyperthermic Intraperitoneal Chemotherapy).

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Abstract:
HIPEC is a new method of treatment used in patients with intraperitoneal neoplasm spread, increasing significantly their 3-year survival. The aim of our study was to evaluate the impact of chemotherapy administered intraperitoneally on the condition of patients in the postoperative period. We analyzed data of 18 patients (10 women and 8 men) aged from 23 to 76 years (average: 46.61; standard deviation: 16.22) who underwent HIPEC with cytoreductive surgery on the peritoneal cavity at the period of time between June 2009 and June 2011. In 7 of them colon cancer, in 4 a pseudomyxoma of peritoneum, in 1 stomach cancer, an ovarian cancer, a testicle cancer, a mesothelioma of peritoneum were diagnosed. In 3 patients the primary tumor was not diagnosed. Patients were followed up before and five days after surgery to assess hematological complications, renal and liver failure. Results were compared with a group of patients who underwent similar range surgery without HIPEC treatment. There were no early mortality in the study group. There were no statistically significant deviations in blood count in comparison with second group. The average hemoglobin levels before surgery, the first and fifth day after the procedure were: 12.38 g/dl, 11.03 g/dl, 10.55 g/dl, respectively. The average white blood cell counts in the same intervals were: 7.84 g/l, 10.53 g/l, 7.01 g/l. The neutrophile count was 5.46 g/l, 9.03 g/l, 5.17 g/l, and platelet level: 301 x 10(9)/L, 203 x 10(9)/L, 203 x 10(9)/L. There were also no anomalies in the kidney and liver function. Average creatinine levels in the same period were: 0.97 mg/dl, 0.91 mg/dl, 0.69 mg/dl, and ALT and AST levels were: 28.25 U/L, 22.2 U/l, 18.2 U/L and 29 U/L, 34.2 U/L, 20 U/l. We have noticed an increase of d-dimers levels and CRP levels in patients in the postoperative period. Their average levels before surgery, in the first and fifth day after the procedure were: 1304 mg/l, 4458 mg/l, 7005 mg/l and 37.64 mg/l, 190.24 mg/l, 117.98 mg/l respectively. It seems that the intraperitoneal administration of mitomycin C did not cause hematological complications and did not lead to a deterioration of kidney and liver function. Noteworthy is increased d-dimers level, which can lead to the appearance of pulmonary embolism in patients after HIPEC. This problem requires further studies in a larger research group.

Abstract ID: 764

Effects of a Betulin Nanoemulsion Formulation on Respiratory Function of Liver Mitochondria Isolated from Mice with Chemically Induced Skin Carcinogenesis

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Abstract:
Betulin is a naturally occurring triterpene with anti-tumor properties currently investigated for its potential use in skin cancer treatment. The aim of the present study was to characterize changes occurring in liver mitochondrial respiration in Balb/c mice 10 weeks after topical skin application of two tumor promoters, DMBA (7,12-dimethylbenz[α]anthracene) and TPA (12-O- tetradecanoylphorbol-13-acetate), in the presence vs. the absence of the treatment with betulin. Mice (n=6/grup) were randomly assigned to receive only tumor promoters, but no betulin (non-treated group, N-T) or local treatment with a betulin nanoemulsion for 9 weeks (treated group, T). In a third group (Shams, n = 5) no intervention was applied. Liver mitochondria were isolated by differential centrifugations and oxygen consumption was measured at 37°C by high-resolution respirometry (Oroboros Oxygraph-2k system). The Substrate-Uncoupler-Inhibitor Titration protocol was used as follows: complex I (CI) and complex II (CII) dependent respiration was stimulated by glutamate(G)

+malate(M) and succinate(S)+rotenone(Rot), respectively (LEAK state) and subsequent ADP addition (OXPHOS state); uncoupled respiration was obtained by FCCP titration in steps of 0.1 μM (ETS capacity). Data are expressed in pmol O2•s-1•mg-1. Liver mitochondria isolated from the N-T group showed a clear decline in LEAK state compared with mitochondria from shams when using either G/M (68.5 ± 1.3 vs. 79.3±2.1, p<0.01) or S/Rot (150.8 ± 2.6 vs. 165.0 ± 5.5, p<0.05) while the other respiratory parameters remained unchanged. An important increase of all respiratory rates was obtained in mitochondria isolated from T vs. N-T group in the presence of both CI (LEAK: 98.64 ± 4.04 vs. 68.54 ± 1.33, p<0.001; OXPHOS: 807.1 ± 43.1 vs. 613.1 ± 45.1, p<0.05; ETS: 668.2 ± 53.8 vs. 452.7 ± 52.7, p<0.05) and CII (Leak: 209.4 ± 8.8 vs. 150.8 ± 2.6, p<0.001; OXPHOS: 1091 ± 49.8 vs. 847.7 ± 29.2, p<0.001; ETS: 1066 ± 38.3 vs. 818.9 ± 28.6, p<0.001) linked substrates. In conclusion, changes in liver mitochondrial respiratory function occurred after chemically induced skin carcinogenesis that was partially reversed by topical treatment with betulin. This observation is suggestive for beneficial effects of the natural compound at distance from the site of application. Research supported by PhD Fellowship Project POSDRU/88/1.5/S/63117 and National Authority for Scientific Research grant 42-122/2008.

Abstract ID: 822

Evaluation of LIVIN protein expression as a promising marker in Hodgkin Lymphoma and its malignant cells compared to non-neoplastic lymph node

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Abstract:
Over expression of Livin, as a novel IAP, was demonstrated in pathogenesis of different human malignancies. However there is no report on Livin expression in Hodgkin Lymphoma. In this study, we evaluated Livin expression in 39 staged cases of HL in comparison with 30 normal and 9 follicular hyperplasia lymph nodes as a control subject. Tissue microarray-based Semi-quantitative Immunoflourecent staining was applied for protein expression profiling in both nonneoplastic background cells (preferentially Lymphocytes) and neoplastic cells (HRS). The mean ratio of Livin /GAPDH was significantly different (p=0.003) between whole background cells in Lymphomas and control cases . Also a significant correlation was found in mean ratio of Livin /GAPDH between neoplastic cells (HRS) and major reactive inflammatory cell in tumor microinviroment(p>0.001). Multivariate analysis confirmed the prognostic value of Livin expression in HL in Ann Arbor Stage I toward Stage IV in HL. This funding shows the salient potential of Livin for predict unfavorable pathoclinical condition. In summary, Livin can be regarded as a promising approach for experimental anticancer therapy in patient with HL.

Session: Microbiology and Hygiene

Abstract ID: 108

Infection with cytomegalovirus in pregnant women in south backa district

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Coauthor: Maric Jelena

Abstract:
Introduction: Cytomegalovirus is a common agent of prenatal infections, and 1 in 20 congenitally infected newborns show serious symptoms, usually caused by liver, spleen and the central nervous system damage. The diagnosis of CMV infections is based on the detection of specific IgM and IgG antibodies. In some cases it is impossible to estimate the time of infection based only on the findings of these antibodies.
Aim: Aim of this study was to point to the frequency of relatively recent CMV infection and the occurrence of seropositive women in tested sample and the significance of IgG avidity test.
Material and methods: Source of these data were the results of serologic examinations performed at the Institute for Public Health of Vojvodina (Virology department), from April 1, 2009 to November 30, 2010 on the sample of 229 pregnant women of different age and gestation period. Detection of IgM and IgG antibodies and measurement of IgG avidity were performed using ELISA serologic method (SERION ELISA CLASSIC procedure, Virion, Germany). X^2 test was used for statistic calculations.
Results: A total of 194 (84.8%) pregnant women had an old infection (IgG+), 32 (13.9%) were serologically negative (IgM- and IgG-), 3 (1.3%) had relatively recent infection (IgM + и IgG+ and relative index of avidity (RIA) between 40-60%). None had a new acute infection (IgM+). No significant statistical difference in the frequency of seropositive women and pregnant women with old infection has been proven in relation to age.
Conclusion: A large percent of pregnant women from the South Backa District (84.8%) have protective antibodies against CMV (protective immunity) and therefore congenital transmission is impossible. However, in a small number of pregnant women (1.3%) there is a risk of such transmission and probability of fetal damage. The tests of IgG avidity are the most important indicators for estimating both the age of an infection and a risk of transmission of CMV from mother to fetus (RAI > 60% – there is no risk; RAI 40-60 %- marginal values which indicate that the risk of transmission exist ; RAI< 40% – high risk of transmission).

Abstract ID: 261

Chemical composition and antimicrobial activities (ex:against multiple nosocomial infection agents) of the essential oils from three ecotypes of Zataria multiflora

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Discipline: Microbiology and hygiene

Abstract:
Zataria multiflora Boiss. is a traditional and popular spice in Iran(known as oregano). The effects of three ecotypes (ECTPs) of Z. multiflora essential oils (EOs) against most common causes of food-borne and nosocomial infections were evaluated by the broth micro-dilution method as recommended by the Clinical and Laboratory Standards Institute (CLSI). The chemical compositions of the EOs from three ECTPs of Z. multiflora has been analyzed by gas chromatography-mass spectrometry (GC/MS). Analysis of the EOs indicated that three chemotypes were present in Z. multiflora, including carvacrol, thymol-carvacrol, and linalool; whereas previous studies have only found carvacrol and thymol. Inhibition studies showed that the tested EOs entirely inhibited the growth of yeasts at concentrations of less than 1 μl/ml. Moreover, the oils exhibited significant bacteriostatic and bactericidal activities against Gram-positive and Gram-negative bacteria at concentrations ranging from 0.12–8 μl/ml. These results suggest that the EOs from Z. multiflora should be investigated further for possible use in antimicrobial products and food preservatives.

Abstract ID: 288

Bacterial Vaginosis Caused by Chlamydia, Ureaplasma and Mycoplasma – Implication in Premature Labor

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Coauthor: Dr.Tiberiu Daianu, Mara Ionete, Victor Gheorman, Goganau Alexandru
Discipline: Microbiology and hygiene

Abstract:
Background: Premature birth is one of the most disturbing issues concerning Obstetrics-Gynecology and modern medicine as well, for its devastating impact on the neonatal morbidity and mortality on one hand, and for its long-term consequences on the population health status on the other hand. The only pathological process proved to be directly correlated with the premature labor is considered to be infection. The inflammation of the fetal territory is linked to the debut of the labor at patients with ascending intrauterine infection, especially with Chlamydia, Ureaplasma and Mycoplasma. The aim of this study was to correlate the IL-6 levels from the cervico-vaginal fluid with the presence of microbial species that modify the normal vaginal flora.
Methods: The study consists of 106 pregnant women with an average age of 30.2 years (range 18 - 40 years), with a pregnancy age between 22 and 34 weeks and was conducted from 19th December 2010 to 18th April 2011 in private clinics and the departments of Obstetrics and Gynecology of various hospitals of Craiova, Romania. Samples from the endocol were taken in order to identify the vaginal flora and to determine the value of IL-6 from the cervico-vaginal fluid.
Results: The patients from the study were divided in 2 groups: a control group that consists of 40 pregnant women with an average age of 26.8 years (range 18 - 36 years) and a group of 66 pregnant women with an average age of 32.3 years (range 18 - 40 years) at whom were detected significant risk factors of premature delivery: the presence of bacterial vaginosis, history of spontaneous abortion (miscarriage) or premature delivery. The levels of IL-6 were significantly higher at pregnant women who presented vaginal infection with Chlamydia, Ureaplasma or Mycoplasma ($p<0.05$) in comparison with the control group.
Conclusion: In the presence of some bacterial stimulus induced by Chlamydia, Ureaplasma or Mycoplasma there is a direct influence on the production of IL-6 in the cells of the vaginal epithelium, the key-cytokine of acute phase which acts as a major modulator of the body's response to infection.

Abstract ID: 379

Markers of antimicrobial drug resistance in the most common bacteria of normal facultative anaerobic intestinal flora

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Discipline: Microbiology and hygiene

Abstract:
Background: Bacteria of normal intestinal flora are frequent carriers of markers of antimicrobial drug resistance. Resistance genes may be exchanged with other bacteria of normal flora, but also with pathogenic bacteria. Increase in the number of markers of resistance is one of the major global health problems, which induces the emergence of multi-resistant strains. The aim of this study is to confirm the presence of markers of resistance in bacteria of normal facultative anaerobic intestinal flora in our region.
Methods: The experiment included 100 fecal specimens obtained from 100 healthy donors. Using standard bacteriological methods, 100 bacterial strains were isolated (the most numerous representatives of the normal facultative-anaerobic intestinal flora). The bacteria were cultivated on Endo agar and SS agar for 24 hours at 37ºC. After incubation, selected characteristic colonies were submitted for biochemical analysis. Testing of susceptibility to antimicrobial drugs were performed by standard disc diffusion method, using interpretation of the results according to the CLSI Standard 2010 (Clinical and Laboratory Standards Institute).
Results: Markers of resistance were found in 42% of the isolated bacteria. Resistance is most common to ampicillin (42% of isolates), amoxicillin with clavulanic acid (14% of isolates), cephalexin (14% of isolates) and cotrimoxazole (8% of isolates). The finding of 12 multi-resistant strains (12% of isolates) and resistance to ciprofloxacin is significant. The frequency of resistance markers was statistically higher in Klebsiella pneumoniae compared to Escherichia coli of normal flora.
Conclusion: The finding of a large number of markers of antimicrobial drug resistance among bacteria of normal intestinal flora shows that it is necessary to begin with systematic monitoring of their antimicrobial resistance because it is an indicator of resistance in the population.

Abstract ID: 108

Infections with cytomegalovirus in pregnant womean in the south backa district

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University of Novi Sad
Coauthor: Maric Jelena

Abstract:
Introduction: Cytomegalovirus is a common agent of prenatal infections, and 1 in 20 congenitally infected newborns show serious symptoms, usually caused by liver, spleen and the central nervous system damage. The diagnosis of CMV infections is based on the detection of specific IgM and IgG antibodies. In some cases it is impossible to estimate the time of infection based only on the findings of these antibodies.
Aim: Aim of this study was to point to the frequency of relatively recent CMV infection and the occurrence of seropositive women in tested sample and the significance of IgG avidity test.
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Conclusion: A large percent of pregnant women from the South Backa District (84.8%) have protective antibodies against CMV (protective immunity) and therefore congenital transmission is impossible. However, in a small number of pregnant women (1.3%) there is a risk of such transmission and probability of fetal damage. The tests of IgG avidity are the most important indicators for estimating both the age of an infection and a risk of transmission of CMV from mother to fetus (RAI > 60% – there is no risk; RAI 40-60 %- marginal values which indicate that the risk of transmission exist ; RAI< 40% – high risk of transmission).

Abstract ID: 261

Chemical composition and antimicrobial activities (ex:against multiple nosocomial infection agents) of the essential oils from three ecotypes of Zataria multiflora

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Discipline: Microbiology and hygiene

Abstract:
Zataria multiflora Boiss. is a traditional and popular spice in Iran(known as oregano). The effects of three ecotypes (ECTPs) of Z. multiflora essential oils (EOs) against most common causes of food-borne and nosocomial infections were evaluated by the broth micro-dilution method as recommended by the Clinical and Laboratory Standards Institute (CLSI). The chemical compositions of the EOs from three ECTPs of Z. multiflora has been analyzed by gas chromatography-mass spectrometry (GC/MS). Analysis of the EOs indicated that three chemotypes were present in Z. multiflora, including carvacrol, thymol-carvacrol, and linalool; whereas previous studies have only found carvacrol and thymol. Inhibition studies showed that the tested EOs entirely inhibited the growth of yeasts at concentrations of less than 1 μl/ml. Moreover, the oils exhibited significant bacteriostatic and bactericidal activities against Gram-positive and Gram-negative bacteria at concentrations ranging from 0.12–8 μl/ml. These results suggest that the EOs from Z. multiflora should be investigated further for possible use in antimicrobial products and food preservatives.

Abstract ID: 288

Bacterial Vaginosis Caused by Chlamydia, Ureaplasma and Mycoplasma – Implication in Premature Labor

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Discipline: Microbiology and hygiene

Abstract:
Background: Premature birth is one of the most disturbing issues concerning Obstetrics-Gynecology and modern medicine as well, for its devastating impact on the neonatal morbidity and mortality on one hand, and for its long-term consequences on the population health status on the other hand. The only pathological process proved to be directly correlated with the premature labor is considered to be infection. The inflammation of the fetal territory is linked to the debut of the labor at patients with ascending intrauterine infection, especially with Chlamydia, Ureaplasma and Mycoplasma. The aim of this study was to correlate the IL-6 levels from the cervico-vaginal fluid with the presence of microbial species that modify the normal vaginal flora.
Methods: The study consists of 106 pregnant women with an average age of 30.2 years (range 18 - 40 years), with a pregnancy age between 22 and 34 weeks and was conducted from 19th December 2010 to 18th April 2011 in private clinics and the departments of Obstetrics and Gynecology of various hospitals of Craiova, Romania. Samples from the endocol were taken in order to identify the vaginal flora and to determine the value of IL-6 from the cervico-vaginal fluid.
Results: The patients from the study were divided in 2 groups: a control group that consists of 40 pregnant women with an average age of 26.8 years (range 18 - 36 years) and a group of 66 pregnant women with an average age of 32.3 years (range 18 - 40 years) at whom were detected significant risk factors of premature delivery: the presence of bacterial vaginosis, history of spontaneous abortion (miscarriage) or premature delivery. The levels of IL-6 were significantly higher at pregnant women who presented vaginal infection with Chlamydia, Ureaplasma or Mycoplasma ($p<0.05$) in comparison with the control group.
Conclusion: In the presence of some bacterial stimulus induced by Chlamydia, Ureaplasma or Mycoplasma there is a direct influence on the production of IL-6 in the cells of the vaginal

epithelium, the key-cytokine of acute phase which acts as a major modulator of the body's response to infection.

Abstract ID: 379

Markers of antimicrobial drug resistance in the most common bacteria of normal facultative anaerobic intestinal flora

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Discipline: Microbiology and hygiene

Abstract:
Background: Bacteria of normal intestinal flora are frequent carriers of markers of antimicrobial drug resistance. Resistance genes may be exchanged with other bacteria of normal flora, but also with pathogenic bacteria. Increase in the number of markers of resistance is one of the major global health problems, which induces the emergence of multi-resistant strains. The aim of this study is to confirm the presence of markers of resistance in bacteria of normal facultative anaerobic intestinal flora in our region.
Methods: The experiment included 100 fecal specimens obtained from 100 healthy donors. Using standard bacteriological methods, 100 bacterial strains were isolated (the most numerous representatives of the normal facultative-anaerobic intestinal flora). The bacteria were cultivated on Endo agar and SS agar for 24 hours at 37ºC. After incubation, selected characteristic colonies were submitted for biochemical analysis. Testing of susceptibility to antimicrobial drugs were performed by standard disc diffusion method, using interpretation of the results according to the CLSI Standard 2010 (Clinical and Laboratory Standards Institute).
Results: Markers of resistance were found in 42% of the isolated bacteria. Resistance is most common to ampicillin (42% of isolates), amoxicillin with clavulanic acid (14% of isolates), cephalexin (14% of isolates) and cotrimoxazole (8% of isolates). The finding of 12 multi-resistant strains (12% of isolates) and resistance to ciprofloxacin is significant. The frequency of resistance markers was statistically higher in Klebsiella pneumoniae compared to Escherichia coli of normal flora.
Conclusion: The finding of a large number of markers of antimicrobial drug resistance among bacteria of normal intestinal flora shows that it is necessary to begin with systematic monitoring of their antimicrobial resistance because it is an indicator of resistance in the population.

Session: Immunology

Abstract ID: 205

Nutrition and encapsulation in Drosophila Melanogaster: use of an invertebrate host-parasitoid model to investigate the effect of dietary calorie-content and protein: carbohydrate ratio on innate immunology

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Abstract:
Background: Malnutrition is a common cause of immunodeficiency in humans worldwide and protein-energy malnutrition is associated with impaired innate immunity. This study used an invertebrate host-parasitoid model to explore the relationship between diet and innate immunity. Female Asobara tabida parasitoid wasps lay eggs inside Drosophila melanogaster larvae. This activates larval innate immune response: haemocytic recruitment and aggregation into a layered capsule and cytotoxic metabolite production through eumelanin synthesis. Successful resistance depends upon parasitoid virulence and background genetic and environmental factors influencing larval immunity. Previous studies using various invertebrate species found dietary protein quality and concentration affects the number of circulating haemocytes, as well as eumelanin production related to nitrogen substrate availability. This study explored the effect of two dietary factors on encapsulation success: calorie content and protein:carbohydrate ratio. The experiment was designed to evaluate the effects of each factor alone and the interaction between the two. Method: Three-hundred and twenty larvae were reared on sixteen yeast-sugar diets composed of four total calorific values (50 g L-1, 100 g L-1, 200 g L-1, 400 g L-1), each with four protein:carbohydrate ratios (1:2, 1:4, 1:9, 1:16). Larvae were exposed to parasitoid wasps and left to develop on these diets for five days before being dissected: scoring successful (single black egg) and failed (live parasitoid egg or larva) encapsulations. The measured outcome for each diet was the number of D. melanogaster larvae successfully encapsulating out of the total number of singly parasitised larvae.
Results: The best mean encapsulation rate was 39% on two diets richest in calories (400 g L-1) ($p = 0.008$) and having protein:carbohydrate ratios of 1:2 and 1:4 ($p = 0.004$). Both dietary protein:carbohydrate ratio and calorie content independently affected outcome of successful encapsulation ($F(3,196) = 3.6$ $p = 0.014$) and ($F(3,196) = 3.36$ $p = 0.02$). An interaction between the two was weakly significant ($F(9,193) = 1.9$ $p = 0.05491$).
Conclusion: Dietary protein and energy content both affect innate immune response. It is possible that there is a trade-off between protein for immunological function and energy production. This model has potential future application for genetic and molecular studies into the mechanisms behind signalling and regulation of innate immunity

Abstract ID: 340

Stem Cells Of Different Origins: Similarities And Difference

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Discipline: Immunology

Abstract:
Background: Bone marrow-derived mesenchymal stem cells (MSCs) have long been considered as the prototype of stem cells with marked proliferative potential, increased plastic ability, and presence of certain surface molecules. We isolated and cultured stem cells from different sources - bone marrow, dental pulp, skeletal muscle and umbilical cord - and comparatively analyzed their characteristics.
Methods: Tissue samples were processed using enzymatic digestion (Collagenase IA) or explant method, and adher-

ent, fibroblastic-like cells were cultured in DMEM/F12 medium supplemented with 10% FCS. Starting with passage 2, using appropriate differentiation media, cells were induced towards the mesodermal lineages - adipocytes, osteoblasts and chondrocytes. Subsequently, differentiated cells were analyzed for presence of characteristic immunocytochemical markers: FABP4 and PPARγ, Osteocalcin and Collagen type I, Aggrecan and Collagen type II, respectively. PA phenotype profile of the undifferentiated cells was assessed by flowcitometry using characteristic surface markers, and we determined the ratio of positive cells between different populations: CD29, CD34, CD44, CD45, CD73, CD106, CD117, VEGF-RI/RII, TGF-β RII/RIII, HLA-DR, and CXCR4. Immunocytochemical staining was also used to confirm the presence of stem cells characteristics.
Results: Although cells of each type were obtained from 10 different subjects, we could not confirm the differentiation of dental stem cells towards adipocytes, compared with stem cells from the other sources, which presented differentiation ratios ranging from 20% (UC stem cells) to 85% (muscle stem cells). CD29, CD90 and CXCR4 were significantly higher expressed in dental stem cells compared with the other cellular types, while HLA-DR and CD106 was also significantly lower in muscle stem cells. Expression of CD117 was increased in all cellular types when compared with MSC.
Conclusion: Stem cells from other sources are endowed with different differentiation potential and express in various proportions characteristic surface markers, which make them more suitable for diverse clinical applications.

Abstract ID: 368

Assessment of the adjuvant activity of Astragalus Adscendens extract as a new adjuvant against ovalbumin in mice comparing to Quil A and Allum.

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Abstract:
Objectives: Astragalus adscendens is a perennial plant of family astragalus that its polysaccharide extract is usually used as a popular sweet in Iran for years called GAS ANGABIN. Several studies demonstrated that Astragalus membraneous extracts could be safely used as an adjuvant with low or non-haemolytic effect. As there is no study assessing such potential ability in A. Adscendens the current study was designed to evaluate the hemolytic and adjuvant activities of this plant in mice.
Methods: 4 groups of ICR mice were subcutaneously immunized with OVA 100 ìg alone or OVA and Astragalus extract(ASE as a new adjuvant), QuilA and Allum on Day 1 and 15. Two weeks later (Day 28), concanavalin A (Con A)-, lipopolysaccharide (LPS)- and OVA-stimulated splenocyte proliferation and OVA-specific antibodies in serum were measured. Haemolytic activities of ASE was evaluated using 0.5% rabbit red blood together with its adjuvant potentials on the cellular and humoral immune responses at both 100 and 200 ìg/ml doses.
Results: ASE showed no haemolytic effect, at the concentration of 100 and 200 ìg/ml. ASE significantly enhanced the Con A-, LPS-, and OVA-induced splenocyte proliferation in the OVA-immunized mice at both doses of 100 and 200 ìg. The IgG total and IgG sub-class responses in the serum of mice were significantly higher using ASE as adjuvant compared with QuilA,Allum and control group.
Conclusion: This study demonstrated that ASE has a considerable adjuvant activity with non-haemolytic effect at both 100 and 200 ìg/ml doses superior to Allum and QuilA. Keywords: Astragalus Adscendens; Extract; Haemolytic; OVA; Adjuvants.

Abstract ID: 507

Correlation of interleukin-6 and high-sensitive C-reactive protein with blood component transfusion in patients undergoing re-operation after cardiac surgery

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Discipline: Immunology

Abstract:
Background: Determination of biomarkers can assess cardiac injury induced by cardiopulmonary bypass (CPB) during coronary artery bypass grafting (CABG). Preoperative patients` characteristics can predict the need for perioperative blood component transfusion in cardiac surgical operations. This study was aimed at assessing the release and timing of cardiac biochemical and inflammatory markers in patients undergoing re-operation CABG with CPB.
Methods: Fifty-four patients (16% female, 84% male; ages 60.5±6.5 vs. 66.2±7.3 years) scheduled for elective CABG were included in this study: coronary artery bypass grafting (CABG) – group 1, re-operation with coronary revascularization (re-do CABG) – group 2. Blood samples were collected for biochemical measurements at the following time points: immediately prior to the induction of anesthesia, six, and 24 hours after initiation of CPB. We measured hematological and inflammatory parameters: interleukin (IL)-6, hsCRP, fibrinogen and compared to clinical outcomes. Primary endpoints were the need for allogeneic red blood cells transfusion, the influence of the cell-saver procedure on cytokine induction, fibrinogen and acute phase reactants production (mean and SD). Inflammatory markers were correlated with clinical outcomes: drainage, tracheal intubation time, atrial fibrillation rate (AF), length of ICU and hospital stay, mortality.
Results: Hematological and biochemical markers, fibrinogen and hsCRP were similar in two groups preoperatively. Baseline plasma levels of IL-6 were significantly higher in Group 2 ($p < 0.002$), but serum levels of interleukin-6 increased significantly six hours after initiation of CPB ($p < 0.01$), while serum high sensitivity C-reactive protein levels started to elevate 12 hours after CPB ($p < 0.01$). Although there was some differences in blood drainage ($p < 0.5$), there was not any difference between IL-6 and hsCRP preoperatively nor postoperatively. Length of ICU stay was not influenced by used blood components transfusion, either allogeneic or autologous. We have found positive correlation between ICU stay and preoperative risk assessment, Euro score ($r=0.59$; $p=0.0046$), age ($r=0.27$; $p=0.2$), duration of CBP $r=0.53$ ($p=0.0121$), drainage $r=0.49$ ($p=0.0212$) and IL-6 meas-

ured in supernatant during autotransfusion of the erythrocytes returned to patient's peripheral circulation after cell-saver procedure (r=0.30; p=0.28). Conversely, we have found negative correlation between ICU stay and left ventric

Abstract ID: 570

Maternal stress in pregnancy based on Holmes-Rahe questionnaire and umbilical cord IgE

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Discipline: Immunology

Abstract:
Background: pregnancy is a stressful period in woman life and environmental changes can affect on its qualification. Maternal stress is a risk factor on pregnancy that may affect the fetal immune system and predispose newborn to allergy.
Methods: In this descriptive-analytic study, 290 pregnant women in third trimester were questioned about stress events in pregnancy by Holmes-Rahe Stress Score Questionnaire and also umbilical cord and maternal serum IgE levels were determined.
Results: We found that 50.3% of pregnant women had mild, 30.7% had moderate and 19% had high stress during the first and second trimester. Umbilical cord IgE(Uc IgE) was high in 24%, 54% and 70.9% of neonates from women with mild, moderate and severe stress respectively (P=0.001). Uc IgE was significantly more in neonates of mothers with higher serum IgE.(50.5% vs 36.2%) (P =0.018).
Conclusion: Findings of this study indicated that high stress during pregnancy which determined by Holmes-Rahe questionnaire had a significant correlation with Uc IgE. Key words : Holmes-Rahe questionnaire, Pregnancy stress, Umbilical cord IgE(Uc IgE)

Abstract ID: 641

Effect of maintenance dose (30000 unit per month) 25-Hydroxyvitamin D on Upper Respiratory Tract Infection in children of day care center

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Abstract:
Introduction: Over the past decade, interest has grown in the role of vitamin D in many nonskeletal medical conditions. The action of vitamin D as a key link between Toll-like receptor activation and antibacterial responses in innate immunity has recently been shown, which helps to prevent infection without the need for immunologic memory from previous exposure to the pathogen. Emerging evidence indicates that vitamin D-mediated innate immunity, particularly through enhanced expression of the human cathelicidin antimicrobial peptide (hCAP-18), is important in host defenses against respiratory tract pathogens. Vitamin D insufficiency during winter may cause increased susceptibility to upper respiratory tract infections.
Aim: We aimed to explore whether an association exists between maintenance dose of vitamin D and acute upper respiratory tract infection in young children.
Material and Methods: We conducted a randomized controlled clinical trial that studied 50 children from November 2009 to March 2010. Their serum 25-hydroxyvitamin [25(OH) D] concentrations were measured before the administration of vitamin D. We treated children with vitamin D deficiency and then prescribed maintenance dose depending on age for control group during winter. Base of vitamin D prescribed in placebo group. They were followed for 3 months; a monthly questionnaire was used to record the incidence and severity of acute upper respiratory tract infection symptoms.
Results: The mean (± SD) serum 25(OH) D concentrations were 31.31 ± 16.69 ng/ml in control group and were 30.36 ± 8.38 ng/ml in placebo group. There was no significant difference between two groups for frequency of acute upper respiratory tract infections (P=0.375). There was no meaningful difference between studied groups about frequency of fever (P=0.233). We did not observed a significant difference between two groups for using antibiotics during upper respiratory infections (P= 0.494).
Conclusion: Our study showed no relationship between using maintenance dose of vitamin D and lowering of frequency or severity of acute upper respiratory tract infections. Randomized controlled trials are needed to investigate the effects of vitamin D supplementation on respiratory tract infections.

Abstract ID: 720

The influence of TNF-alpha polymorphism -308 A/G on the level of Immune complexes, anti-nuclear antibodies and C3 in patients with SLE

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Abstract:
Background: Systemic lupus erythematosus (SLE) is a chronic autoimmune connective tissue disease that can affect any part of the body. Anti-nuclear antibodies (ANA), immune complexes (IK) and the level of C3 are important immunologic and biochemical parameters for SLE diagnosis. Tumor necrosis factor (TNF) is involved in the pathogenesis of SLE, but the role of TNF polymorphisms in SLE susceptibility remains unclear. Single nucleotide polymorphisms (SNP), especially within the promoter sequence of TNF-alpha, are becoming recognized markers for susceptibility to diseases such as SLE. One of those is a guanine (G) to adenine (A) transition at position -308, which generates the TNF1 and TNF2 alleles respectively. The TNF2 allele has also been linked to increased susceptibility to and severity of a variety of illnesses, including systemic lupus erythematosus. The aim of this study was to investigate the influence of TNF-*f*Ñ polymorphism -308 A/G on the level of IK, C3 and titer of ANA.

Methods: In this study, we have analyzed polymorphism of TNF-*f*Ñ gene (TNF-*f*Ñ-308 G/A SNP) by PCR-RFLP on 44 patients (42 female and 2 male) with SLE (10 with G/G, 30 with G/A and 4 with A/A genotype) and 40 healthy volunteers. IK, ANA and C3 were analyzed with standard commercial kits.
Results: The homozygous TNF1 allele was present in 56.8% of the SLE patients and 76% of controls, while the TNF2 allele (heterozygous and homozygous) was found in 43.18% of the SLE patients and 24% of controls. The homozygous TNF2 allele was detected in only four SLE patients. The investigation showed no difference in frequency¡¦s of G and A alleles in SLE patients. The frequency of G/A genotype is significantly higher than G/G and A/A in patients with SLE. The obtained results showed significant decrease of C3 level, but not titer of ANA, and IK in heterozygote (G/A) patients for investigated polymorphism ($p<0.01$) compared to G/G patients.
Conclusion: The -308 TNF promoter polymorphism was associated with the presence of SLE, significantly affects the level of C3 complement, but does not influence the titer of ANA and the level of IK in early diagnosed SLE.

Abstract ID: 734

Dynamics of mediators of chronic inflammation at the patient with bronchial asthma

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Discipline: Immunology

Abstract:
Inflammatory process in tracheo-bronchial tree is a result of action of different mediators and cytokines, which are produced by different cells. More than 20 different cytokines was synthesized. Sources for synthesis of cytokines may be different. One cytokine may be synthesized by different cells and released cytokines may have influence on synthesis and secretion of another cytokines. Source for interleukine (IL)-6, IL-8, IL-18, TNF-Î± is a epithelium. Endothelium produces IL-8, IL-5 and fibroblasts â€“ factors of growth of mast cells and IL-8. Neutrophils can produce IL-1Î², IL-8, TNF-Î±, IL-4. Subset of Th-2 limphocytes secretes IL-4, IL-5, IL-9, IL-13. Influence of IL-4 and IL-13 on B- limphocytes, IL-4 and IL-10 on mast cells and IL-5 on eosinophils causes the inflammatory process, which is characteristic for bronchial asthma (BA). Now a great attention is spared to detection of the IL-8â€™s level as a marker of severe BA. IL-8 is produced by monocytes, limphocytes, neutrophils, fibroblasts, bronchial epithelial cells, eosinophils et c. It has property to chaemotaxis and to recruitment of neutrophils and limphocytes in a place of inflammation. Endothelial cells has a property to autocrine stimulation of IL-8 after it activation by nitroxide radicals. IL-8 is pro-inflammatory cytokine as a IL-1, IL-6, TNF-Î±. IL-1Î² and TNF-Î± may be the inductors of synthesis and secretion of IL-8. Different cytokines independently and in some concentrations can have different influence on the secretion of IL-8. Stimulated action of mixture IL-1Î² and TNF-Î± on IL-8â€™s secretion was higher than their isolated effect. IL-8 may be considered as a factor of neutrophilic phenotype of BA. The aim of investigation was to determine the concentration and role of IL-8 in serum and in condensate of exhaled air at the patients with BA the different degree of severity. 94 patients with BA were investigated: 52 had mild persistent BA, 23 â€“ moderate degree and 19 patients had severe degree of BA. IL-8 was examined by immunoassay method. Control group consist of 30 healthy persons. Contents of IL-8 in serum of patients with mild persistent BA non significantly increased in a period of the disease exacerbation and than restored after treatment. In the serum of patients with moderate degree of BA concentration of IL-8 was 1,9fold higher than healthy person and after course of treatment had a tendency to decreasing.

Session: Infectious Diseases

Abstract ID: 65

Meningococcal disease, septic shock, nitroside and oxidative stress.

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Abstract:
Introuduction: Among the infectious lesions of the central nervous system, a central role is occupied by various aerobic and anaerobic bacteria. Mortality reaches 60% in patients with development of generalized forms of meningococcal infection complicated by the development of septic shock. Key role in the pathogenesis of septic shock belongs molecule nitric oxide (NO). Concerning that the main triggering triggers of synthesis of NO is a cytokine, it was offered a whole pathogenetic anti cytokine treatment strategy. It was found that nitric oxide reacts with the SH-groups of cysteine, forming S-nitrosothiols.
Methods: A group of 6 patients were diagnosed with meningococcal disease complicated with septic shock based on their complaints, medical history & clinical and laboratory data. Control group consisted of 10 healthy blood transfusion donors. Additionally, work has been used in biochemical methods to determine the level of nitrite / nitrate, malondialdehyde, diene conjugates and total antioxidant activity of plasma. The level of nitrite / nitrate was determined by the method based on the restoration of nitrate to nitrite with zinc dust in alkaline medium in the presence of ammonia complex of copper sulfate, followed by photometry technique Solodkova. The level of malondialdehyde in plasma was determined using Andreeva method. The level of diene conjugates in plasma were obtained from Gavrilov method. Total antioxidant activity of blood plasma was obtained by the Klebanov method.
Results: On the 1st day the patients had a plasma concentration of 38,6 ± 9,94 mmol/l which reduced in the 3rd day thus significantly keeping it higher than the donors.
Conclusion: In shock during meningococcal infection, there‘s a hyperproduction of nitric oxide molecules (increase of nitrite / nitrate plasma) till 7 days from the day of occurrence, which needs pentoxifylline. In patients with meningococcal disease, complicated with secondary shock there's increase in MD,reducing CAAP.

Abstract ID: 111

Coiled-coil motif important for oligomerization and DNA binding properties of human cytomegalovirus protein UL77

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Abstract:
DNA packaging into procapsids is a common, multistep process during viral maturation in herpesviruses. Proteins involved in this process like the terminase subunits pUL56 and pUL89 are responsible for site-specific cleavage and insertion of the DNA into the procapsid via the portal protein pUL104. Another protein, pUL52, may be involved in the closing procedure of the capsid after the DNA is encapsidated. However, additional viral proteins are required for the complex DNA packaging process. In HCMV, UL77 encodes for another potential player during capsid maturation which was not investigated so far. The gene product of UL77 is a 72 kDa protein (pUL77) with a tendency to form oligomers which was revealed by immunoprecipitation (IP). Sequence analysis using PCOILS revealed the presence of a coiled-coil motif (CCM) in pUL77. Chemical cross-linking of pUL77 with either wild-type protein or CCM deletion confirmed a critical role in pUL77 oligomerization. Using immunofluorescence, the expression of pUL77 during HCMV replication was investigated. Moreover, Co-IP studies point towards an interaction of pUL77 with the DNA packaging motor components pUL56 and pUL104 as well as with the major capsid protein (MCP). According to its proposed function during DNA packaging, a DNA binding assay was performed showing that pUL77 binds to double stranded DNA ≥ 500 bp. By using the CCM pUL77 mutant it was demonstrated that dimerization is a prerequisite for DNA binding. These data demonstrated that CCM of pUL77 is crucial for dimer formation and as a consequence for DNA binding.

Abstract ID: 307

Chronic inflammation is correlated with percentage body fat independent to burden of infection

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Introduction: It has been hypothesized that increased secretion of IL-6 and proinflammatory cytokines from expanded adipose tissue mass up-regulates the production of CRP by the liver. This in turn can induce insulin resistance and results in accentuation of other metabolic abnormalities that constitute the metabolic syndrome . Recently, in the first report of our population-based study, we showed that both inflammation and pathogen burden are independently associated with the metabolic syndrome and its components .A significant linear relationship between the number of infectious pathogens and fat mass was reported .Thus, viral and bacterial pathogens may induce production of proinflammatory cytokines, such as TNF-alpha and IL-6 which are leading to chronic subclinical inflammation, insulin resistance, the metabolic syndrome and obesity. A few studies have shown that fat mass had significant association with high sensitivity C-reactive protein (hs-CRP) .However, whether the presence of chronic subclinical infections with bacterial or viral pathogens influences the relationship between hs-CRP and percentage body fat (%BF) has not been well established yet. In the present study, we therefore adjusted for burden of the latter infectious agents, which could confound association of percentage body fat and hs-CRP, in logistic regression models.
Materials and Methods: We conducted the present study as part of the Persian Gulf Healthy Heart Study, which was a prospective population-based cohort study based on men and women subjects aged >=25 years, started in 2003-04. The Persian Gulf Healthy Heart Study was designed to determine the risk factors for cardiovascular diseases among the northern Persian Gulf population (Bushehr and Hormozghan Provinces) and to develop community-based interventional projects to change the lifestyles of the population and to present the rising threat of cardiovascular diseases in the region. The design of this study encompasses two major components: phase I is a cross-sectional prevalence study of unhealthy lifestyle and ischemic heart disease and associated risk factors, and phase II is a multiple interventional project for reduction of cardiovascular diseases in the region. In an ancillary study to the Persian Gulf Healthy Heart Study, a total of 1546 (49.3 % males, 50.7 % females) subjects were selected through a stratified multistage design from major ports of Bushehr Province (an Iranian province with the greatest boarder with the Persian Gulf). A fasting blood sample was taken, all samples were promptly centrifuged, separated and analyses were carried out at the Persian Gulf Health Research Center on the day of blood collection using a Selectra 2 autoanalyzer. Sera were analyzed for IgG antibodies to Chlamydia pneumoniae, Herpes simplex virus type 1, Helicobacter pylori and cytomegalovirus using ELISA. Measurement of CRP by a high-sensitivity CRP assay was done. Percentage body fat was determined using bioelectrical impedance analysis (OMRON BF 302). Multiple linear regression models were used to assess the association between %BF (independent variable) and hs-CRP levels (dependent variable).Age, smoking, physical inactivity, dyslipidemia, diabetes mellitus, and pathogen burden (4, 3, 2 pathogens versus 0-1 pathogen) were considered as covariates in multiple models. We excluded from statistical analysis 187 subjects with hs-CRP concentrations >= 10.0 mg/l to exclude possible cases of acute infections and other occult diseases. Results We have presently analyzed a total of 1546 (49.3 % males, 50.7 % females) subjects for the association of %BF and hs-CRP levels. Relevant anthropometric information including cardiovascular risk factors and the prevalence of IgG antibodies against CMV, HSV, Chlamydia pneumoniae and H. pylori in men and women are presented : Women had higher %BF, BMI and hs-CRP levels than men (P<0.0001). Geometric mean levels of hs-CRP across quartiles of %BF for men and women are given. Age-adjusted serum hs-CRP levels were correlated with %BF in men (r=0.28, p<0.0001) and women (r=0.37, p<0.0001).

Abstract ID: 440

Study on adverse effects of antiretroviral therapy drugs and if there is a need to change the regiment

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Abstract:
Background: HIV & AIDS is one of the main challenges faced by the world today. A number of anti retroviral drugs are available but a good choice of a combination is not easy. Current WHO guidelines for antiretroviral therapy (ART) in resource-limited settings recommend either Stavudine or Tenofovir as part of initial therapy. In India the 1st line regimens contain either Stavudine or Zidovudine, which are less costly than Tenofovir but considered to be less effective and more toxic. Recently, a few clinicians in India are advocating a change to Tenofovir based regimens owing to the lesser occurrence of adverse effects. This study tries to answer this question from patients' viewpoint, i.e. whether they felt a need for a change in regimen. An attempt was made to identify the possible risk factors.
Methods: This study is a hospital based, retrospective study involving randomly selected patients attending ART centre of Govt. General Hospital, Kakinada, India on the 1st line regimens given here i.e. Zidovudine+ Lamivudine+ Nevirapine(ZLN), Stavudine+ Lamivudine+ Nevirapine(SLN), Zidovudine+ Lamivudine+ Efavirenz (ZLE) & Stavudine+Lamivudine+ Efavirenz(SLE). Data from the ART cards & the patients' responses were recorded. Investigations were done whenever necessary. Collected data is analyzed as per standard methodology.
Results: Out of the 602 patients who were enrolled, 274 patients(45.51%) developed adverse effects of which Neurological adverse effects were seen in 98 patients (16.27%), Gastro intestinal in 77 (12.79%), Hematological in 68 (11.28%) and dermatological effects in 43 patients (7.14%) respectively. Zidovudine based regimens were resulting in adverse effects in a larger proportion of patients (49% in ZLN, 40% in ZLE) compared Stavudine (44.5% in SLN, 36.6% in SLE). GI adverse effects, rash and lactic acidosis were common early in the period of treatment while peripheral neuropathy and anemia were observed later. Females were found to be at a higher risk of developing adverse effects. A statistically significant correlation between baseline CD4 counts and adverse effects was not found. 89% of the patients were happy with the treatment they were receiving. CONCLUSIONS: The percentage of patients with severe adverse effects is less. Moreover, most patients were satisfied with their treatment. So the need for a change of regimen is

Abstract ID: 443

Smoking as a Risk Factor for Metabolic and Cardiovascular Disorders in HIV-Positive Patients

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Abstract:
Background: Cigarette smoking is a leading risk factor for metabolic and cardiovascular disorders nowadays. Due to the higher prevalence of smokers among HIV-infected patients compared to general population, and side effects of some antiretroviral drugs, especially those from protease inhibitors, metabolic and cardiovascular disorder risks are increased in HIV-infected patients. The aim of the study was to determine whether there were differences in two-year, five-year and ten-year cardiovascular risk, and to examine if the frequency of metabolic syndrome was different when HIV-infected smokers were compared to HIV-infected non-smokers.
Methods: The study included 50 HIV-infected patients who were taking highly active antiretroviral therapy (HAART). Patients were divided into two groups: HIV-positive smokers and HIV-positive non-smokers. There were 34 patients in the first group and 16 patients in the second one. Anthropometric measurements were performed during control examination and data were obtained by the questionnaires and cardboards. American and British guidelines were used for calculating cardiovascular risks. A p-value less than 0.05 was considered statistically significant.
Results: The average age was 43 years and 84% were males. HIV-positive smokers had significantly higher two-year (1.51 vs. 0.50, p=0.028), five-year (1.20 vs. 0.58, p=0.016) and ten-year (0.11 vs. 0.06, p=0.044) cardiovascular risks comparing to HIV-positive non-smokers. Higher prevalence of metabolic syndrome among smokers was found, but the difference was not statistically significant.
Conclusion: HIV infection is now considered a chronic disease and therefore smoking cessation is an imperative in order to reduce the prevalence of metabolic and cardiovascular disorders, with the aim to improve the quality of life of those patients.

Abstract ID: 452

Echinococcus liver disease

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Abstract:
Background: The goal of work was to determine demographic and clinical characteristics and treatment outcome in patients with liver hydatid disease treated at the Infectious Diseases Clinic, Clinical Centre of Vojvodina in the period from 2000 to 2010.
*Materials and methods:*The study was retrospective, case study in which analyzed data collected from medical records of patients with echinococcal liver disease. The investigation

included 31 patients with echinococcal disease of the liver. The diagnosis of hydatid disease of the liver was based on anamnestic - epidemiological data, clinical examination of patients, values of some biochemical liver syndrome, high titers of specific antibodies to Echonococcus species, and on the basis of ultrasonographic examination of the liver.
Results: The research revealed the statistically significant correlation between the occurrence of symptoms in patients and pathological activity of aminostransferase, bilirubin,activity of gamma glutamyl transferase and alkaline phosphatase. The study has not revealed statistically significant correlation between the positivity of serological tests and size of cysts. In terms of relationship outcomes with the implementation of specific treatment regimens was obtained a statistically significant difference.
Conclusion: Echinococcus disease of the liver in the region of Vojvodina is commonly diagnosed in women at a mature age, predominantly among the rural population. Although in 2/3 patients of liver hydatid disease presents clinically, clinical, and laboratory findings are nonspecific. The study results clearly confirm that the treatment of hydatid disease requires the application of antiparasitic therapy. Key words: Echinococcus granulosus, diagnostic, therapy

Abstract ID: 519

Hepatocellular carcinoma within chronic hepatitis B and hepatitis C viral infection

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Abstract:
Background: Hepatocellular carcinoma, the most frequent primary liver cancer, is the third most common cause of cancer-related death worldwide. Hepatitis B virus, hepatitis C virus, obesity and alcohol intake remain the most important cause of cirrhosis leading to a 5-year hepatocellular carcinoma cumulative incidence ranging from 15-20%. The aim of this study was to describe clinical features of hepatocellular carcinoma related to HBV and HCV infection, and to determine potential differences between these two groups.
Methods: The medical records, with the diagnosis of HCC in a background of HBV and HCV infection, were analyzed retrospectively. The research included 47 patients; 22 with HBV and 25 with HCV chronic infection. All of them were treated at Infectious Disease Clinic in Novi Sad during last ten years. According to our aim, the following data were collected and statistically evaluated: gender, age, laboratory findings, duration of infection, characteristics of tumor and survival after diagnosing. Data were processed in Microsoft Office Excel 2007.
Results: Statistically significant differences between these groups were found in following characteristics: gender, age and presence of cirrhosis. All patients with HCV infection had cirrhosis. In HBV group, cirrhosis was present in 72,73% of patients, while rest of them just had chronic hepatitis. Medial duration of infection wasn't significantly different, which is also case with elevation of alanine-aminotransferase level and medial alpha-feto protein level. At the moment of diagnosis, 40, 91% of patients with HBV and 44% with HCV infection, had tumor larger then 5 cm, but we found no correlation between size of tumor and alpha-feto protein level. Medial survival rate was 1,38 and 1,39 years in patients with HBV and HCV infection, respectively.
Conclusion: Hepatocellular carcinoma occurs more frequently in men. In patients with HBV infection it can appear without cirrhosis, which is necessary evolving stage in patients infected with HCV. Alpha-feto protein can not be used as absolute marker of its presence. Unfortunately, it is usually diagnosed in advanced stage and medial survival rate is low.

Abstract ID: 677

Surveillance of respiratory infections episodes in healthcare workers of a Sentinel Hospital in Brazil

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Abstract:
Introduction: Occupational exposure to patients contributes to acquisition and transmission of virus infections. The aim of this study was to evaluate occurrence of acute respiratory infections (ARI) in a cohort of health care workers (HCW) of São Paulo hospital.
Methods: This is a prospective cohort study that included patients that were in the waiting room of the Hospital Workers Health Assistance Center between August 2009 and June 2010. It was included patients that had respiratory symptoms and it was excluded HCWs who did not have contact with patients. Logistic Regression was used to compute odds ratios (OR). Initially, univariate ORs were calculated for exposure variables of interest and potentially confounding variables. Confounding variables with a value of $p \leq 0,01$were retained for use in multivariate analyses.
Results: Ten cases were excluded for not having direct contact with patients and five cases refused to continue in the cohort. This left us with a total of 92 HCW (mean age 34.9). An estimated 2.25 episodes/year of ARI were obtained during the follow-up. The age group between 20 to 19 years old (OR=11,3; IC=2,7–47,3) and 30 to 39 years (OR=4,3;IC=1,1-17,2) old was considered a risk factor for the ARI. Among the job categories cleaning assistants had a higher risk for having ARI (OR=36; IC=3,4-383,9). Considering the vaccination rates, the 2009 Influenza vaccination reported was 37.7% and the H1N1, 63%. Immunization was lowest among physicians. Conclusions: Future interventions on vaccination for HCWs should focus on continuous education about influenza transmission risks and the relevance of higher coverage among physicians. Hygiene Education to enlighten people about the risks of disease transmission in hospitals should focus on cleaning assistants.

Abstract ID: 741

Risk factors for transmission and persistence of HPV infection in children´s oropharynx in the first 6 months of life

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Abstract:
Background: Over the last decade the incidence of urogenital HPV infection has increased by more than 10 times. A

huge number of young women without clinical manifestations are reservoirs of infection and dangerous to sexual partners and unborn child. OBJECTIVE: The objective of this study was to identify risk factors for HPV transmission from mother to child during pregnancy and delivery and persistence of HPV in children over 6 months of life. DESIGN: We examined 56 cervical scrapes in pregnant women with various clinical manifestations of HPV infection and oropharyngeal aspirates from their 56 infants, as well as 16 oropharyngeal scrapes of these same children aged 6 months. We used Real-time PCR for detection DNA HPV HR 16, 18, 31, 33, 35, 39, 45, 52, 56, 58, 59, 66 and LR 6, 11 genotypes and quantitative PCR to determine viral load (AmpliSens®).
Results: Mean (±SD) viral load in the control group was lower (4.52±1.57 lg copies per 100000 cells) than in the group of women whose children were infected (5.58±1.4 lg copies per 100000 cells). 78.6% mothers of infected children had vaginal delivery. The frequency of perinatal transmission was 25%, and in 71.4% of cases we revealed only one genotype. Mean (±SD) viral load in aspirates from the newborn`s oropharynx was 3.61±1.35 lg copies per 100000 cells. HPV was identified in 43.75% 6 month children oropharyngeal scrapes. In 37.5% of cases we identified HPV high risk, in 6.25% - HPV low oncogenic risk. 85.8% of the mothers of these children had multiple genotypes. Mean (±SD) viral load of them was 3.7±0.88 lg copies per 100000 cells, which is lower than threshold for progression. Only in the aspirate 1 of 7 children (14.3%) HPV was detected on the first day of life.
Conclusions: The rate of transmission of human papillomavirus infection is higher in women with vaginal delivery, the mean viral load is higher than in the control group, and does not depend on the clinical manifestations and HPV genotypes. Persistence of HPV in children in the first 6 months does not depend on clinical symptoms and viral load in their mothers, but it is more common when multiple HPV genotypes in the mother. Inconsistency between mothers and child genotypes and the absence of infection at birth and the presence of 6 months may be due to contamination by contact of the mother in the first six months of life or low virus concentration in aspirates taken after birth.

Abstract ID: 770

Streptococcus pneumonia adheres to human lung bronchial epithelial cells via the lectin-like oxidized low-density lipoprotein receptor (LOX-1)

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Abstract:
Background: Pneumococcal pneumonia is a major complication following viral infection, especially influenza. Considering recurrent influenza epidemics and increasing rates of bacterial resistance to antibiotics, further approaches to understand interaction between viral infection and pneumococcus are required. The lectin-like oxidized low-density lipoprotein (OxLDL) receptor-1 (LOX-1) plays an important role in atherosclerotic-plaque formation. OxLDL share surface patterns with S. pneumoniae named phosphorylcholine. These structural similarities suggest a possible interaction of pneumococcus and LOX-1. However, little is known about the role of LOX-1 in postviral pneumonia. OBJECTIVE: The goal of this study was to investigate a possible role of LOX-1 as an adhesion molecule for S. pneumoniae in bronchial epithelial cells and the impact of viral infection on its expression.
Methods: BEAS-2B cells were transfected with specific siRNA or overexpression plasmids for LOX-1 and subsequently infected with S. pneumoniae R6x to examine the effect on pneumococcal adherence via adhesion assay and confocal microscopy. LOX-1 expression was determined using Western blot, first after ex vivo infection of human lung tissue with influenza A (H3N2) and secondly after incubation of BEAS-2B cells with viral TLR 3 and TLR 7/8 agonists. Finally, we examined the impact of BEAS-2B cells pre-stimulation with viral TLR agonists on pneumococcal adhesion.
Results: Transfection of BEAS-2B with specific siRNA decreased adhesion of S. pneumoniae ($p<0,001$), whereas overexpression of LOX-1 enhanced pneumococcal binding in the adhesion assay ($p<0,01$) and in confocal microscopy ($p<0,05$). Influenza A infected lung tissue and with viral TLR agonists incubated BEAS-2B cells both induced expression of LOX-1. BEAS-2B pre-stimulation with viral TLR agonists increased adherence of S. pneumoniae ($p<0,01$ and $p<0,001$).
Conclusions: Adhesion of S. pneumoniae to LOX-1 on bronchial epithelium cells might increase via enhanced postviral expression of LOX-1, raising the risk for pneumonia but also marking a possible target.

Abstract ID: 776

Replication of epidemic keratoconjunctivitis related adenovirus types in porcine cornea tissue and cell culture

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Abstract:
Background: Epidemic keratoconjunctivitis (EKC) is a highly contagious infection of the eye. EKC is characterized by acute follicular conjunctivitis, severe stromal keratitis and subepithelial infiltrates. Usually EKC is only caused by HAdV-D8, –D19a, -D37 and –D53. So far, the injection of adenovirus into the mouse stroma is the only model for EKC. The injection of HAdV-D37 induces 8h.p.i. KC (homologue of Interleukin-8) up to 250 pg/cornea whereas injection of the non EKC types HAdV-D22 induced only low levels of KC. However, viral gene expression was limited, and infectious virus progeny was not detected in this mouse model (Chintakuntlawar et al. 2007).
Methods: Isolation and culturing of porcine corneal epithelial cells and keratocytes. Culturing of porcine cornea – tissue culture. Injection of adenovirus into corneal stroma, FACS, Immunocytochemistry, Real-time PCR, RT-PCR, TDID/ 50.
Results: In order to develop a model that supports HAdV replication, we injected HAdV-D37 into the stroma of enucleated porcine corneas. 10 days post infection 9,5*10^6 TCID50/cornea were demonstrated in comparison to

8,7*10^4 TCID/cornea 1 hour post infection . Moreover, we established primary porcine cell culture models and compared these to human cells. For this purpose, keratocytes from the corneal stroma and epithelial cells were isolated and cultured. The expression level of α-2,3 sialic acid, the main receptor of hAdV-D37, is higher in porcine epithelial cells than in human epithelial cells, as demonstrated by FACS. 120h after infection with HAdV-D37 (MOI=10 TCID50/cell) a virus titer of 6,9*10^4 TCID50/ml was detected in porcine keratocytes in comparison to 3,8*10^6 TCID50/ml in human keratocytes. HAdV-D37 infection induces IL-8-mRNA 8h.p.i in human as well as in porcine keratocytes. In contrast HAdV- 22 infection induced only very low levels of IL-8 mRNA.
Conclusion: In conclusion porcine cornea tissue culture as well as porcine corneal keratocytes and epithelial cell culture holds promise to investigate the virulence factors of EKC related HAdV-types in detail.

Session: Nephrology and Urology

Abstract ID: 495

New approach for ascendent pyelonephritis modeling

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Abstract:
Background: The pyelonephritis is described as a disease of kidney where inflammation begins from pelvis (ascending pyelonephritis – the most common). Lack of adequate pyelonephritis models in literature creates the need for more physiologic and appropriate to real conditions one. The key difference from other models is development of incomplete obstruction of ureters which slows but not stops the outflow of urine.
Materials and methods: The study was conducted experimentally on 45 Wistar line rats. The pyelonephritis of right kidney was produced by injection of bacteria E.coli in the right ureter (distal end). The incomplete obstruction was made by ligation of right ureter with right pole of bladder. Control group (CG) consisted of 10 animals which did not receive bacteria strains. To evaluate tissue changes the histological and microbiological methods were used. All rats underwent autopsy. Species (kidney, liver, spleen) were taken from every 7 animals (+2 CG) after 1, 3, 5, 7, 10 days. Results On the autopsy starting from 3rd day right kidney was enlarged x1.1 to x1.5 of its usual size. The other kidney was not changed. The color of the diseased kidney was maroon. The right ureter was usual in size, with red-blooded vessels. On dissection of the right kidney, the enlarged pelvis (to x1,2-1,4 of its value) in all cases was visualized . Histologically: renal pelvis of affected organ hyperemic and infiltrated with leukocytes, interstitial tissue swollen and infiltrated with leukocytes, canaliculi in state of dystrophy. Microbiologic method proved high concentration of injected bacteria in kidney tissue. The CG animals did not show any significant changes.
Conclusion: The proposed method allowed us to develop pathomorphologically and pathophysiologically relevant model of pyelonephritis. Some other models listed in literature were tested in our lab and did not cause the classic pyelonephritis we were looking for. The strain and quantity of injected Escherichia constitutes know-how and to be patented in Ukraine. The model will help us in research of pyelonephritis early and latent forms diagnostics.

Abstract ID: 548

Effects of black grape seed extract pre-treatment on kidney functions after Acute Kidney Injury

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Abstract:
Background: Acute Kidney Injury (AKI) is characterized by sudden decline of kidney function over hours or days and complicates 5-7% of hospital admissions. The pre-renal type(most common type) is characterized by shortage of kidney perfusion leaving the Kidney unable to function correctly. Physiopathology of AKI is mostly due to ischemia and Reactive Oxygen Species (ROS) brought to area after reperfusion. Black Grape Seed Extract (GSE) is a known Herb containing Proantocyanidine which serves as a potential Anti-inflammatory and Anti-oxidative stress agent. By this research we were after finding out the effects of GSE on kidney functions after AKI.
Methods: In this Experimental study, 40 male sprague-dawly rats were divided into 4 groups of control, sham, AKI and GSE. A week prior to a 30 minute obstruction of both Kidney vessels via surgery in AKI and GSE groups, we gavaged the latter group with 50 mg/kg/day of GSE while other groups received normal saline. After 24 hours we collected urine and the blood samples. Elements of Urine osmolarity(Uosm),urine Na and K(UNa and UK),Blood Nitrogen(BUN) and Creatinine were measured and then compared via One-way ANOVA , Duncan and LSD tests between the groups. Results : Results of Kidney function revealed that BUN(38.37± 3.28 vs. 62.5± 1.9), plasma Creatinine(0.96± 0.07 vs. 2.74± 0.14), UNa(0.46± 0.08 vs. 10.24± 1.6) and UK(2.58± 0.54 vs. 7.68± 0.06) Decreased Significantly(p=0.0001)in GSE group in comparison with AKI. Uosm in GSE was significantly greater than that of AKI.(p=0.0001) Conclusion : By our results we conclude that pre-treatment of GSE can decrease the intensity of injury forced on kidney function after AKI because it increased reabsorption of Na and K and also facilitated secretion of creatininine and BUN into Urine. Also kidney's ability for urine concentration increased. These elements are the key elements that are changed during AKI . For further and better evaluation, we suggest histological and post-treatment studies to take place.

Abstract ID: 670

Overhidration in Non-Dhyalisis Chronic Kidney Disease

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Abstract:
Background: Fluid overload is common as glomerular filtration rate declines and contributes to renoparenchymal arterial hypertension (HTN) and other cardiovascular complications, which are the main cause of death in chronic kidney disease (CKD) patients. We aimed to assess the prevalence of overhydration (OH) and its relationships in stage 2 to 5 CKD patients as compared to non-CKD controls.
Methods: This prospective, cross-sectional, unicentric study enrolled 109 stable non-dialysis CKD patients (61 [47-72]years, eGFR 29 [16-40]ml/min, proteinuria 0.4 [0-1]g/day) and 31 matched patients without CKD (59 [49-66] years). Measurement of blood pressure (BP) and past medical history (including drug therapies) were obtained. Routine chemistry and bioimpedance spectroscopy (BIS) with portable body composition monitor device (Fresenius Medical Care) for hydration status assessment were performed. OH was defined as >+1 liter by BIS and/or >15% extracellular water (ECW) from total fluid overload (OH/ECW*100).
Results: CKD patients had higher prevalence of OH (28% vs. 9%, p=0.04), HTN (80% vs.58%, p=0.01), number of antihypertensives drugs (2 [1-3] vs. 1 [0-2], p<0.001), more frequent use of loop diuretics/thiazides (37% vs. 10%, p=0.004), and angiotensin-converting enzyme inhibitors (55% vs. 29%, p=0.01). Diuretics prescription gradually increased in association with CKD severity (10% - stage 2, 20% - stage 3, 35% - stage 4 and 41% - stage 5), in accordance with OH occurrence (20% - stage 2, 12% - stage 3, 35% - stage 4 and 53% - stage 5). However, no differences among CKD stages as concerning HTN prevalence were found. By simple linear regression, in the whole group, OH showed negative correlation with eGFR (r=0.19, p=0.047), and was directly correlated with diuretics use (r=0.32, p=0.001), systolic (r=0.21, p=0.04) and diastolic (r=0.20, p=0.04) BP, in CKD patients.
Conclusions: Overhydration is highly prevalent in CKD stages 4 and 5 before dialysis and it seems to influence arterial BP and diuretics prescription.

Abstract ID: 773

The Effect of Tribulus terrestris on Ischemic-Reperfusion Injury in Rat

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Abstract:
Background: Renal ischemia and reperfusion (I/R) injury is the major cause of acute renal failure (ARF), a clinical condition associated with rapid loss of renal function. Tribulus terrestris (TT) is a perennial creeping herb with a widespread distribution worldwide. In traditional folk medicine, It is also used as an aphrodisiac & diuretic. In recent studies its potential to be an anti-oxidant agent has been subject to a major discussion. This study concerns the effect of an ethanolic extract of TT on the kidney function during regenerative process of I/R in male rat.
Methods: In this experimental study 40 male Sprague-Dawley rats were divided into 4 groups: control, sham, I/R and TT. Latter group receive oral TT (11mg/kg/day) for one week, while other groups received normal saline. After 30 minute clamping of bilateral Kidney vessels via surgery in I/R and TT groups, followed by a 24 hours reperfusion we collected urine and the blood samples. Renal injury was assessed by measuring blood urea nitrogen, plasma creatinine, osmolarity clearance and glomerular filtration rate (GFR). Plasma and urine Na+, K+ levels also were measured. Histopathological studies were performed and sections were stained with PAS and H&E. Histopathological changes were graded between no damage (0), and maximum damage (5) based on the microscopical observations of each section.
Results: comparison between the TT & I/R groups showed blood urea nitrogen (32.25±2.58 vs. 62.5±1.9 mg/dl), creatinine (0.64±1.0 vs. 2.74±0.14 mg/dl), urinary sodium (0.17±1.06 vs. 10.24±1.6) and urinary potassium (4.40±0.9 vs. 7.68±0.6) in TT treated groups were significantly (P=0.001) lower than those of I/R group respectively but not correlated significantly blood Na+ (135.7 vs. 133.96 P=0.079), blood K+ (4.6 vs. 5.08 P=0.125), osmolarity clearance (127.58 vs. 93.70 P=0.075) and GFR (3.45 vs. 3.20 P=0.238). Also histological study showed improvements in bowman space size, tubular necrosis, vascular congestion in medulla and vacuolization in TT compared to I/R group although there was significant changes in comparison to control and sham groups.
Conclusion: These findings indicate that TT may be clinically useful against injury of I/R. we conclude that pretreatment of TT can decrease the intensity of injury forced on kidney function and histology after ARF. Also kidney's ability for urine concentration increased and histological injuries were prevented to a meaningful degree.

Session: Neurology

Abstract ID: 42

Impact of neonatal administration of a neurotrophic-factor enriched diet on rat development

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Abstract:
Background: BDNF is a neurotrophin (NT) with an important role in pre- and post-natal central nervous system (CNS) development, homeostasis and synaptic plasticity, acting especially through Tropomyosin-Kinase B (TrkB) receptors. The level of CNS maturation in newborn rats in the first weeks of life is similar to a premature newborn

human between 20-40 weeks post conception. Since most premature newborn human are fed with supplemented milk, we investigated the consequences of oral supplementation on neonatal rats with milk fractions bearing distinct neurotrophic properties. Objective: Evaluate the effect of several diets enriched with neurotrophic factors on prosaposin, BDNF and TrkB receptor levels in the hypothalamus of mice.
Methods: Sprague Dawley male rats were fed with different diets (water,1,2,3) through a pipette from postnatal day (PND) 2 through PND10,13,15,18,21,28, or 36. The rats were killed and the hypothalamus isolated, disrupted with a Teflon pestle and supplemented with protease inhibitors. SDS-PAGE (12%) was used to separate proteins, which were transferred to nitrocellulose membranes, blocked with milk solution, incubated overnight at 4°C with primary antibodies and subsequently with secondary antibodies conjugated with horseradish peroxidase for 1h at room temperature.
Results: Hypothalamus taken from animals fed with water showed a 2.2 fold increase in TrkB-FL levels from PND13 to 28 and from PND15 to 28 ($n=4, p<0.01$). Hypothalamus from PND13 rats fed with diet 1 show a significant increase in BDNF levels (1.6 fold,$n=6, p<0.05$) and a slight increase in TrkB-FL receptor.
Conclusion: We demonstrated that there are age-related changes in TrkB-FL receptor levels in the studied PNDs and that orally administered substances can modulate levels of NTs in the CNS. Since it It is classically established that NTs do not cross the blood-brain barrier. These results open new perspectives on possible strategies to change NT levels in the CNS.

Abstract ID: 107

Intrathecal EBV antibodies are part of the polyspecific immune response in multiple sclerosis

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Abstract:
Objective: One mechanism underlying the link between multiple sclerosis (MS) and Epstein-Barr virus (EBV) might be a direct CNS infection. Viral CNS infections cause elevated antibody indices (AIs). Elevated EBV AIs were found in MS, however, MS patients frequently show a polyspecific intrathecal immune response with elevated antiviral AIs. To discriminate whether elevated EBV AIs indicate a virus-driven or a polyspecific intrathecal immune response we determined the intrathecal fraction of anti-EBV antibodies.
Methods: The fraction of intrathecally synthesized EBV-specific IgG of the total intrathecally synthesized IgG (FS anti-EBV) was determined in 24 patients with a clinically isolated syndrome (CIS) or MS and 3 patients with confirmed replication of EBV in the CNS as positive control, which all had elevated EBV AIs. FS anti-measles and AIs for measles, rubella, varizella zoster, and herpes simplex virus were measured as well. The prevalence of an elevated EBV AI was analyzed in another 36 CIS patients.
Results: Median FS anti-EBV in CIS/MS patients was low (0.65%) and did not differ from FS anti-measles (0.9%). Median FS anti-EBV was about 40-fold higher in patients with cerebral EBV replication than in patients with CIS/MS. All 24 CIS/MS patients with an elevated EBV AI had at least one further elevated antiviral AI. Only 2 of 36 (5.6%) CIS patients showed an intrathecal synthesis of anti-EBV antibodies.
Conclusions: Intrathecally produced anti-EBV antibodies are part of the polyspecific intrathecal immune response in CIS/MS and only rarely detectable in patients with a CIS, both arguing against a direct CNS infection with EBV in patients with CIS/MS.

Abstract ID: 194

Neurotoxicity induced by 3,4-methylenedioxymethamphetamine (MDMA) is sensitive to sex differences

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Abstract:
Background: The use of 3, 4-methylen dioxymethamphetamine(MDMA) has increased in recent years and can lead to life-treating effects. Males appear to be more sensitive to MDMA toxicity more than females. This study was designed to examine the effect of sexual hormones in this sex sensitive difference.
Methods: Intact and gonadectomized female and male Sprague-dawley rats were treated with either MDMA (10mg/kg,IP,1 week) or salin .After transcardial perfusion, the brains were removed and prepared slides. Cell number was assessed by light microscope after crysel violet staining.
Results: Cell number significantly decreased in MDMA, gonadectomized and gonadectomized-MDMA-treated groups in comparison to sham groups. There was significant difference between male MDMA group with female MDMA group. As well cell number significantly decreased in ovarectomized MDMA-treated group in comparison to female MDMA group.
Conclusion: Our results suggests that male Sprague dawely rats are more sensitive to MDMA toxicity more than females. Because female are more sensitive than male rats after gonadectomy may be, female sexual hormones protect them against MDMA toxicity.

Abstract ID: 342

To study the prevalance and impact of Vestibular/Non-vestibular Vertigo/Dizziness on health status and quality of life in patients attending Geriatric OPD clinic a rural medical College hospital

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Abstract:
Background: Dizziness is one of the most common complaint among all outpatients and the single most common complaint, handicapping condition among patients aged 65 years and older. Dizziness is an ill defined subjective sensation of postural instability or of illusory motion of

self or environment either as a sensation of spinning or falling. Our study is designed to assess the prevalence and impact of dizziness/vertigo on the health status and quality of life in the geriatric patients attending GOPD clinic in a rural medical college hospital. Method: We designed a cross-sectional study, a total of 25 patients were evaluated. The patient was examined by the physician in the Geriatric OPD, the health status and disease severity of the patients with dizziness was assessed by Dizziness Handicap Inventory Questionnaire. The patients were asked to complete the DHI consisting of 25 questions. Result: Prevalence rate for dizziness/vertigo was 3 % of the vertigo patients, there was no significant difference between the age of patients in two categories (p>0.05). of the total 25 patients with complaint of vertigo/giddiness,68% were males and 48% were females,17% were in the vestibular group and 82% patients were in the Non-vestibular group. Of all the female patients, 25% were in the vestibular group and 75% patients were in the Non-vestibular group of the total 25 patients,
Discussion: In our study participants with vestibular vertigo demonstrated greater handicap than those in the non-vestibular group.
Conclusion: DHI Score is a useful tool for the prediction of vestibular cause for vertigo

Abstract ID: 378

Quality of life in patients with complex partial epilepsy assigned to monotherapy versus duotherapy

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Abstract:
Aim: To evaluate the quality of life (QOL) in patients with complex partial epilepsy assigned to monotherapy versus duotherapy with antiepileptic drugs (AED)
Methods: Cross sectional study of 39 consecutive patients with complex partial epilepsy. Inclusion criteria were: 1) age ≥ 18 years; 2) diagnose of complex partial epilepsy set by standard clinical, electrophisiologicaly and neuroradiology protocol; 3) same therapy during last 2 months; 4) ability to give consent and to fill in the questionnaire with minimum help; and 5) absence of chronically disease or use of medicine with potential for side effects. QOL was accessed with validated translation of the QOLIE-31 questionnaire. Scores are obtained according to original manual. Mann-Whitney test were performed for alpha = 0.05.
Results: Results show significant higher total scores of QOL (p=0.005) as well as higher scores on subscales for social function (p=0.032), cognitive effects (p= 0.03), energy/ fatigue (p= 0.035) and seizure worry (p= 0.01) in patients assigned to monotherapy (n=23) in comparison to group with duotherapy (n=16).
Conclusion: Results of this study highlight advantage of monotherapy as preferred therapeutic strategy in patient with complex partial epilepsy. Further studies with greater sample size and control of confounding variables are warranted.

Abstract ID: 522

Cellular telephone use and brain tumors in patients in south Serbia

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Discipline: Neurology

Abstract:
Background: The use of hand-held cellular telephones might couse brain tumors. This is a very widespread belief among the general population. If such a risk does exists, the matter would be of considerable public health importance, given by the rapid increase worldwide of the use of these devices.
Methods: We examined the use of cellular telephones in a case control study of intracranial tumors of the nervous system conducted between 2008 and 2010. We enrolled 186 patients through hospitals in Nis, Prokuplje, Leskovac, Pirot and Vranje. 113 had histologicaly confirmed glioma, 51 had meningeoma, and 22 had acoustic neurinoma. The 250 controls were patients admitted to the same hospitals.
Results: As compared with never, or very rarely, having used a cellular telephone, the relative risks associated with a cumulative use of a cellular telephone for more than 100 hours were 0.84 for glioma (95 % confidence interval, 0.5-1.6), 0.7 for meningeoma (95 % confidence interval, 0.3-1.7), 1.7 for acoustic neurinoma (95 % confidence interval, 0.3-2.6). There was no evidence that the risk was higher among persons who used cellular telephones for 60 or more minutes per day or regularly for five or more years.
Conclusion: These data do not support the hypothesis that the recent use of hand-held cellular telephones causes brain tumors.

Abstract ID: 591

Assessment of a novel method of chondroitinase delivery in the treatment of experimental spinal cord injury

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Abstract:
Background: Spinal cord injuries (SCI) affect primarily young adults, with most injuries occurring between the ages of 18 and 30 years. In the UK there are about 800 new cases per year and an estimated 40,000 patients with existing injuries. Chondroitinase is a promising candidate for the treatment of human spinal cord injury (SCI). It is a bacterial enzyme that cleaves glycosaminoglycan (GAG) chains from chondroitin sulphate proteoglycans, which present a major barrier to nerve regeneration. Removal of GAG chains by the enzyme promotes axon regeneration across the injury site and also reactivates plasticity of synaptic connections. These actions have been shown to produce substantial recovery of function after spinal cord injury in many experimental models and in several mammalian species. A major disadvantage of

using the bacterial enzyme is the problem of delivery, which requires multiple injections into the injury site, increasing the risk of further trauma and infection. We have developed a form of chondroitinase that can be used to transduce cells at the site of injury. This approach has not previously been possible because chondroitinase is a bacterial protein that is secreted in an inactive form (due to aberrant glycosylation) by mammalian cells. Professor James Fawcett and colleagues have shown that if active motor training (rehabilitation) is combined with chondroitinase treatment, significant recovery of function is observed after SCI in rats. Prof Fawcett's group has recently made the necessary modifications to the gene encoding the enzyme, generating the current version that is secreted by transduced cells (neurons and astrocytes) in an active form. The modified gene has been cloned into an adeno-associated virus (AAVs) with expression under the control of a CMV promoter, which gives high level expression of transgenes in a wide variety of cells both in vitro and in vivo.
Methods: Adult rat brains were injected with the modified chondroitinase encoded into AAVs with different capsids and later analyzed using techniques of immunohistochemistry.
Results: The AAVs vectors successfully transfected cells and secreted functional chondroitinase enzyme.
Conclusion: These results show that the modified chondroitinase was delivered and secreted with success and therefore opens a new door to treatment. In the future, more extensive work on spinal cord injuries is required by injecting the AAVs in the spinal cord.

Abstract ID: 667

Modulation of primary motor cortex with transcranial direct current stimulation (tDCS) for reduction of opioid induced hyperalgesia: A double-blinded, sham-controlled study

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Abstract:
Background: Hyperalgesia, or oversensitivity to noxious stimuli, is a clinical finding of the opioid withdrawal syndrome and is a known cause of craving to relapse of opioid abuse in addicted people. In this study we used transcranial Direct Current Stimulation (tDCS) as a mean to modulate primary motor cortex (M1) that is known as an effective part of brain cortex in pain sensation. Relief of pain and hyperalgesia induced by opioid abuse seem to be an effective effort to help patients quit from their drug abuse behaviors. Method: Sixty (18 female, 42 male) current and former opioid abusers have passed the inclusion criteria. Description of study, introduction with pain threshold measurement tests and transcranial Direct Current Stimulation (tDCS) technique performed for all cases. Baseline pain threshold with Cold Pressor Test (CPT) has been measured. Intoxication/withdrawal signs and symptoms have been checked. Cold Pressor Test induced "Pain threshold", "Pain tolerance" and also "Pain intensity rating using Visual Analogue Scale" has been measured before and after one of Active (anodal) or Sham (Non-effective) tDCS sessions of primary motor cortex (M1) based on random allocation. tDCS side-effects checked using a questionnaire (side effect checklist) after intervention sessions.
Results: Pain tolerance and pain threshold to CPT was significantly higher ($P<0.05$) and pain ratings were significantly lower after active than after sham tDCS ($P<0.05$). There was NO significant difference between results of male and female subjects. Also we did find NO significant difference between current and former opioid abusers.
Conclusion: These findings support evidences suggesting that tDCS applied to the motor cortex may have short-term effects on chronic pain. This study was the first of its kind in non-invasive brain stimulation investigations to help opioid addict people to comply with their withdrawal complaints of hyperalgesia. More studies seem to be necessary to obtain long term efficacy of this non-invasive brain stimulation technique.

Abstract ID: 743

Hexokinase II – A novel mediator of energy metabolism and cell survival

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Abstract:
Background: Hexokinase II (HKII) is one of 4 mammalian Hexokinase isoenzymes catalyzing the first obligatory step of glucose metabolism. In addition to their catalytical activity, HKII is also believed to play a role in regulating cell death. In the state of ischemic tolerance Hexokinase II is upregulated by Hypoxia inducible factor 1 (HIF-1).
Methods: In order to investigate the role of Hexokinase II in neuroprotective signaling we used site directed mutagenesis to generate several murine HKII expression vectors with mutations in domains relevant for glucose metabolism and apoptosis regulation. The effect of HKII and its mutants on neuronal survival was studied using a sensitive technique based on co-transfecting embryonic rat primary cortical neurons with eGFP (green cells) and HKII or HKII mutant vectors. These co-transfected cells were co-cultivated with primary neurons expressing m-orange (orange cells) and subsequently submitted to an in vitro model of cerebral ischemia (oxygen-glucose-deprivation, OGD). The ratio of green vs. orange neurons before and after OGD was analysed. Thereby the effect of different HKII mutants on neuronal survival could be determined.
Results: Our data demonstrate that mitochondrial binding of HKII is a dynamic and adaptive response mediated by protein kinase B (PKB)/Akt kinase dependent phosphorylation that protects neurons from OGD induced apoptosis.
Conclusion: We propose that HKII may serve as a molecular switch regulating in a glucose concentration depending fashion apoptosis and may those provide a link between cellular metabolism and survival. In particular, our data might have a therapeutic relevance for stroke, since glucose hypometabolism and mitochondrial dysfunction are key features of cerebral ischemia.

Abstract ID: 746

Arteries of anterior aspect of fetal thoracolumbar spinal cord

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Abstract:
Background: Anterior spinal artery (ASA) and Adamkiewicz artery (AA) are important because their damage can cause distal spinal cord ischeamia. Their abnormalities can also present with neurovascular syndromes in newborns and children. These arteries are still poorly investigated in fetuses.
Aim: The aim was to describe topography and relations between ASA and AA in fetuses.
Methods: The study was carried out on 4 Batson's resin corrosion casts and 24 formalin-fixed fetuses injected with dyed gelatin or latex, aged 15-24 weeks of gestation (avg.=20.57). In fixed specimens vertebral canals were dissected, ASA was traced and AAs localized. Arteries were photographed and digitally measured using Nikon SMZ 1500 microscope, Nikon DS-Fil camera and NIS-Elements 3.00 software. Data were afterwards statistically analyzed using Statistica 8.0 (StatSoft).
Results: ASA was always found, in 3/28 cases its duplication was observed. One AA was found in 11/28, two in 14/28 and three in 3/28 cases. No relation between number of AA and age ($p=0.69$) was found. In 37/48 cases AA connected with ASA on the left side. Degree of narrowing in ASA (diameter above the junction with AA expressed as percentage of the diameter below the junction) was in average 76.7%. Diameter of AA was also correlated linearly with degree of narrowing in ASA ($R=0.68$; $p<0.0001$). In 4/28 cases smaller radicular arteries were observed.
Conclusion: Arteries of anterior aspect of thoracolumbar spinal cord in the 2nd trimester of pregnancy present the well described adult type. Great impact of AA in distal spinal cord circulation was proved.

Abstract ID: 759

Laughing in complex partial seizure epilepsy. A video tape analysis

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Abstract:
A gelastic seizure is a rare type of seizure that involves a sudden burst of energy, usually in the form of laughing. The authors present the case of a 29 years old man with gelastic seizure of temporo-parieto-occipital origin with normal CT and MRI. The first seizures were noticed at 15 years old with sensations of space distortion in the form of macro-micropsia. At 18 years old seizures started to manifest as laughter and a feeling of joy with retained consciousness.There is no triggering factor that can precipitate the seizure. Usually the laugher is short, under 30 seconds accompanied by a feeling of happiness which is recalled by the patient. The treatment was initiated with valproic acid and the episodes were controlled for a while. Several antiepileptic drugs in monotherapy and in combination failed to induce seizure-freedom. The diagnosis of pharmacoresistant epilepsy was established and the patient was referred for pre-surgical evaluation. In present the seizures are still announced by a visual illusion followed by a smile and a loud laughter. In the same time the left hand is dystonic and in the second part of the seizure the patient starts bipedal automatisms. The seizure was recorded during a video-EEG monitoring session. Interictal EEG-recording did not reveal any gross abnormalities but all ictal episodes displayed rhythmic theta discharges in the left-temporal leads and propagation in the parieto-occipital territories. The presentation will also include the video-EEG recording of an ictal episode. This case will stimulate insights into the physiological mechanism of laughing and the cerebral network that is involved in controlling of such a complex behavior.

Abstract ID: 760

Posterior Reversible Encephalopathy Syndrome and Tako-Tsubo Cardiomyopathy in the context of Guillain-Barré Syndrome

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Abstract:
Background: The Guillan-Barré Syndrome (GBS) is an autoimmune disease affecting the peripheral nervous system. Autonomic dysfunction is common and the usual manifestations are loss of vasomotor control with wide fluctuation in blood pressure, postural hypotension and cardiac dysrhythmias. Posterior Reversible Encephalopathy Syndrome (PRES) is characterized by sudden hypertension that is associated with headache, seizure, visual disturbance and altered mental function. Tako-Tsubo Cardiomyopathy (TTC) or "transient left ventricular apical ballooning syndrome" is described as reversible systolic dysfunction secondary to physical or emotional stress affecting mainly postmenopausal women. We report a unique association between PRES, TTC and GBS.
Case report and Methods: A 44-year-old woman is hospitalized for rapid extensive tetraparesis and persistent headache. On admission, her blood pressure (BP) was 170/100 mmHg. A brain magnetic resonance imaging (MRI) was performed, which revealed classic features of PRES. The lab results showed hepatic cytolysis and a troponin elevation of 0.9. A trans-thoracic echocardiography was done which exposed a typical TTC image and a LVEF of 20%. Ig M serology for cytomegalovirus (CMV) was positive (20% cases of GBS are preceded by CMV infection). The patient's cerebrospinal fluid and nerve conduction studies were consistent with a diagnosis of GBS. The patient's BP was managed appropriately with ramipril and nicardipin. The TTC was controlled with β blockers. Her GBS was treated with plasmapheresis. After the treatment her motor function improved considerably, the PRES disappeared at a control MRI and the heart failure due to TTC was corrected. Results Guillain-Barré syndrome complicated with posterior reversible encephalopathy syndrome and stress Tako-Tsubo cardiomyopathy.
Conclusion: The association between PRES, TTC and GBS

is an exceptional feature and, to the best of our knowledge, this is the first case report which describes this combination. Dysautonomia resulting from GBS is the most likely explanation of this association. GBS can be reversible when it is managed in a prompt and correct manner. The delay in treatment can lead to cerebral infarction or death.
Session: Neurosurgery

Abstract ID: 151

The Role of Neuropeptides, Neuropeptide Y and Galanin, in the Modulation of Hippocampal Neurogenesis

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Abstract:
Hippocampal neurogenesis, continues into adulthood and is essential for learning and memory and involved in mood, behavioral and seizures disorders. Therefore, understanding the link between neural activity and the stem cells niche is critical. Neuropeptides such as Neuropeptide Y (NPY) and galanin have emerged as important extrinsic mediators for signaling local interneuron activity to stem cell precursors in the subgranular zone. We have shown previously that while NPY, via Y1 receptor, is proliferative for nestin-positive hippocampal precursor cells, galanin induces a trophic and proliferative effect on postnatal subgranular precursors GalR2/3 receptors. Galanin and NPY are co-released by GABA neurons under certain firing conditions; yet, the net effect of the two peptides on neurogenesis has not been addressed. We thus aim to define the galanin receptor mediation of galanin proliferative effects and examine possible interactions between galanin and NPY in the modulation of postnatal hippocampal progenitors.
Methods: We generated primary postnatal (P7-10) hippocampal cell cultures from rats and grew them for 3DIV. The cells were pulsed with Gal2-11 (GalR2/3 agonist), SNAP 37889 (GalR3 competitive antagonist) or the two combined; and quantified cell proliferation with BrdU. Cultures were also grown for 3/5DIV under control conditions, NPY, galanin, or the two combined to determine any interactions. Cell survival was quantified using PI. Effects on cell specific populations were addressed by immunohistochemistry and staining for the expression of the neuronal marker TuJ1.
Results: Co-treatment with Gal2-11 and SNAP37889 abolished the galanin proliferative effect and reduces endogenous cell proliferation in culture; indicating GalR3 involvement. We demonstrate an interaction between NPY and galanin reflected by a significant reduction in the rate of progenitor cell proliferation, increased cell survival and directing them towards a neuronal cell fate.
Conclusion: This data implicates GalR3, a key player in mood disorders, in the modulation of hippocampal neurogenesis. Moreover, we identify an interaction between the proliferative peptides NPY and galanin; the net result of which will depend on their differential release under different physiological and pathological conditions. GalR3 and Y1 receptors are, hence, potential targets for drug discovery studies on hippocampal neurogenesis modulation in the treatment of mood disorders.

Abstract ID: 498

A comparison between neurally induced bone marrow derived mesenchymal stem cells and olfactory ensheathing glial cells to repair spinal cord injuries in rat

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Abstract:
Background: Cell therapy has proven to be a highly promising method in clinical applications, raising so much hope for the treatment of injured tissues with low, if any, self regeneration potential such as central and peripheral nervous system.
Methods: Neurally induced bone marrow derived mesenchymal stem cells (NIMSCs) as well as olfactory ensheathing cells (OECs) were transplanted in a rat model of sub-acute spinal cord injury and the behavioral and histological analyses were conducted. A balloon-compression technique was used to produce an injury at T8-T9 level of spinal cord. After a week post injury, rats were injected with either NIMSCs or OECs at the center of developing lesion cavity, 3mm cranial and 3 mm caudal to the cavity. Weekly Behavioral assessment using BBB score was done over five-week period post transplantation and finally histological assessment was performed to locate labeled cells in the tissue in order to evaluate the reduction of cavity formation and axonal regeneration.
Results: Evaluation of locomotor performance showed significant behavioral improvement in NIMSC group over OEC and control groups. The histological analyses revealed the presence of transplanted cells in the spinal cord parenchyma. Meanwhile neurofilament-positive axons significantly showed higher expression in rats receiving NIMSC compared to the other two groups. In addition, volume of injured area that was occupied with syrinx cavity in NIMSC group was significantly less than control group.
Conclusion: In conclusion NIMSC caused both behavioral and histological improvement that potentially makes them a promising candidate for cell therapy approaches of spinal cord injuries.

Abstract ID: 681

Transsphenoidal surgery and Gamma knife radiosurgery in Recurrent cushing disease : A Survival study

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Abstract:
Objectives: Trans-sphnoidal adenomectomy (TSA) is the first line therapeutic approach of cushing disease(CD). However, there are some morbidity and mortality associated with this treatment option. Gamma knife radiosurgery (GNRS) is a marvelous primary therapy for many neurosurgical problems with advantages and acceptable cure rate in treatment of CD. We compare GKRS and TSA as

the two most admired therapeutic approach of CD, to find the best approach for recurrence of the disease after unsuccessful trans-sphenoidal surgery.
Methods: Fifty-two patients who had presented with post-operative relapse were enrolled in our retrospective cohort and randomly underwent a second surgery or radio-surgery as the next therapeutic approach. They were followed for a mean period of 3.05 0.8 years by physical exam and hormonal measurement as well as Magnetic resonance imaging (MRI).
Results: No significant difference was observed in sex ratio, mean age, adenoma type, follow-up duration and initial hormonal level between the two groups. No significant relation was found between preoperative 24-hr free urine cortisol and disease free years as well as tumor volume amongst both groups. Our survival analysis showed higher disease free months in GKRS compared to TSA group.
Conclusion: With lower relapse rate, GKRS could be considered a practical alternative treatment due to its few side effects, easy applicability, being minimally invasive and shorter admission time Over TSA.

Session: Obsterics

Abstract ID: 511

Mode of delivery in twin pregnancies in Clinic of Gyneacology and Obstetrics at UCCK (University Clinical Center of Kosovo)

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Abstract:
Determination of delivery mode for twin pregnancies still is an interesting topic for gynecologists and obstetricians because they are associated with high rate of preterm deliveries, IUGR, perinatal morbidity and mortality compared to single-embryo pregnancies. The aim of this study is to assess mode of delivery in twin pregnancies. Depending on the delivery mode were retrospectively analysed: parity, gestational age, mean birthweight and mean Apgar Score of all twin pregnancies for year of 2009 delivered in Clinic of Gyneacology and Obstetrics at UCCK. From 229 twin deliveries 29.69% were vaginal and 70.3% were Cesarean section deliveries and 56.76% of total number of cases were pre-term. Among vaginal deliveries 32.4% were from primiparous women compared to Cesarean section deliveries among which 54% were from primiparous women. Distribution of deliveries according to parity and mode of delivery has shown significant difference p<0.001%. Mean gestative age was significantly lower in vaginal deliveries compared to Cesarean section ones (33.4+/-4.8 vs. 35.7+/-2.8, p<0.001). The average birthweight of twins delivered by vaginal route was lower than those delivered with Cesarean section. Mean values of Apgar score at min.1 and min.5 were significantly higher at twins born using Cesarean section compared to those delivered through vaginal route (5 vs. 6, p<0.001 for min.1 respectively 6 vs. 7, p<0.001, for min.5). Distribution of deliveries according to parity and mode of delivery has shown significant difference mean gestative age and mean values of Apgar score at min.1 and min.5 were significantly lower in vaginal deliveries compared to those using Cesarean section. The average birthweight of twins delivered with Cesarean section was higher than those delivered by vaginal route.

Abstract ID: 684

The clinical case of pregnancy on the background of myasthenia gravis complicated by giant mastopathy.

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Abstract:
Background: Myasthenia gravis (MG) is an acquired, neuromuscular, autoimmune disease that presents clinically with weakness and fatigue of the skeletal muscles. The purpose of our present study was to report on the clinical case.
Methods: own clinical study - observation by the woman 26 years old, taken on the account in 6 weeks pregnancy with a concomitant diagnosis of myasthenia gravis. Noteworthy is the fact of progressive growth of mammary glands with a typical size to the giant on the background of myasthenia gravis with gestational age. Distance from the clavicle to the nipple 48 cm left, 46 right. Circumference 65/67 cm. Breast ultrasound: expressed diffusely focal changes of mammary glands with hyperplasia of glandular and connective tissue suspected elements. Cystic structure on the right, left polymorphic: the data for fibrolipoma. Pregnancy developed against the threat of miscarriage, repeated courses of treatment received in the gynecology department. For up to 12, 21 weeks a perinatal patient consultation and offered to terminate a pregnancy for medical reasons. During the pregnancy period and treat the patient refused abortion. At 21 weeks pregnant the woman was transferred to gynecology department with a diagnosis of myasthenia gravis, generalized form, of moderate severity, with damage to the ocular muscles and kraniobulbarnyh in decompensation due to pregnancy. Bilateral giant mastopathy with lymphatic and venous stasis. Syndrome of mutual degradation: a threat to myasthenic crisis, a addisonian crisis, trophic lesions of mammary glands, with the possible addition of a generalized infection. At 23 weeks pregnant patient was transferred into Russian Cancer Research Center named after Blohin - operated on in February 2007 held 2 sided mastectomy.
Histological conclusion: changes in the mammary gland during pregnancy.
Results: at April 2007 due to premature spontaneous amniorrhea on the gestational age of 33 weeks the patient gave birth in a matter of urgency by Caesarean section live female fetus, birth weight 1985 g. In the first six months of life showed signs of progressive muscular dystrophy (not specified character) and child died at the age of 8 months against the background of intercurrent infection join.
Conclusion: in order to investigate the cause of hyperplasia of mammary tissue created by by two theories. At the

conference will discuss the possible causes, and features a unique clinical case.

Session: Ophthalmology

Abstract ID: 114

Effects of anti-VEGF injections (Lucentis) on visual acuity, reading speed and macular thickness in wet-AMD patients

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Abstract:
Background: AMD (age-related macular degeneration), is the leading cause of blindness in individuals over the age of 55.There is no cure for AMD but anti-VEGF treatments significantly minimize the vision loss over time. Purpose: To study the correlation between anti-VEGF injection bevacizumab (Lucentis), visual acuity, reading speed and macular thickness in wet-AMD patients. Patients and method: The study was conducted, on 11 eyes of 11 wet-AMD patients. Subjects were monthly treated with an intra-vitreal Lucentis injection for 3 months; further injections were given when a loss of 5 or more letters of visual acuity was observed and/or when the retinal thickness in the affected macular area increased by 100 μm. In addition to a full ophthalmological examination reading speed was investigated via the Radner reading chart before and 3 months after treatment. The collected data was analyzed using a Paired T-test.
Results: If p smaller than 0.05, it is statistically significant. BCVA (best corrected visual acuity) increased from 61 to 67 letters. The reading speed (sentences/sec) increased from 12 sec to 8 sec, and the amount of words read per minute increased as well, 74.4 words/min to 100.5 w/min. Retinal thickness decreased from 340, 5μm to 257, 4 μm. The results were statistically significant ($p < 0.01$). Conclusions: A significant positive result was observed among patients after Lucentis treatment in visual acuity, reading speed and macular thickness. Radner reading chart is a good tool to follow the evolution, and the treatment-effect of wet-AMD patients.

Abstract ID: 215

The extraocular muscles- variation in their anatomy and normative measurements for their length and cross-sectional diameter

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Abstract:
Background: Knowledge of the size of the extraocular muscles (EOMs) is important as it can be used to determine their disease status. Previous investigations have measured EOM length, cross-sectional diameter and volume1. The aim of this study was to dissect and measure the length and cross-sectional diameter of the EOMs and to observe any anatomical variations.
Methods: Eighteen orbits from 9 formalin fixed cadavers (4 male, 5 female), age range 70-95, were dissected. The length and cross-sectional diameter of the EOMs were measured with a digital caliper. Length and cross-sectional diameter measurements from the left and right orbits were compared using the Student's unpaired t-test. As well as this correlation between age and EOM length and age and EOM cross-sectional diameter was explored. The association between gender and EOM length and gender and EOM cross-sectional diameter was also analysed using one-way ANOVA.
Results: Mean (±SD) lengths in numerical order were: levator palpebrae superioris (LPS), 42.8±4.6mm, superior oblique (SO), 39.2±4.5mm, medial rectus (MR), 38.5 ± 3.1mm, lateral rectus (LR), 38.4±2.4mm, superior rectus (SR), 38.2 ± 4.1mm, inferior rectus (IR), 37.2 ± 2.4mm and inferior oblique (IO), 22.5 ± 4.4mm. Mean (± SD) cross-sectional diameters in numerical order were: MR, 7.9 ± 1.2mm, LR, 6.7 ± 1.4mm, SR, 6.5 ± 1.3mm, IO, 6.5 ± 0.9mm, IR, 6.2 ± 0.9mm, LPS, 6.0 ± 1.1mm and SO 4.3 ± 1.1mm. There was no significant difference between left and right sides for length and cross-sectional diameter ($p<0.05$). There was also no correlation between age and length and age and cross-sectional diameter ($p<0.05$). There was no association between gender and length and gender and cross-sectional diameter ($p>0.05$). One anatomical variation was found: a thin muscle belly passing medially and originating from the same point as the LPS. This is estimated to occur in 8-15% of cases2.
Discussion: This study presents normative measurements for length and cross-sectional diameter of the EOMs. There was some difference in the order and size of EOMs for length and cross-sectional diameter from this study and other studies. The likely reason for the difference is increased usage of the EOMs and prevalence of certain pathologies affecting the size of the EOMs.
1.Bijlsma W, Mourits M. Radiologic measurements of Extraocular Muscle Volumes in patients with Grave's orbitopathy.Orbit. 2006; 25:81-91. 2.Plock J, Von Lüdinghausen M. Levator palpebrae superioris muscle in human fetuses. Clin Anat. 2005; 18:473–80.

Abstract ID: 241

Effect of intravitreal injection of Bavacizumab on retrobulbar hemodynamics in patients with age-related macular degeneration

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Abstract:
Background: Age-related macular degeneration(AMD), a disorder that results in progressive degeneration of macula,is the leading cause of blindness in the elderly. Choroidal neovascularization (CNV) is responsible for visual loss in 90% of cases with AMD. Because of critical role of vascular endothelial growth factor(VEGF) in the pathogenesis of CNV,anti-VEGF agents such as BEVACIZUMAB has been increasingly used recently as an offlable drug in the managment of AMD.Some studies have reported vascular events following intravitreal injection of bevacizumab.Because of widespread use of anti-VEGF agents their effects on ocular circulation merits exploration.Our study to our knowledge ,is the third clinical trial to determine the effects of intravitreal bavacizumab therapy on ocular hemondynamin parameters in patients

with AMD (in injected eye) and the first one to determine these parameters in the conralateral uninjected eye.
Methods: In this prospective study, we examined the effects of single intravitreal injection of 1.25 mg/0.05ml bevacizumab on retrobulbar arteries' hemodynamics by using color Doppler ultrasonography imaging in 43 patients with neovascular age related macular degeneration(after facing inclusion/exclusion criteria). Peak systolic velocity (PSV), end-diastolic velocity (EDV) and resistive index (RI) values in the central retinal artery (CRA) and short posterior ciliary arteries (SPCA) were measured. Measurements were obtained in both injected and contralateral uninjected f eye at baseline and 7 days after single intravitreal injection of Bevacizumab. To compare retrobulbar blood flow values before and after intravitreal injection of Bevacizumab, a t-test for paired samples was used.A p-value of less than 0.05 was considered statistically significant.
Results: *PSV and EDV of central retinal artery (CRA) and* short posterior ciliary artery (SPCA) in both injected and contralateral uninjected eyes were significantly decreased ($p<0.05$) following intravitreal injection of bevacizumab and RI of these mentioned arteries were significantly increased in the injected eyes($p<0.05$).RI of the mentioned arteries did not change in contralateral uninjected eyes following injection of bevacizumab.
Conclusion: Our results suggest that intravitreal injection of bevacizumab has significant effects on ocular hemodynamic parameters of both injected and contralateral uninjected eyes in patients with AMD and may therefore induces hyp

Abstract ID: 521

Integrin activation increases RPE adhesion to Bruch's membrane components and overcomes tenascin-mediated failure of adhesion in the rat

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Discipline: Ophthalmology

Abstract:
Background: In the developed world, age-related macular degeneration (AMD) is the major cause of legal blindness in people aged 55 and older. One hallmark of the disease is reduced attachment and subsequent degeneration of the retinal pigment epithelium (RPE). The detachment from its normal substrate, the Bruch's membrane, is caused by age-related changes on the membrane which lead to a decline in integrin ligands and an upregulation of anti-adhesive molecules such as tenascin-C. Transplantation of RPE cells has shown limited success in human patients because the grafts failed to adhere and to migrate in the diseased eyes. We investigated whether modification of RPE cell integrins can overcome the inhibitory environment of the pathological Bruch's membrane and therefore potentially improve the adhesion of transplanted RPE cells.
Methods: Integrins on rat RPE cells were activated in vitro by addition of manganese. The adhesion of the cells was assessed on extracellular matrix (ECM) components of Bruch's membrane and on Bruch's membrane explants. The inhibitory effect of tenascin-C on the adhesion was evaluated. In parallel, tenascin-C upregulation was assessed in a laser-induced rat model of AMD to determine if this model could be useful to test strategies to overcome tenascin-C-mediated inhibition of adhesion in vivo.
Results: Bruch's membrane ECM molecules promoted the adhesion of RPE cells in the order fibronectin > collagen type IV > laminin > collagen type I > control. The addition of manganese further increased the adhesion to collagen type IV by 49±12% ($p=0.023$, $n=3$), and to Bruch's membrane explants by 29±7% ($p=0.017$, $n=3$). Tenascin-C inhibited the adhesion of the RPE cells significantly by 70±14% ($p=3.9x10-6$, $n=3$) but the addition of manganese overcame this effect almost completely (value came back to 74±16%, $p=1.5x10-3$, $n=3$). In the animal model, tenascin-C was strongly up-regulated in the rat eyes around the lesion site.
Conclusions: The results demonstrate that the activation of rat RPE cell integrins can increase adhesion to ECM components of Bruch's membrane as well as to tenascin-C. The rat laser model exhibited strong up-regulation of tenascin C at the lesion sites, as occurs in human AMD. Thus, integrin modulation is a potentially promising strategy to improve RPE transplantation for AMD and the rat laser model may be useful to test the effect of RPE integrin modulation in vivo as a first step to clinical translation.

Abstract ID: 557

Evaluation of optical coherence tomography findings in Behcet's patients with ocular involvement

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Discipline: Ophthalmology

Abstract:
Background: Behçet's disease (BD) is a chronic multisystem disorder with the clinical features of mucocutaneous lesions, ocular and neurologic involvement. Optical coherence tomography (OCT) is a non-invasive technique which has been used to study macular thickness in various eye disease. In this study, we compared the OCT findings in Behçet patients with and without ocular involvement.
Methods: Ninety-three eyes of 55 patients with BD were enrolled after excluding the eyes with miosis, glaucoma, cataract and media opacity. Patients were divided in two groups (with and without ocular involvement). They were all evaluated with OCT (Stratus OCT, Zeiss) and the quantitative & topographic findings were compared between two groups.
Results: Posterior Uveitis (68.9%) was more common than Anterior (15.6%) and Pan (15.6%) uveitis. There was no significant difference in para centric rings of all dimensions nor central macular thickness (p value 0.111), intraocular pressure and total volume between two groups. The mean central point thickness of macula was 170.82 ±41.50 in study group and 152.16 ±24.54 in control group which was significantly different (p value 0.011) and much lower than normal values. Otherwise, in study group the changes in macular thickness in presence of uveitis were lower than expected increase in macular thickness comparing to other causes of uveitis.
Conclusion: These results demonstrate that the uveitis in BD induces a loss of retinal tissue which is more pro-

nounced in central point of macula. Key words: Behçet's disease, Ocular involvement, OCT, Macular thickness

Abstract ID: 721

Surgical treatment of cataract by phacoemulsification with implantation an intraocular lenses to patients with glaucoma

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Discipline: Ophthalmology

Abstract:
Background: Glaucoma is a group of eye diseases, characterised by constant or periodic intraocular pressure (IOP) increasing because of infringement of watery moisture outflow from an eye or high production of intraocular liquid. (A.P.Nesterov,1995). The lens in some cases can cause rising of IOP and glaucoma development, named as lens-induced glaucoma, capable to proceed as open-angle or closed-angle glaucoma. The purpose of the work was to analyse the results of surgical treatment of cataract by phacoemulsification with implantation an intraocular lenses to patients with glaucoma.
Methods: We carried out a retrospective analysis of patient's cards, suffering with glaucoma and operated on cataract by the method of phacoemulsification with implantation of IOL in eye microsurgery branch. We investigated a group from 13 patients (13 eyes). 10 patients was ill with open-angle, 3 patients - with closed-angle glaucoma. Patients were distributed on a clinical stage at arrival in the following way: I stage – 1, II stage – 4, III stage – 6, IV stage – 2 patients. Clinical type of glaucoma at arrival: type A – 9, type B – 1, type ÀÂ – 2 patients. On degree of patients were distributed by a maturity of a cataract in the following way: an immature cataract was found at 10 patients, a mature cataract - at 1 patient and the hypermature cataract - at 1 patient. At a pre-hospital stage all patients received local hypotensive therapy by instillation various preparations at pre-admission stage. Volume of IOP vary from 17 to 34 mm Hg. IOP before operation was 23,9 ± 4,4 mm Hg on average. Average indexes of thickness of lens according to a biometry have made 5,0 ± 0,56 mm, the anterior chamber – 2,65 ± 0,59 mm, anteroposterior axis of an eye – 22,8 ± 0,58 mm. Operations were performed on the equipment Infiniti, Accurus 800 by a standard technique of phacoemulsification.
Results: Postoperational period passed without complications. Stabilization of IOP was observed at all patients at first postoperational day and it didn't exceed 22 mm Hg. In month after operation average indexes of intraocular pressure have made 21,7 ± 3,3 mm Hg. Conclusions: During our research we revealed that removal of cataract without an additional hypotensive component is enough for achievement of proof hypotensive effect on eyes with a lens-induced glaucoma.

Sessions: Orthopedics and Traumatology

Abstract ID: 92

Clinical Assessment of Athroscopic Osteochondral Autograft Transfer (Mosaicplasty) for Cartilage Defects of the Knee. A Prospective Medium-Term Follow-up Study.

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Abstract:
Aim: The objective of this study is to evaluate the clinical outcomes of arthroscopic mosaicplasty in people with advanced cartilage defects of the knee as well as studying the factors influencing the clinical outcome. Methods & Materials: This is a before and after clinical trial on 56 patients with grade 4 chondral lesion (according to the Outer-bridge classification) who underwent arthroscopic mosaicplasty from April, 2006 through April, 2008. The International knee documentation committee (IKDC) score and Lysholm knee scaling score were used to evaluate the therapy outcome. Furthermore, the impact of factors such as age, the afflicted condyle, number of plugs, presence of accompanying lesions, level of activity before surgery, tourniquet time, and complications of surgery were studied. Three patients underwent a second-look arthroscopy so that their site of repair may be observed directly.
Results: We performed surgery on 56 knees of 56 patients. The patients were followed up over an average period of 21 ± 4 (Range 16-32) months. Using the IKDC scoring, 78.6% of our patients fell into the excellent category, while the 21.4% yielded good outcomes. The LKSS after surgery was 93.2±6.4 which was significantly improved compared to the figure before surgery (67.1±17.5 ($p<0.05$)). The clinical outcomes were better in patients with accompanying articular lesions, lateral condyle lesions, professional athletes and young patients ($p<0.05$). In addition, cases with fewer plugs and sport injuries were associated with better outcomes ($p<0.05$). We observed early complications in two of our patients, both of whom recovered with appropriate therapy.
Conclusion: The findings of our medium-term study indicate that arthroscopic mosaicplasty proves an appropriate option for advanced cartilage lesions of the knee, particularly when it is performed for younger patients alongside other disorders of the knee.

Abstract ID: 101

Influence of BMP-2 and BMP-7 on tenocytes: 2D- versus 3D-culture

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Abstract:
Aim: Tendon ruptures occur often and heal mainly by formation of a weak scar tissue, which often leads to rerup-

tures. Tenocytes are responsible for tendon healing and are influenced by growth factors. The aim was to analyze the effect of the growth factors BMP-2 and BMP-7 on tenocytes in 2D- and 3D-culture. Additionally the comparison of the culturing methods should lead to an optimization of the experimental conditions in the cell culture. Methods and material: Tenocytes isolated from supraspinatus tendon biopsies of 6 male donors were used. At day 0 cells were seeded on 48-well plates for 2D-culture or on Collagen scaffolds for 3D-culture. Cells were stimulated at day 4, 7 and 9 with 0 (control), 200 or 1000ng/ml BMP-2 or BMP-7 and cell-activity was measured. At the end of experiment (day 11) cell-activity was analyzed again as well as the Collagen-I (Col-I) synthesis by ELISA and the expression of Col-I, Col-II, Col-III, Osteocalcin, Decorin, Smad 1, 5 and 8 by Real-Time PCR. Statistics: Kruskal Wallis, Mann-Whitney-U test, Bonferroni-Holm correction.
Results: In the 2D-culture BMP-2 led to a significantly decreased tenocyte cell-activity mainly in the high concentrations. This effect was compensated in the 3D-culture and even returned to an increased activity in the low concentrations. High concentrations of BMP-7 stimulated in the 2D- and 3D-culture significantly the cell-activity. BMP-2 stimulation increased the Col-I synthesis of the cells significantly only in the 3D-culture, whereas the BMP-7 stimulation resulted in a significantly enhanced Col-I synthesis by both culturing methods. Same results were found for the Col-I expression of the tenocytes. BMP-2 caused a significant increase just in the 3D-culture. BMP-7 led to increased expression by both culturing methods. The Col-III expression was only stimulated by 1000ng/ml BMP-7. The Decorin expression was downregulated by BMP-7. Both factors highly increased the expression of Smad 8. The Smad 1 and 5 expression as well as the expression of Osteocalcin and Col-II (marker for osteogenic or chondrogenic differentiation) was neither influenced by BMP-2 nor BMP-7 in 2D- or 3D-culture.
Conclusion: The tenocytes characteristics could be strongly affected by BMP-7. BMP-2 showed weaker effects but with use of 3D-culture the stimulation was clearly enhanced. The 3D-culture better reflects the in vivo situation and led to increased stimulation of the tenocytes compared to the 2D-culture.

Abstract ID: 158

Tendon Tissue Engineering: Decellularization of Human Flexor Tendons and Recellularizzation with Adipose Stem Cells

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Abstract:
Aim: Reconstruction of human tendons in cases of tissue loss remains a major problem for hand trauma surgeons. The aim of this study was to investigate the possibility of developing bioengineered substitutes for tendons, through recellularization of decellularized human tendon scaffolds. METHODS & MATERIAL: Human flexor tendon samples were decellularized by immersion in hypotonic Tris Buffer solution containing ethylenediaminetetracetic acid (EDTA) and protease inhibitors, then in 0.1% (w/v) sodium dodecyl sulfate (SDS) in hypotonic buffer for 5 hours. Scaffolds ability of supporting cells growth was then tested by means of injection and seeding of mesenchymal stem cells previously isolated from human lipoaspirate, with a bovine collagen solution. Fresh human flexor tendon, decellularized scaffold and recellularized scaffold samples were fixed in formaldehyde and included in paraffin, cut into sections and stained with hematoxylin/eosin and Masson tricromic for histological examination, and with immunohistochemical stains for collagen I and collagen III. Decellularized and recellularized scaffolds were also assessed by a cell viability assay and by genomic DNA presence.
Results: The absence of genomic DNA demonstrated that the decellularized tendon sample did not present any residual nucleus and histochemical stains showed that the extracellular matrix remained intact as in the control sample and there was no decrease in glycosaminoglycans or collagen expression. The presence and the vitality of cells inside the recellularized tendon has been successfully evaluated, the scaffold matrix did not result compromised and maintained its compactness features.
Conclusion: Human flexor tendons were effectively decellularized, preserving the biologically properties necessary to support cells growth. Moreover, the preservation of collagen and glycoaminoglycans and the successful reseeding with human stem cells prove the possibility to repopulate the decellularized scaffold. The technique seems promising and animal tests will follow to evaluate compatibility and immunogenicity of the scaffold in vivo.

Abstract ID: 255

The effect of Continuous Interscalene Nerve Block Infusion on Hospital Length of Stay for patients undergoing minimally invasive shoulder surgery.

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Abstract:
1. Does Continuous Interscalene Nerve Block Infusion affect hospital length of stay for patients undergoing minimally invasive shoulder surgery in a private practice setting? 2. Udovicich, C; Richardson, M; Cormack, J 3. The Royal Melbourne Hospital, The University of Melbourne, The Epworth Hospital 4. Objectives After minimally invasive shoulder surgery such as acromioplasty, capsulotomy, SLAP (superior labral anterior posterior) repair and rotator cuff repair, hospitalisation may be shortened by the use of peripheral nerve block regional anaesthesia. This study set out to determine whether continuous interscalene block (CISB) infusion affects hospital length of stay (LOS) in patients undergoing minimally invasive shoulder surgery in an Australian private practice setting. Design An observational, medical-records based study Setting Australian private hospital Participants 215 patients undergoing minimally invasive shoulder surgery with the one orthopaedic surgeon in a 38 month period from 1st January 2006 to 28th February 2009. Main Outcome Measures Hospital length of stay, opioid consumption, anti-emetic consumption, pain score Results Ninety four patients received CISB while

121 patients received a combination of general anaesthetic, single shot interscalene block or intra-articular wound infiltration. The median (IQR) LOS was 24.4 h (20.5-41.3) for CISB cases compared with 23.8 h (18.5-42) for other methods (P=0.17). The median (IQR) total IV morphine equivalent requirement was 6 mg (0-14) for CISB cases and 9 mg (3-19) for others (P<0.01). The number of patients who required 2 or more anti-emetics was 20 (21%) in the CISB group and 29 (24%) in the other group (P=0.70). The number of patients with a maximal VAS pain score>3 was 12 (13%) in the CISB group and 23 (19%) in the other group (P=0.22). Conclusions Compared with other anaesthetic/analgesic techniques, patients receiving continuous interscalene nerve block infusion while undergoing minimally shoulder surgery in an Australian private practice setting have similar hospital length of stay even though they require less opioids, request less anti-emetics and report a lower pain score.

Abstract ID: 398

The impact of exercise on flow-mediated dilation in active and non-active spinal cord injured individuals

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Abstract:
Background: Physical activity and training can improve Flow-mediated dilation (FMD) in healthy subjects. However limited studies have been performed to investigate the effect of exercise and training on FMD in spinal cord injured individuals which due to their inactivity are at high risk of cardiovascular diseases. OBJECTIVE: This study was performed to determine the effects of physical activity on endothelial function in spinal cord injured (SCI) individuals.
Methods: Resting diameter, hyperemic responses and blood velocity of common femoral artery (CFA) and right brachial artery(BA) were measured and compared between individuals with SCI (Active, N=8, non-active, N=8) and able-bodied subjects (N=8) by using an echo Doppler device.
Results: The diameter of thigh in both SCI groups (active and non-active) are lower than control group (P<0.05). The diameter of forearm in control group was lower than the SCI groups (P<0.05). Resting vessel diameter of CFA was significantly reduced and PWSR was significantly increased in SCI compared with controls (P<0.05). The diameter of CFA after arterial occlusion was higher in control group than in both SCI groups (P<0.05) and this factor in SCI (active) is higher than SCI (non-active)(P>0.05). Hyperemic responses in diameter of BA in SCI (active) is more than other groups (non-active and control) and it is significantly higher (P<0.05). Mean velocity, peak velocity, PWSR, in CFA and BA were not differences in SCI and control (P<0.05).).
Conclusion: These finding suggested that SCI (active and non-active) may have endothelial dysfunction compared with control and it seems in non-active SCI it is worse than active SCI. Exercise and training may reverse the effects of inactivity in CFA of paralyzed legs toward normal values.

Abstract ID: 573

Perforator arteries detection by ultrasound and Doppler for reconstruction purposes with perforator flaps in the elbow region. Clinical applications

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Abstract:
Background: Elbow region reconstruction was always a challenge for the plastic surgeons. The newest reconstructive modality is based on perforator flaps. The present paper investigates: the perforator arteries identification in the elbow region by color Doppler ultrasound, portable continuous Doppler device and the comparison of the two methods; the design of perforator arteries charts in the elbow region.
Methods: The study group: 10 healthy volunteers. The devices: a GE Logiq 9 Ultrasound 2008 with linear HR transducer 9-14MHz and a portable bidirectional continuous Doppler device Huntleigh MD2 with HR probe VP10HS of 10MHz. The color Doppler scan was done at a speed at approx. 3mm/s, at each topographic quadrant previously designed in two rectangular directions. All the arteries crossing the deep fascia to the skin, either oblique or vertical were recorded. Finally the perforator charts were designed and the two examination methods were compared through the K-Means Cluster computerized algorithm.
Results: In the 20 upper limbs of the 10 studied subjects were identified 395 perforator arteries with a mean of 19.75 perforators/limb. The perforators were septocutaneous in 218 cases and musculocutaneous in 177 cases. The analyses and discussions in the paper refer to: the distribution of perforator arteries in the arm, forearm and elbow region; their separation into types and groups; their distribution according to the length of the suprafascial route, caliber and presence of a satellite vein. Finally the chart of perforator arteries useful in the elbow reconstruction is presented. The study is illustrated with a series of 4 clinical cases with elbow region reconstruction with perforator flaps based on preoperative ultrasound identification in sequelae and traumatic conditions, with long postoperative follow-up.
Conclusions: The perforator arteries charts in the elbow region designed during this study indicate the presence of areas of maximal density of perforator arteries both in the arm and forearm. The color Doppler Ultrasound and the continuous Doppler investigations are both easy acceptable by the patients, need no special facilities, are less expensive but time consuming. The perforator flaps charts may be an important instrument for clinicians useful for the best flap design before reconstruction.

Abstract ID: 767

Effect of circular periosteotomy, circular periosteoperforation and semicircular periosteotomy to length and axis on femurs in growing organism.

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Abstract:
Shortening of the lower extremities in children is a complex disorder caused by the different, the anatomical and functional disorders of the musculoskeletal and vascular systems. The problem of equalizing the length of the limbs, in spite of the achievements in orthopedics, still be relevant. With a view to correct limb length and axis, there are many proposed techniques, most of which involve traumatic interventions such as osteotomy and metal osteosynthesis. In cases of minor contraction or misalignment of the axis of the limbs, application of the above techniques is not always justified. Over the past few years, medical literature mentions the effect of growth plate on the growing body due to bone growth, namely periosteotomy and periosteoperforation. However, no explicit data has been published (e.g. what percentage of the aspect ratio, influence on bone axis) can be obtained with each type of these surgical procedures. The scope of research: Experimental study on laboratory rats of the effect of circular periosteotomy, circular periostoperforation and semicircular periosteotomy on the length of femoral shaft in growing organism. Materials: The experiment was conducted on 60 laboratory rats. Animals were divided into three groups.
Methods: The first group of animals was carried out in the bottom third periosteoperforation right thigh. The second group of animals was carried out circular periosteotomy in the lower third of the right hip bone. In the third group, periosteotomy was carried out at the level of the distal sprout Zone of 1\2 the circumference on the outer surface of the right femur. Across all groups, symmetrical trauma of soft tissues was made in the distal on the left hip.After completion of growth over 4 weeks, animals were removed from the experiment and dissected to analayse femurs of both caudal limbs.
Conclusions: 1. Periosteotomy is a minimally invasive technique more effective than periosteoperforation. 2. For limb lengthening to 5-6% of the total length periosteotomy as minimally invasive intervention is the optimal method. 3. Semicircular periosteotomy not affect the overall length of the limb, but it leads to a change in its axis. 4.This group of minimally invasive interventions can be used to correct limb length and the axis at a small degree of deformation.

Abstract ID: 821

The use of platelet rich plasma in benign bone changes of the femur in children

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Abstract:
Background: Solitary bone cyst, which is a benign, smooth, lytic lesion, is usually found in children in the metaphysis of long bones, especially the humerus or femur. Bone cysts declare themselves to the physician often by spontaneous fracture, or they are found incidentally on an x-ray film. The classic way of treatment of osteolytic solitary bone cysts is resection with use of bone grafts. Another method is introduced by Scaglietii in 1974 instilation of Methylprednisolone. New method of osteogenesis stimulated by autogenic growth factors in concentrated platelet fraction of patients blood plasma was introduced to the benign bone changes treatment also in Paediatric Orthopaedics Clinic Medical University in Lublin. The aim of the study is to compare healing time of benign solitary bone cysts of the femur with use of Methylprednisolone (Depo-Medrol) and PRP (platelet-rich plasma).
Methods: The group consists of 93 children with solitary bone cyst of the femur hospitalized in Paediatric Orthopaedics Clinic Medical University in Lublin in years 1992-2010.
Results: 52 of them were treated with instilation of Depo-Medrol and 41 with use of platelet-rich plasma. In retrospective analysis of number of applications and time of healing this benign bone lesions in both groups of patients. Average time of remodeling of bone lesion of femur in patients treated with Depo-Medrol was around 38 weeks and in group of patients treated with PRP - 12 weeks.
Conclusion: The results of our study shows that use of PRP reduce time of bone remodeling in patients with solitary bone cyst of femur.

Session Pharmacology and Toxicology

Abstract ID: 66

Homologous desensitisation of human GPR55 receptors.

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Abstract:
In light of the identification of GPR55 and GPR119 as receptors that may be activated by endocannabinoids the current classification of CB1 and CB2 may be an oversimplification but this is highly controversial. As part of a broader program of work examining the role(s) of GPR55 in health and disease we have explored the desensitisation profile of this receptor. As with the accepted cannabinoid receptors, GPR55 is a G-protein coupled receptor but in this case is coupled via G131 to increases in [Ca2+]i. Our aim in this study was to determine if the receptor underwent homologous desensitisation.
Methods: We have used L-á lysophosphatidyl inositol (LPI) as our primary agonist and human GRP55 expressed in human embryonic kidney (HEK;HEKGPR55) cells as our experimental model. HEKGPR55 (or untransfected negative-control) cells were loaded (30mins at 37oC followed by 20mins at room temperature in the dark for de-esterification) with Fura2 (5μM; a Ca2+ indicator dye) and intracellular Ca2+([Ca2+]i) was measured as we have

described previously2. Homologous desensitization of GPR55 has been assessed by pre-treating monolayers of HEKGPR55 cells with LPI(1μM;a concentration that selectively activates GPR55 in HEK cells) for 5 min, harvesting(with washing up to 100mls of ice cold buffer) followed by extensive washing to remove the relatively lipophilic LPI(2 sets of 3x30ml on ice) followed by LPI re-challenge coupled with [Ca2+]i measurements. Data are presented after the first 3 and second 3 sets of washes) as mean+SEM(n).
Results: In HEKGPR55 LPI(1μM) increased [Ca2+]i by 75±9nM(n=9). At this concentration in untransfected HEK cells LPI was inactive. After 3 washes LPI increased [Ca2+]i to 76±13 and 36±4nM(n=6) in control and LPI pretreated cells respectively(48±7% inhibition; p=0.032,paired t-test). After 6 washes LPI increased [Ca2+]i to 57±7 and 38±5nM(n=6) in control and LPI pretreated cells respectively(31±7% inhibition; p = 0.018, paired t-test).
Conclusion: We have shown that the recombinant human GPR55 receptor is capable of undergoing homologous desensitisation. Further studies are required to probe the mechanisms. 1-Pertwee RG et al Pharmacol-Reviews 2010;62:588. 2-Batuwangala MS et al Naunyn-Schmiedebergs-Arch-Pharmacol 2009;380:451.

Abstract ID: 187

Effect of Noni (Morinda citrifolia L.) water extract on frequency of macrophages expressing cyclooxigenase-2 enzyme on induced cfa (complete freund adjuvant) rat(rattus novergicus)

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Abstract:
Background: Macrophages have been known for their major role in rheumatoid arthritis (RA), along with cox-2 in regulating the pattern of the basic pathologic process of inflammation. Studies show that Noni (Morinda citrifolia L.) has an anti-inflammatory action. However, the effect of Noni fruit water extract on the percentage of macrophages expressing COX2 remains unknown.
Aim: To reveal the effect of Noni fruit water extract on the percentage of macrophages expressing COX2 enzymes in rats induced by CFA. Method: Thirty female rats of the wistar strain (weighted around 200-220gr) were induced with 0, 1 CFA on the right knee. Rats were divided into 6 groups. The first group, the negative control group, received distillate water orally once a day for 2 weeks. The second, third, and fourth group received water extract of 2.5 gram, 7.5 gram, and 22.5 gram Noni fruit respectively. The fifth group, the positive control group, received methotrexate orally once a week for 20 days. After 20 days, rats were slaughtered and right knee joints were harvested. Slides were stained immunohistochemically using the specific monoclonal antibody anti-COX2 along with DAB chromogen. Macrophages expressing COX2 will be stained brown. Data were analyzed using Krusskal-Wallis test.
Results: There is no significant difference between the group treated by Noni fruit water extract and the negative control group in the expression of COX2 by macrophages in rheumatoid arthritic rats.
Conclusion: Noni fruit water extract failed to suppress the percentage of macrophages expressing COX2 in rheumatoid arthritic rats. Further studies can also be conducted to find the effect of Noni on the percentage of macrophages expressing TNF-alpha. Since this study identifies macrophages based on their morphology, this study can be improved by using cell markers to identify macrophages from other cells. However, herbal medicine in general has a promising future in degenerative medicine.

Abstract ID: 193

N-acetyl cysteine(NAC) improves neurotoxic effects of MDMA on male rats

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Abstract:
*Background:*3-4,methylenedioxymethamphetamine (MDMA) as a Amphetamine derivates lead to hyperthermia, structural and ultra structural changes in central nervous system. Here in we studied protective effects of N-acetyl cysteine(NAC) as a antioxidant on neurotoxic effects of MDMA.
Methods: 21 Sprague dawley male rats (200-25mg) were divided to 3 groups(sham,MDMA and MDMA with NAC) and were treated with normal salin,MDMA (20mg/kg IP) or MDMA (20mg/kg IP) with NAC (100mg/kg IP) for 7 day. Rectal temperatures were recorded 30 min before and 1 hour after infusion. On the 8th day the rats were fixed and brains were removed and finally structure and ultra structure of CA1 of hippocampus assessed by light and electronic microscope respectively.
Results: This study results showed pretreatment with NAC lead to decrease of hyperthermia-induced by MDMA and increase of cell number in compare to MDMA group. As well NAC result in improvement of ultra structural changes induced by MDMA.
Conclusion: The present study suggests NAC improve MDMA-induced neurotoxic effects.

Abstract ID: 312

Hydrocortisone protects rat heart against ischemia-reperfusion injury

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Discipline: Pharmacology and toxicology

Abstract:
Background: Previous studies showed the protective effects of hydrocortisone in reduction of infarct size during myocardial ischemia-reperfusion injury, but there is still no study on anti-arrhythmic effects of this steroid. Besides, the exact mechanism of these effects is still unknown. This study is done to answer the above mentioned questions about hydrocortisone.
Material and Methods: This study was done on 28 isolated retrogradly perfused male wistar rat hearts in 4 groups: 1) Control (N=7) 2) hydrocortisone (Hyd)(n=7), 3)

Glinbenclamide (n=7), 4) Hydrocortisone+Glinbeclamide (Hyd+Gly)(N=7). Drugs were added before ischemia. Hearts were subjected to 30 min regional ischemia, induced by ligation the left anterior descending coronary artery, and 90 min reperfusion. All electrocardiographic parameters were recorded before surgery, during and after ischemia. Triphenyltetrazolium Chloride staining used for infarct size determination. All data shown as MeanÂ ± SEM.
Results: Myocardial infarct sizes were decreased in Hyd & Hyd+Gly groups (22.48Â±4.18 and 15.45Â±1.5 respectively) in comparison to Control group(41Â±2.03) which were statistically significant (P<0.015 and P<0.002 vs control). The Onset of PVC was slightly increased in Hyd (238.2Â± 216.6)but decreased in Hyd+Gly(108.8Â± 61.73)in comparison to contol(206Â±151.3)(P<0.24 and P<0.87). The Onsets of VT were decreased in both Hyd and Hyd+Gly groups (90.83Â± 82.21 and 33.83Â± 28.39) in comparison to contol(458Â±448.4)(P<0.8 and P<0.68). A similar decrease in the Onsets of VF were seen in both Hyd and Hyd+Gly groups (1069Â ± 538.3 and 914.7Â ± 564.6) verses control group (1550Â ± 536.6) (P<0.51 and P<0.36)
Conclusion: The results of this study confirm the cardioprotective effects of hydrocortisone as myocardial preconditioning agent and propose an anti-arrhythmic role for it. Besides, administration of glybenclamide, a Mitochondrial ATP-Sensitive Potassium Channel blocker, did not diminish these effects. So, cardioprotective effects of hydrocortisone are seems to be not mediated by K+-ATP potassium channel. Keywords: Hydrocotisone, K +-ATP channel, Ischemia-reperfusion, Arrhythmia

Abstract ID: 328

The efficiency of polyphenolic compounds on allergic asthma in experimental conditions.

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Discipline: Pharmacology and toxicology

Abstract:
Background: Bronchial asthma is socially significant chronic respiratory disease. A lot of epidemiological and experimental studies have shown positive effects of flavonoids on CVS, cancer, neurodegenerative diseases and the DM. Some studies have suggested that the polyphenolic compounds might reduce the occurrence of asthma symptoms. Objective: The aim of our experiments was to evaluate the effect of 21 days Flavin7® (polyphenolic mixture of flavonoids and resveratrol, Vita Crystal Slovakia) administration on allergen induced inflammation of the airways in experimental conditions. The allergic inflammation of the airways was induced in guinea pigs by 21 - day repeated ovalbumin administration (i.p., s.c., inhalation).
Methods: The reactivity of the tracheal smooth muscle was estimated by in vitro method to the cumulative doses of histamine (10-8-10-3 mol.l-1), acetylcholine (10-8-10-3 mol.l-1). In vivo airway reactivity was evaluated using a double chamber whole body plethysmograph. Specific airway resistance after histamine (10-6 mol/l) inhalation was considered as an indicator of reactivity changes. The histological investigation of the tracheal tissue and BALF levels of IL-4, IL-5 were used as parameters of airway inflammation.
Results: 21 days treatment of experimental animals with Flavin7 inhibited the contraction induced by cumulative doses of histamine and acetylcholine. Long-lasting administration of Flavin7® caused a significant decrease of specific airway resistance after histamine nebulisation. Flavin7® minimized the degree of inflammation estimated on the basis of eosinophil calculation and levels of inflammatory cytokines IL-4, IL-5 in BALF.
Conclusion: Our present results demonstrate that polyphenolic compounds (Flavin7®) with the exception of bronchodilatory effect have anti-inflammatory properties and this outcome confirm the hypothesis that may become an additional therapy in prevention of airway hyperresponsiveness in asthma subjects.

Abstract ID: 405

Thermoregulatory effects of chronic administration of caffeine and desipramine in normal and stressed rats

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Abstract:
Background: Homoeothermic mammalian thermoregulation involves a number of neurotransmitting mechanisms. Body temperature and responses to its modulators alter under stress conditions. The nonselective adenosine antagonist caffeine is known to affect rats` core body temperature. The tricyclic antidepressant desipramine influence the changes of neurotransmition in the central nervous system caused by depression. Objectives: The purpose of this study was to compare the effect of chronic administration of caffeine and desipramine on the body temperature responses of rats in norm and with an experimental model of depression.
Materials and Methods: Chronic unpredictable stress, a validated model of depression, was used to study the effects of long term caffeine administration compared to a tricyclic antidepressant desipramine. The experiments were conducted with male Wistar rats in norm and after 5-week stress factors exposure as an experimental model of depression. Animals were maintained on a standard 12h light/dark cycle at a temperature of 22±1 C. Caffeine was administered per os in 8 mg/kg/day. Desipramine was administered intraperitoneally in 10 mg/kg/day. Core body temperature was monitored via rectal thermistor probes TX8 and multichannel thermorecorder Iso-Thermex 16 in 30-min intervals. During the experiments the international guiding principles for biomedical research involving animals were observed.
Results: Chronic caffeine administration caused hyperthermia in both normal and stressed rats. The hyperthermic effects of stressed group were significantly higher (P<0,05) than in the non-stressed group. However desipramine caused hypothermia (P<0,05) in the non-stressed group and hyperthermia in the stressed group, significantly lower (P<0,05) in comparison with saline-treated stressed group. All effects were observed at 30th, 60th and 90th min after application of thermistors.
Conclusions and Discussion: Chronic caffeine administration induced an increase in body temperature in both normal and depressed rats with a prolongation of the effect on the latter. These responses were observed in rel-

atively low-doses chronic administration. Conclusion :Treatment with desipramine led to hypothermia in normal rats and to reducing the hyperthermia of rats with an experimental model of depression via serotonin and norepinephrine reuptake inhibition. The experimental data confirm the role of purines in thermoregulation in both normal conditions and under chronic unpredictable

Abstract ID: 428

CRAC ion channels and airway defence reflexes under the conditions of experimentally induced allergic inflammation

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Abstract:

CRAC ion channels and airway defence reflexes under the conditions of experimentally induced allergic inflammation
Background: Calcium activated calcium ion channels (CRAC) are responsible for contractile plateau of smooth muscle cells and secretory functions of immunocompetent cells. Their role in reactions of immune system is described in detail. Less knowledge exists about contracting role of widely distributed plasmalemal CRAC of airway smooth muscle (ASM) cells. Objectives: The presented study was focused on possible participation of CRAC on inflammatory airway disorders based on ASM malfunction, e.g. bronchial asthma.
Methods: The acute and chronic administration (14 days) of CRAC antagonist (3-fluoropyridine-4-carboxylic acid) was used to examine of ASM contractility and ASM contractility-associated reflexes in guinea pigs with experimental allergic airway inflammation. The following methods were used: 1, Evaluation of specific airway resistance in vivo conditions; 2, Evaluation of contractile response in vitro conditions by organ tissue bath method; 3, Citric acid induced cough reflex measurement. Experimental allergic airway inflammation was induced by repetitive exposure of guinea pigs to ovalbumin (c=10-6 M) followed by histological investigation to confirm typical cellular pattern and microscopic inflammatory signs.
Results: CRAC antagonist administered as single intraperitoneal dose to guinea pigs with confirmed allergic inflammation significantly reduced cough response on citric acid aerosol and the values of specific airway resistance in vivo conditions corresponded with finding in vitro conditions. Long-term application of CRAC antagonist resulted in more significant and almost harmonized results. Furthermore, the differences in cellular inflammatory pattern on single dose pointed on anti-inflammatory potency of agent.
Conclusion: The results confirmed role of CRAC in pathophysiology and symptoms of experimental animal asthma model and could extent therapeutic possibilities or design new therapeutic strategy in asthma treatment in future.

Abstract ID: 460

Hemodynamic and neuroendocrine effects of tezosentan in chronic pulmonary hypertension

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Abstract:

Background: Pulmonary hypertension represents a serious disturb of pulmonary circulation, coursing frequently with heart failure. Despite encouraging results in acute treatment, chronic therapy is still poorly investigated in intensive care. Objectives: To evaluate hemodynamic and neuroendocrine effects of the intravenous dual endothelin-1 blocker tezosentan in monocrotaline-induced pulmonary hypertension.
Methods: Male Wistar rats (180-200g, n=194) randomly received 60mg.Kg-1 monocrotaline or vehicle, subcutaneously, and 2 days later, a subgroup of MCT-injected rats was gavaged with 300mg.Kg-1.d-1 bosentan (MCT BOS) while another (MCT) and control rats (Ctrl) received vehicle. At 25-30 days, 48h after interrupting bosentan, hemodynamics were recorded after thoracotomy under anesthesia. After dose-response evaluation (0.5 to 20mg.Kg-1, n=7 each group), animals randomly underwent a 4h perfusion of tezosentan (20mg.Kg-1 in 10min + 10mg.g-1.h-1) or vehicle (n=8 per group, each) for hemodynamic evaluation, blood gas analysis and sample collection, for plasma endothelin-1, cytokine, nitrate and 6-keto-PGF1 alpha, and lung and right ventricular gene expression and cyclooxygenase and nitric oxide synthase activity quantification. Measurements and Main
Results: MCT showed pulmonary hypertension, right ventricular dilation and decreased cardiac output that were attenuated in MCT BOS. Pulmonary hypertension was attenuated by tezosentan without systemic hypotension. Tezosentan increased cardiac output without changing ventilation-perfusion matching. Both bosentan and tezosentan reduced endothelin-1 and cytokine plasma levels and tissue expression, and inducible nitric oxide synthase and cyclooxygenase-2 right ventricular activities. Bosentan increased nitrate plasma levels and non inducible nitric oxide synthase activities whereas tezosentan decreased circulating 6-ceto-PGF1alpha but increased lung cyclooxygenase-1 activity.
Conclusions: Tezosentan may be useful for hemodynamic handling and bosentan replacement in pulmonary hypertensive critically ill patients exerting important beneficial neuroendocrine and anti-inflammatory actions.

Abstract ID: 474

Impact of chemical preconditioning in lung damage induced by intestinal ischemia-reperfusion injury

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Abstract:

Introduction: Ischemic-reperfusion injury of small intes-

tine (IRI) is associated with organ transplantation, stroke hemorrhage, ischemia. Intestinal ischemia-reperfusion may induce lung damage which can result into development of acute respiratory distress syndrome. Several strategies have been introduced how to reduce this range of damage. Aim of this project is to determinate an impact of chemical preconditioning on development of lung damage after ischemic-reperfusion injury of small intestine.
Methods: Wistar rats (n=36, ♂, 300-350g) were divided into experimental groups: In first group (Gln+I/R, n=15) glutamine pretreatment was perform prior to ischemia-reperfusion of small intestine. Glutamine solution (Dipeptiven con inf, 0,75 g/1 kg) was applied intravenously 30 minutes prior to 60 minutes of ischemia of superior mesenteric artery. After vascular clamp was removed, period of reperfusion followed in duration of 1,4 and 24 hours (R1,R4, R24). In the second group (I/R, n=15) only ichemia-rererfusion was induced for 60 minutes and reperfusion followed as before mentioned. In control group (n=6) no ischemic insult was performed. After reperfusion time rats were sacrified and bioptic sample of lung parenchyma was taken. Samples were stained by hematoxilin-eosin, metachromatic toulidine blue stain, and by immunohistochemical method anti-PCNA antibody, and anti-CD163 antibody, for dectection of proliferation/reparation activity of lung parenchyma and population of macrofages in lung parenchyma.
Results: Our results pointed out on significant decrease of interalveolar septum thickness in glutamine pretreatment groups. Thickness in glutamine pretreatment group was comparable with control group. Also decreased population of macrophages and mastocytes was also decreased in Gln+I/R group in comparison with ischemic/reperfusion group. Highest proliferation rate was in I/R groups, which may be associated with highest damage of lung parenchyma. In Gln+I/R groups proliferation rate was decreased in comparasion with I/R group.
Conclusion: Our results indicated that glutamine may have a positive effect on decreasing damage, cellular infiltration, macrophages and mastocytes population in lung parenchyma induced by intestinal ichemia-reperfusion. These results pointing out on positive effects of glutamine in treatment of postischemic periods. This work was supported by the grants APVV-0252-07 and VEGA 1/0369/09

Abstract ID: 526

Study of hepatoprotective activity of "Hepafisan" capsules under conditions of screening

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Abstract:
Background: To identify the most promising doses by hepatoprotective activity for a comprehensive study of the new combined medical preparation – "Hepafisan" capsules containing 7 species of medicinal raw material.
Methods: Screening examination of hepatoprotective activity of "Hepafisan" capsules in the dose of 27, 54, 81 and 108 mg/kg was conducted on the model of experimental acute hepatitis in rats caused by tetrachlormethan administration in comparison with "Hepabene" capsules, produced by Merkle (Germany).
Results: The analysis of the conducted research showed that the model of acute hepatitis, caused by tetrachlormethan, is characterized by a reliable change of the functional-biochemical indices. It should be noted, that with administration of "Hepafisan" capsules a dose-dependent effect was observed concerning the survival index of animals: 75% of animals survived in the group being injected with the dose 27 mg/kg; 88% - for the doses 54 and 81 mg/kg; 100% - for the dose 108 mg/kg. A positive effect of "Hepafisan" capsules was found in bile indices: normalization of bile secretion was the most effective with the dose 54 mg/kg; cholesterinogenesis was renewed with the doses 54 and 108 mg/kg. Cholato-cholesterol ratio value increased significantly in relation to positive control under the influence of the examined means and was the most effective with the doses 54 and 108 mg/kg, which is indicative of decreasing of bile lithogenic properties. Administration of the given medicine in all the examined doses and reference preparation did not influence upon ALT and AST as well as the liver mass ratio. It can be explained by an acute course of pathological process caused by administration of a very hepatotoxic substance – tetrachlormethan, and failure of "Hepafisan" and "Hepabene" capsules as medicines on the base of medicinal raw material to renew affected processes in the liver with severe pathology under conditions of a short-term monotherapy.
Conclusion: The analysis of the conducted experiments allowed to identify that the most expressive hepatoprotective activity of "Hepafisan" capsules was found in the doses of 54 and 108 mg/kg which were chosen as the most promising for further research.

Abstract ID: 578

Biglycan protects cardiac myocytes against simulated ischemia/reoxygenation injury: The role of nitric oxide

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Abstract:
Background: Biglycan is an extracellular proteoglycan playing a crucial role in the assembly of the extracellular matrix, as well as in the activation and inactivation of several cytokines. We have recently shown that biglycan exerts a cardiocytoprotective effect.
Aim: The aim of the present study was to investigate the role of nitric oxide (NO) in the cardiocytoprotective effect of biglycan.
Methods: Neonatal primary rat cardiomyocyte cultures underwent 20 h pretreatment with biglycan (30 nM) or its vehicle, followed by 150 min simulated ischemia and 120 min reoxygenation. In order to elucidate if NO signaling is involved in the biglycan induced cardiac cytoprotection, the NO-synthase-inhibitor N-nitro-L-arginin methyl ester (L-NAME; 0.1 mM) was applied in biglycan- or vehicle treated cultures. Viability assay was performed by using Trypan blue staining. In separate experiments, measurement of cardiomyocyte NO content by means of electron spin resonance spectroscopy, mRNA-expression of NO-synthases (NOS2, NOS3) by polimerase chain reac-

tion, and NOS2 and NOS3 protein levels by Western-blot were carried out after 20 h pretreatment of cardiomyocyte cultures with biglycan (30 nM) or its vehicle.
Results: Exogenous biglycan decreased cell death significantly from 41.3% to 27.3% ($p<0.05$). L-NAME significantly attenuated the protective effect of biglycan ($p<0.05$), but the protection was not ceased. The administration of biglycan significantly increased the mRNA expression of NOS3, the level of NOS2- and NOS3-proteins and the cellular NO-level compared to the control group ($p<0.05$).
Conclusion: Exogenous biglycan has a cardiocytoprotective effect which is partially mediated by nitric oxide signaling.

Abstract ID: 582

Bronchodilatatory effects of a Viola tricolor extract in guinea pigs with experimentally induced bronchoconstriction

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Abstract:
Background: Bronchial asthma is a frequent chronic inflammatory disease characterized by bronchial hyperreactivity and reversible obstruction of the airways which disappears spontaneously or under treatment. The social impact of this condition is still very high, because most of the drugs that are prescribed in the treatment of asthma induce numerous side effects. Viola tricolor (VT) is a widely spread plant in Romania which contains flavonoids known for their antiallergic properties. Folk medicine recommends it in several respiratory disorders, including bronchial asthma. The aim of the study was to evaluate the bronchodilatatory effects of a Viola tricolor aqueous extract in guinea pigs with experimentally induced bronchoconstriction.
Methods: We carried out the experiment on 3 groups (each of them included 6 Guinea pigs that weighed 230-360 grams). We injected the animals intraperitoneally, once a day, for 10 days, as follows: group 1 (control) - saline solution (0.5 ml/100g bw/day), group 2 - Theophylline (6.5 mg/kg bw/day), group 3 - VT extract (4.53125 mg/kg bw/day). VT was prepared as a 25% aqueous extract and the administered dose was 1/20 of LD50. In the 10th day, we exposed the guinea pigs to 1% histamine aerosols (0.2 ml/100 g body) in a special chamber, for 2 min. We measured the time interval (sec.) from the moment of exposure until the appearance of bronchospasm and the duration of the spasm.
Results: In the control group, bronchospasm appeared after 98.33 sec. The duration of the bronchospasm in the control group was 3.17 sec. In the groups treated with Theophylline, respectively with VT aqueous extract, bronchospasm did not appear after 120 sec.
Conclusion: Administration of VT aqueous extract protected guinea pigs against experimentally induced bronchospasm. VT, known for its antiallergic properties, might have a protective effect in patients with bronchoconstriction. Further research is necessary in order to develop a new drug that is effective in treating bronchial asthma without inducing so many side effects.

Abstract ID: 611

Effect of Propafenone and it's derivate on the aconitine-induced arrhytmias

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Abstract:
Background: Propafenone is one of the most commonly used drugs for the treatment of cardiac arrhythmias. Propafenone is a class Ic antiarrhythmic agent which main mechanism is blocking the Na+ channels. 5PF-PF is newly synthesized derivate of propafenone with modifications in the benzyl moiety designed on the basis of pre QSAR and pharmacophoric studies. The aim of this study was to examine whether propafenone and its novel derivate given immediately before beginning of arrhythmia lead to reparation of cardiac rhythm, or accelerate the development of arrhythmias.
Methods: Experiments were done on three groups of Wistar rats: control group and two experimental groups (there were 8 rats in each groups). Arrhythmia was induced by intra-venous administration of aconitine. Control group was administered aconitine only, while first experimental group was administered propafenone intravenously and second group was administered 5PF-PF intravenously 5 minutes before aconitine. Changes in heart rhythm were monitored by continuous ECG for a period of 25 minutes from the time of aconitine administration. Experiments were done in accordance with good laboratory practice.
Results: Both tested substances strongly inhibited aconitine-induced tachycardia, but there was no statistically significant difference between them. Propafenone decreased the occurrence of atrial arrhythmias more than 5PF-PF. Ventricular and life threatening arrhythmias occurrence was decreased by propafenone while increased by 5PF-PF compared to control group. The overall mortality rate was reduced by propafenone while in group premedicated with 5PF-PF was statistically significantly increased. The on-set times of all types of arrhythmias were prolonged by propafenone, but reduced by 5PF-PF.
Conclusion: Propafenone has a positive effect on the control of heart rhythm, while its novel derivate 5PF-PF showed significant arrhythmogenic effect. In accordance with that we had reached a conclusion that even small changes in chemical structure of propafenone lead to significant changes on its effects on heart rhythm. This gives us the opportunity to further synthesizing and testing of substances modify the drug and achieve the improvement of its pharmacological characteristics.

Session: Physiology

Abstract ID: 292

The influence of exercise on anxiety level in patients with chronic fatigue syndrome

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Abstract:
Introduction: Chronic fatigue syndrome (CFS) is a complex multisystematic disease of unknown etiology, which leads to the appearance of relatively rapidly developed persistent fatigue that lasts for at least six months, accompanied by symptoms of somatic and neuropsychological dysfunctions and significantly reduced social productivity and life quality of the diseased person. It is believed that more than 50-75% of patients with CFS suffer from anxiety or some milder forms of emotional dysfunction. Dosed physical activity is one of the main therapeutic principles in the treatment of this disease and besides the cognitive behavioral therapy, is proved to be the most successful one.
Aim: The aim of this research was to determine the level of anxiety in patients with CFS, and whether individually dosed physical activity helps in reducing anxiety level in patients with CFS.
Methods: The research includes people with clinically diagnosed chronic fatigue syndrome. The study is designed as a prospective study that includes 26 women aged 25-45. At the very beginning of the study subjects were given self-assessment questionnaires to fill in, State-Trait Anxiety Inventory (STAI) questionnaires, which enable assessment of the level of anxiety in patients. Afterwards, the individually dosed physical activity was applied for a period of 8 weeks, three times a week, and then the test to measuring levels of anxiety was repeated.
Results: The results of the first measurement of anxiety at given point (STAI-S test) are 36,19 ±8,37, while, after several weeks training results of the second measurement are 32,96±6,75 ($p<0,05$; $t=3,42$) with which showed statistically significant difference. In the test that measures anxiety as a personality trait (STAI-T test), the results of the first statistical measurement are 43.15 ± 9.99, while, after the eight-week training results are 38.38 ± 8.66 ($p <0.05$; $t = 4 , 59$) which indicates the presence of statistically significant difference.
Conclusion: The patients with CFS have a high degree of anxiety that is significantly reduced after several weeks of physical training.

Abstract ID: 302

Occupational air pollution and cough reactivity in humans – a role of nasal TRPA1 receptor

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Discipline: Physiology

Abstract:
Title: Occupational air pollution and cough reactivity in
Background: The air we breathe is a mixture of gases, particulate matter and various agents, which are considered as pollutants. The effect of air pollution on respiratory system was not completely understood until the molecular background of TRPA1 receptor had been identified. Many of air-borne pollutants affect airways via TRPA1 mediated mechanism. Main stream of pollutants is trapped onto the nasal mucosa, because we prefer nasal breathing in rest.
Objective: The objective of our study was to test the effect of intranasal (i.n.) TRPA1 relevant challenges on modulation of airway defense, which may contribute to the increased respiratory morbidity after pollutant exposure.
Methods: 17 otherwise healthy volunteers were recruited to the study in which cough reflex sensitivity tests using capsaicin inhalation tests had been performed three times. First test was taken as a baseline, later tests had been performed after i.n. vehiclum (1% DMSO) and i.n. TRPA1 agonists AITC challenges. AITC is pungent compound naturally found in mustard oil or wasabi (10^-3, 20 µl, into both nostrils). The effects were compared to those induced by i.n. TRPV1 relevant challenges which had been done before. The effects of i.n. AITC challenge differed broadly within subjects - it induced burning, sneezing, lacrimation and nasal discharge.
Results: Cough sensitivity parameters were not influenced dramatically (C2: 49,656 ± 28,9722 as baseline and 37,996 ± 15,1447 after AITC challenge). Based on the data collected, we can assume that effects of TRPA1 relevant challenges on nasal symptoms and cough sensitivity parameters are less effective than these induced by nasal TRPV1 relevant challenges.
Conclusion: This model does not mimic exactly the pattern of how the pollutants influence the airways, and other experiments and studies are planned to be performed to get deeper insight into this problem.

Abstract ID: 373

Comparative analysis of the characteristics of the bioelectrical brain activity in practicing hatha yoga and meditation anapasati

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Abstract:
Background: Some relaxation and meditation techniques are widely used to reduce the mental and emotional stress. One of the methods for solving these problems is the teaching of yoga and meditation. Modern scientific studies show that meditation and yoga is a complex neurocognitive process that affects the mental level as the specific experiences of meditation experience. The aim of our study was a comparative analysis of brain bioelectrical activity in practicing hatha yoga (the yoga) and meditation anapasati (the meditation).
Methods: The study involved 16 healthy women aged 19-23 years. We divided them into 2 groups: group-1 consisted of 8 women who used the technique of yoga; group-2 included 8 women who used the method of meditation. We made recordings three times in each of the techniques - the background recording, an altered state of consciousness (the ASC) and out of the ASC. Data processing included

spectral analysis with the calculation of the relative power values, averaged over 19 standard unipolar leads, and the values of the dominant frequencies in the main ranges of bioelectrical activity, comparing the results using nonparametric methods.
Results: In the group-1 there was a significant increase in power and alpha and theta rhythms in the second period, and the frequency of theta rhythm compared to baseline values. After exiting the ASC there was a tendency to restore the frequency and power of alpha and theta rhythms. Such changes are typical for fast-paced synchronization of bioelectrical activity, which is typical for the reduction of functional brain activity. In the group-2 we found gradual increase in power and the tendency to reduce the frequency of alpha and theta rhythms during the ASC and out of it. This may indicate that in the group-2 decrease in functional brain activity is slower, but has a longer duration compared with the group-1.
Conclusions: Each meditation technique has different effects on bioelectric activity of the brain. This opens the possibility of classifying types of yoga and meditation on the effects exerted on the brain. The method of yoga is recommended for beginners to learn and for those who want to quickly unwind.

Abstract ID: 396

The effect of long-term physical activity on lung volumes and capacities of young water polo players

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Discipline: Physiology

Abstract:
Background: Recently, many researchers published results in which they analyzed changes in respiratory parameters during programmed trainings in water polo and concluded that it became physically demanding more than ever, requiring high physiological adaptations including pulmonary function. Pulmonary function is the most objectively observed by spirometry. The best indicators of respiratory system condition are Forced Vital Capacity (FVC) and Forced Expiratory Volume in first second (FEV1), while the most precise is Tiffeneau index (FEV1%). The goal was to compare respiratory parameters between young water polo players and physically inactive children, and to compare respiratory parameters between water polo players who were involved in training during past two, four and six years.
Methods: First group was composed of 45 boys, who were involved in training process 5 times per week. Second group was composed of 45 boys of the same age as in the first group, who were not physically active for at least 6 months prior this study. Both groups were divided by age into three subgroups of 15 boys. Further, the group of water polo players was divided by years of water polo training into three subgroups; the one who trained two, four and six years. We measured anthropometrical characteristics, body mass index, FVC, FEV1, FEV1% and Peak Expiratory Flow (PEF).
Results: We found statistically significant difference between FVC, FEV1 and PEF in fourteen-, twelve- and ten-year-old boys, comparing two groups, but there was no difference in FEV1%. Also, we found statistically significant difference between all measured respiratory parameters, except FEV1%, in water polo players who were involved in training during past two, four and six years.
Conclusion: Water polo training leads to adaptations of respiratory parameters in growing children and is related to years of training experience.

Abstract ID: 481

Comparison of anthropometric and cardiovascular adaptive changes in young water polo and soccer players

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Abstract:
Background: It is widely known that physical training leads to adaptive changes in cardiovascular system, which can be seen on ECG, echocardiography and ergospirometry. Some studies show that training of different sports causes different adaptive changes. Water polo is classified as an intermittent, while soccer is considered to be mostly aerobic and dynamic sport. Aim of this research was to determine and compare anthropometric and cardiovascular adaptive changes in groups of water polo and soccer players.
Methods: Forty male subjects of similar age were split into two groups: 20 water polo players and 20 soccer players. They were all members of professional water polo and soccer teams. In order to calculate body mass index (BMI) athletes' height and weight were measured. Bioelectrical impedance analysis has been used for calculating body fat percentage (%BF). Ultrasound examination had been done using M-mode 2D echocardiography. Sokolow-Lyon index of left ventricular hypertrophy has been calculated from resting ECG. All the athletes underwent the progressive continuous exercise test on a treadmill using breath by breath method to assess maximal oxygen consumption – VO2max.
Results: Adaptive cardiovascular and anthropometric changes have been determined in both study groups. Significantly higher values of height, weight and %BF were seen in the water polo players group ($p<0.01$), while the VO2max value was significantly higher in the soccer players group ($p<0.05$). Echocardiography and electrocardiography analysis didn't show significant differences between sports, except for the interventricular septal thickness which was significantly higher in the water polo group ($p<0.05$).
Conclusion: Cardiovascular and anthropometric changes in water polo and soccer players correspond to their sports, where soccer is presented as a more dynamic and aerobic sport, while water polo players tend to develop anthropometric adaptive changes related to the environment (swimming pool).

Abstract ID: 551

Classical and Rock Music Effect on Rat's Hippocampus: The Investigation of Memory Acuity Based on Estrogen Receptor α Number

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Discipline: Physiology

Abstract:
Background: The role of estrogen in structural change at hippocampal synapse is mediated by the activation of estrogen receptor (ER) found in extranuclear part of hippocampal cell. This activation of ER was considered to be related to the improvement of memory acuity as a result of different music exposure (classical or rock). The aim of this study was to investigate the difference of ER α number in the hippocampal structure of rat brains that were exposed to classical or rock music.
Methods: White female rats were divided into three groups (n=7 for each group), which were then used to differentiate music exposure. These groups were 1) K1 without music exposure; 2) K2 classical music exposure; and 3) K3 rock music exposure. Their working memory was tested using radial arm maze for 12 days. After that, music exposure was given for 14 days (8 hours/day) inside three separated soundproof boxes, except for K1. During 7 last days of music exposure, 50 volt electrical stress treatment was given within 15 seconds interval for 10 minutes/day. The rats were exposed to music (8 hours/day) and then induced by electrical stress. After all exposures, 12 days radial arm maze test was conducted to measure rats' working memory in each group. The rats were then sacrified and their brains were removed to be observed. Hippocampal structure was stained immunohistochemically using anti ERα monoclonal antibody.
Results: From this investigation, working memory in group with classical music exposure was better than rock music exposure. However, there was no significant difference in the number of ERα between each group ($P > 0.05$). Nevertheless, higher number of ERα in hippocampal structure were found in group with classical music exposure than rock music exposure. Conclusions: Result of this investigation suggests that classical and rock music do not affect the increase of ERα number in hippocampus.

Abstract ID: 676

Analysis of mitochondrial function in rat heart permeabilized fibers by high-resolution respirometry

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Discipline: Physiology

Abstract:
High-resolution respirometry in combination with the permeabilized fibers technique offers the possibility to study mitochondrial function routinely in small amounts of tissue samples. The purpose of the present study was to standardize the technique for isolating 4 heart muscle fibers view subsequent studies by high-resolution respirometry (Oxygraph-2k Oroboros Ltd.).
Methods: For the preparation of cardiac fibers, 12 months male mice hearts (n = 6) were excised, dissected to thin bundles that were further permeabilized with saponin (50 Î¼g/ml) and then transferred in ice-cold BIOPS buffer (10 mM Ca-EGTA buffer, 0.1 Î¼M free calcium, 20 mM imidazole, 20 mM taurine, 50 mM K-MES, 0.5 mM DTT, 6.56 mM MgCl2, 5.77 mM ATP, 15 mM phosphocreatine, pH 7.1 at 0Â°C). All procedures were carried out under gentle shaking for 30 min and samples of 0.5-2 mg wet weight were used in each Oxygraph chamber. The Substrate-Uncoupler-Inhibitor Titration (SUIT) Protocol used was as follows: complex I (CI) dependent respiration was stimulated by glutamate + malate (CI_LEAK, CI_L) and subsequent ADP (CI_OXPHOS state, CI_P) addition; cytochrome c addition evaluated the intactness of the outer mitochondrial membrane (CI_Pc); succinate (CII substrate) addition stimulated further the respiration by activating convergent electron flow from CI+II into the Q-cycle (maximum CI+II OXPHOS capacity, CI+II_P); rotenone (CI inhibitor) was added in order to measure OXPHOS state with entry of electrons from CII only into the Q-cycle (CII_P); ATP synthase was inhibited by oligomycin; non-coupled respiration was obtained by FCCP titration (ETS capacity); respiration was inhibited with antimycin A.
Results: The following values (expressed in pmol O2/s/mg wet weight) were obtained: CI_LEAK 67.18Â ± 5.12, CI_P 247.37Â±49.90, CI_Pc 252.036Â±53.13, CI+II_P 342.90Â±62.48, CII_P 302.26Â±50.16, ETS 331.11Â±62.39 and RCR (the ratio between OXPHOS and LEAK states) 3.65Â±0.51. In conclusion, investigation of mitochondrial function in saponin skinned cardiac fibers using high-resolution respirometry in combination with multiple substrate titration offers a valuable tool that will be further used for assessing mitochondrial alterations in the setting of ischemia/reperfusion injury. Research supported by the National Authority for Scientific Research grant 42-122/2008, Fellowship Project 1.5/88/S/ID 6311 and Hungary-Romania Cross-Border Cooperation project HURO/0901/137/2.2.2.

Abstract ID: 757

Sympatho-vagal balance during application of nociceptin analogue [Dap9]N/OFQ(1-13)NH2 in spontaneously hypertensive rats

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Abstract:
Background: The aim of the current study was to investigate the effects of the nociceptin analogue [Dap9]N/OFQ(1-13)NH2 on the sympatho-vagal balance in normotensive Wistar rats and in spontaneously hypertensive rats (SHR).
Methods: The sympatho-vagal balance was determined by the ratio between the spectral power in mid (PMF) and high frequency (PHF) band of interpulse interval spectrograms, derived by FFT algorithm. The interpulse interval

was calculated in terms of the time between two consecutive diastolic minimums of the blood pressure wave. Blood pressure wave was registered directly, through a femoral artery catheter during a control period and after intravenous bolus applications (100 nmol/kg) of [Dap9]N/OFQ(1-13)NH2 in the course of 90 minutes within nine consecutive 10 minute intervals.

Results: In Wistar rats the application of [Dap9]N/OFQ(1-13)NH2 led to a decrease of PMF in the first and the second interval: from 0.79±0.09 to 0.43±0.07 ms2 and to 0.44±0.06 ms2, ($p<0.05$). The PHF after [Dap9]N/OFQ(1-13)NH2 application decreased from 1.83±0.09 to 1.18±0.08 ms2 in the first 10 min long period and this effect remained to the end of the experiment, ($p<0.05$). As a result of dynamic changes of PMF and PHF distribution in Wistar rats, the sympatho-vagal balance, determined by PMF/PHF ratio, decreased after [Dap9]N/OFQ(1-13)NH2 application from 0.76±0.09 to 0.44±0.09 ms2 in the first interval and remained the same until the end of the experiment ($p<0.05$). The application of [Dap9] N/OFQ(1-13)NH2 did not change the PMF in SHR. However, in the forth 10 min long interval PHF increased from 1.38±0.03 ms2 to 1.84±0.03 ms2, ($p<0.05$) and maintained the same level until the end of the experiment. As a result of PHF changes, PMF/PHF ratio in SHR decreased in the same 10 minutes interval and this effect also remained to the end of the experiment, ($p<0.05$).

Conclusion: The changes in sympatho-vagal balance, provoked by the application [Dap9]N/OFQ(1-13)NH2 in SHR, occur later as compared to normotensive Wistar rats and are mainly due to changes in vagal mediated fluctuation of the interpulse interval.

Abstract ID: 758

Glycemic allostasis: The cost of doing business with alcohol

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Introduction: Contrary to the long-held view on the constancy of the internal environment (homeostasis), biological parameters actually equilibrate between ranges of constant values. The phenomenon is called allostasis. The concept was earlier proposed by Sterling and Eyer in 1988 to describe an additional process of reestablishing homeostasis. The term is gradually gaining attention in the scientific community. Glycemic allostasis is the process of achieving stability in glycemia, through physiological changes involving a peripheral signal for the β-cell by regulating insulin secretion to maintain euglycemia. Disorders in glycemic allostasis regulation which can be caused by alcohol have been implicated in type 2 diabetes. While several studies have noted that moderate alcohol use might reduce the risk of type 2 diabetes, the effect of drinking in low doses on glycemia may be harmful under certain circumstances. The situation might be disastrous most especially for brain cells during Intensive Mental Activities (IMA). Aims: This study aims to analyze the effect of intensive mental activities on glycemic allostasis among moderate alcohol users and non-alcohol users. Also we examined the proportion by contribution of glycemic allostasis regulation to psychophysiological functions.

Methods: Participants were medical students (moderate alcohol users and non-alcohol users, males, age range – 20-29yrs). The first stage of the study took 6.5 hrs of intensive mental activities on fasting. Thereafter, for a period of rest for 2hrs after administration of glucose (75g), we also examined their functions. The moderate drinkers did not use alcoholic drinks of any composition for 1-4 weeks before the study. All participants were administered standardized questionnaires (AUDIT, STAI, Neuropsychic Adaptation Test etc), and assigned special tasks in three phases. The tasks involved measurement of visual, auditory, operative memory, and attention using standard psychophysiological tasks. The rate of error commission was also examined. Blood glucose sampling was done at 2 hours intervals. The $\chi 2$-test was used to test for normal distribution. Comparison between groups was made with t-test (parametric) or Wilcoxon test (non-parametric). Correlation tests were carried out with Pearson correlation coefficient or Spearman rank correlation coefficient (non-parametric). The statistical operation was performed using SPSS 16.0 version for Windows. The probability value for significance was set at $P<0.05$.

Results: The results of this study show increase in glycemia in all participants during the first 4hrs of IMA ($P<0.001$) in relation to their initial level. Thereafter, a gradual fall in glycemia was noted only among the moderate alcohol users. The results of glucose tolerance test showed increasing glycemia as 7.01±0.17, 8.99±0.29, 5.18±0.11 after 30mins, 60mins and 120mins in relation to their initial concentration and the value after 6hrs of IMA. After 6hrs of mental work the level of glycemia in the participants was not different as regards to their initial level, although was less compared to the level after 2 & 4hrs of IMA. The Spearman and Pearson linear correlation show the presence of significant positive linkage between glycemia and the psychophysiological test results. Analysis of the coefficient of determination (r2) shows that the proportion by contribution of glycemia to psychophysiological functions was approximately 11.8% ($P=0.043$) after 4hrs and 15.6% ($P=0.023$) after 6hrs. Calculations using the coefficient of Pearson η value for the analysis of the level of non-linear linkage showed the presence of a strong one-sided effect of glycemia on psychophysiological functions. Particularly, it is worthy to note that this one-sided effect of glycemia on mental performance (precisely error commission) was of medium strength at the initial phase of the experiment ($\eta=0.510$, $P<0.01$), and during IMA: $\eta=0.548$ ($P<0.001$) after 2hrs; $\eta=0.606$ ($P<0.001$) after 4hrs; $\eta=0.556$ ($P<0.001$) after 6hrs and was more noted at rest after administration of glucose ($\eta=0.627$, $P<0.001$). The calculated coefficient of determinations $\eta 2$, and r2 confirms the direct role of glycemia in the 1st phase at rest (26.0%); during IMA (30.0-36.7%); after 120mins of glucose administration (39.3%). The calculated contribution of glycemia (26.0 – 39.3 %, $P<0.01$) in the supply of energy for brain functions agrees with literature data. The stress state increased only among the alcohol users in course of the experiment. Error commission was significantly higher among the alcohol users. Importantly, the error commission recovery rate confirms our previously formulated hypothesis about the effect of alcohol use on the "error monitoring and processing system".

Conclusion: The effect of glycemia on energy supply for brain functions do not carry a linear character, rather it

follows a curvilinear one. The percentage by contribution of glycemia to psychophysiological functions varies between 26.0 – 39.3 % (P<0.01). These figures confirm literature data. The results of this study show a major role of adequate glucose allostasis regulation in the error monitoring and processing system; reaffirm our previous hypothesis.

Session Psychiatry

Abstract ID: 112

Investigation into the T-lymphocyte response following Aβ42 immunisation in human Alzheimer's disease

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Abstract:
Introduction: Alzheimer's disease (AD) is a neurodegenerative disease associated with cognitive impairment and is characterised pathologically by amyloid-β (Aβ) and tau protein deposits within the brain. The amyloid hypothesis places abnormal aggregation of Aβ at an early point in the pathogenesis of the disease, upstream of tau aggregation. Given the escalating social and economic burden of AD, an immunisation strategy has been developed to stimulate the clearance of Aβ deposits, with the ultimate aim being to improve cognitive function. Despite promising animal studies demonstrating Aβ removal and cognitive improvement, a human clinical trial was terminated because of a meningoencephalitis side-effect that was suspected to be T-lymphocyte mediated. Preliminary data indicates that CD8+ T-lymphocytes do not mediate the meningoencephalitis or the pathological modification following Aβ1-42 immunisation; however the role of CD4+ T-lymphocytes is unknown. Aims and Objectives: To investigate whether the (i) meningoencephalitis and (ii) pathological modifications following immunisation are CD4+ T-lymphocyte mediated.
Methods: CD3 (marker of CD4+ and CD8+ T-lymphocytes) immunohistochemistry was performed on formalin-fixed paraffin-embedded sections from 28 control unimmunised (cAD) and 16 immunised AD (iAD) cases (AN1792, Elan Pharmaceuticals) in the neocortex. CD3+ T-lymphocytes were manually quantified and their location (white matter, grey matter and meninges) within each section was recorded.
Results: Analysis reveals no significant difference in the number of CD3+ T-lymphocytes between cAD and iAD cases. The CD3+ T-lymphocyte count in our meningoencephalitis case exceeds the respective upper quartiles for all anatomical areas in both cAD and iAD cases. In cAD cases, grey matter CD3+ T-lymphocyte number is significantly correlated with phosphorylated tau load (P=0.01). This correlation disappears after immunisation. Instead, grey matter CD3+ T-lymphocyte number was significantly correlated with a microglial marker of inflammation (P=0.007).
Conclusion: In relation to the previous CD8 data, we can conclude that (i) CD4+ T-lymphocytes are involved in the meningoencephalitis side-effect and, (ii) T-lymphocytes are not implicated in the pathological modification following immunisation. The precise role of T-lymphocytes will determine if future therapies circumvent or exploit this adaptive immune response.

Abstract ID: 218

Attitudes of Medical Students Towards Psychiatric Patients

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Abstract:
Introduction: Negative attitudes towards psychiatric patients are very spread in society. Among others, physicians also have the negative attitudes. GOAL: To examine the attitudes towards psychiatric patients among first and fifth year medical students of Medical Faculty Novi Sad and to assess the differences in attitudes caused by duration of medical education.
Material and Methods: Data were obtained using questionnaire which consisted of 27 questions. 127 first year and 74 fifth year medical students took part in the survey. We compared the attitudes between the two groups and also of fifth year medical students which have some family member who is treated for some psychiatric disorder, with those who do not have.
Results: Fifth year students have generally more favorable attitudes. Greatest difference was in the attitudes in areas students met during their faculty education, such as therapy and psychiatric hospitals. The difference was less and statistically insignificant in social and personal attitudes. Statistically significant differences were found between the two groups of fifth year students. The group of students with family member treated for some psychiatric disorder had less negative attitudes. They also had more stances towards psychiatric disorders, and their responses were more uniform.
Conclusion: Although there is a positive difference between first and fifth medical students' attitudes towards psychiatric patients there is a plenty of possible improvement in their education, in order to reduce stigma. Further research should be done on attitudes towards specific mental disorders.

Abstract ID: 367

Pharmacokinetic features of lymphotropic therapy in patients with pulmonary tuberculosis.

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Abstract:
Background: Since the bronchial wall has a pronounced lymphoid tissue, we developed a method intrabronhial lymphotropic administration of medicinal drugs to patients with pulmonary tuberculosis. Objective: The aim of the study was to compare the efficiency of isoniazid at different ways of administration (oral, intramuscular and endolymphatic), the definition of frequency of occurrence

of the "fast"and"slow" acetylators, the selection of individual doses of isoniazid, depending on the type of acetylation. Methods. The study was conducted in 3 groups of patients (120 patients) treated with isoniazid in a dosage of 300 and 600 mg / day orally, intramuscularly, and endolymphatic. To determine the pharmacokinetic parameters of absorption and excretion of isoniazid the dynamics of a drug concentration in the urine of patients at regular intervals was investigated.
Results: Pharmacokinetic parameters of the model revealed that the rate of isoniazid metabolism is maximum in the case of endolymphatic method of administration. This statement is proved by the numerical values of absorption and elimination constants, and the time required to reach the maximum drug's concentration in urine: 210 minutes - when administered orally, 120 min - intramuscular, 90 minutes – with endolymphatic administration. The highest distribution volume of isoniazid corresponds to intramuscular injection - 1266.7 ml, thus it exceeds 100% of the apparent distribution volume and proves the drug accumulation in biological fluids and tissues. Here it is deposited and has prolonged action. The distribution volume at the endolymphatic introduction is 2 times lower and equals to 590.4 ml. The minimum distribution volume corresponds to oral administration of the drug (397.1 ml). This amount is less than 100%, therefore, is distributed in organs and tissues but does not accumulate in them. The maximum concentration of active drug, which is equal to 6.021mg/ ml was detected in urine at endolymphatic route of administration. When administered orally an isoniazid concentration was only 0.762 mg / ml, and when administered intramuscular - 1.611 mg/ ml. This suggests that at the endolymphatic administration isoniazid was practically not subjected to acetylation in the liver, thus distributed in organs and tissues in an active form, whereas when administered orally, only 13% of the drug appears unchanged, and 87% presented in acetylated inactive form.

Abstract ID: 372

Is Type D Personality contributing to Cardiovascular diseases in Major Depressive patients?

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Abstract:
Type D personality is defined as the joint tendency towards negative affection and social inhibition. Large body of evidence consistently shows strong correlation between Type D personality and morbidity of cardiovascular diseases. On the other hand, Major depression (MD) is associated to various co morbid cardiovascular disorders, as well as Type D personality. The aim of our study was to investigate possible role of Type D personality as a risk factor for cardiovascular morbidity in MD patients compared to healthy subjects.
Methods: Our investigation included 60 MD outpatients in remission and 55 mentally healthy controls. The Type D personality was measured by self-rating 14-item scale. Demographic and clinical data were obtained by interviewing the subjects and reviewing their medical records. Statistical analyses were performed using SPSS for Windows v. 13.0
Results: Nearly 2/3 of subjects were females in both study groups. MD patients and controls were age-matched (48.17 ± 9.55 vs. 42.17 ± 7.25, respectively). The prevalence of Type D personality was high in both patients and controls (81.7% vs. 77.6%, respectively), without statistically significant difference among study groups (X2=0.28, p> 0.05). Cardiovascular morbidity was significantly more prevalent in MD patients compared to healthy controls (X2= 30.73, p< 0.001). 56.7% of MD group had cardiovascular morbidity in contrast to 6.1% of controls. The predictive value of male gender, MD and the Type D personality for a cardiovascular risk was analyzed. The overall predictive model was statistically significant (X2 = 25.348, p <0.001), and it explained 26.6 to 35.7% chance for a person to develop a cardiovascular condition. However, the only significant predictor of cardiovascular risk was the presence of Major depression (Exp B = 28.93, p <0.01).
Discussion: This was the first study exploring Type D personality in MD patients. Our results showed surprisingly high prevalence of Type D personality in both groups. Previous studies in general population indicate approximately 20% of Type D's. In contrast to other findings, Type D was not related to risk for cardiovascular morbidity itself.
Conclusion: Our study suggests that Type D personality contributes to cardiovascular morbidity in approximately 1/3 male MD patients.

Session: Public Health

Abstract ID: 31

Prevalence of obesity and its predictors in school children of Karachi

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Abstract:
Background: Increasing rates of obesity has reached epidemic proportions in developed and less developed countries. According to WHO there are 1.6 billion obese children aged 15 years. The prevalence of child obesity has doubled in North America in the past two decades. Objectives To determine the prevalence of obesity in school children. To determine the predictors associated with obesity in school children.
Methods: A comparative cross sectional study was conducted. The participants were class 10 students, 16 years age of a private school and were selected on the basis of non probability convenient sampling. Children included in this study had vaccination status according to the Expanded Program of Immunization. Children with history of chronic illness were excluded. Sample size was calculated by using the WHO software where á=5%, 1-beta=90, P1=0.05, P2=0.10, sample size=221. A total of 299 subjects were selected to avoid the chances of type 2 error. Data was analyzed on SPSS version 16. Binary logistic regression analysis was performed to assess the predictors for obesity with a threshold for the selection of p<0.05. Height, weight and BMI kg/m2 was calculated.

This study was approved by ethical review board.
Results: Children taking junk food was the major reason for the risk of obesity. These children had a high prevalence of obesity, 60%; p<0.05. They had 2.33 times more, (95% CI, 1.32–3.7) risk of obesity. Children with family history of obesity had a high prevalence of obesity 61%; p<0.05. They had 2.24 times more, (95% CI, 1.38-3.94) risk of obesity. Children having chocolate eating habit also had a high prevalence of obesity 46% p<0.05. They had 1.90 times more, (95% CI, 1.10-3.27) risk of obesity.
Conclusion: There is a high prevalence of obesity among school children due to intake of junk food, chocolate and family history of obesity. Key messages Children should play active indoor games. Parents should encourage consumption of a wide variety of fruits and vegetables

Abstract ID: 43

Factors affecting adherence to highly active antiretroviral therapy

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Abstract:
Background: Adherence to highly active antiretroviral therapy (HAART) remain the only hope for the poor and wealthy people of the world in their race to surviving the menace of HIV/AIDS in both the developing and developed nations. Adherence to HAART has improved the health of many HIV positve individuals who otherwise would have died. The treatment efficacy relies however on sustained adherence which constitutes serious challenge to those receiving HAART.
Methods: A cross-sectional study involving 387 HIV/AIDS adult patients attending Olabisi Onabanjo University Teaching Hospital Sagamu was conducted. These patients had adherence counseling and were on HAART for 1-12 months. They were investigated for factors that affected their drug adherence based on pill burden, distance to health facility, disclosure, support group and drug reminder pattern for 3 months. Adherence was assessed using pill count at clinic visit.
Results: The study showed a high level of adherence to HAART(96.8%) among the patients similar to other studies of >95% adherence(Diabate et al 2007).The study further showed that there was statistical significant association between family size and adherence (x"=3.676, P=0.035).There were also statistical significant difference in solution to improving adherence and adherence level (x"=14.318, P=0.026).The findings that age, sex, marital status, education level and employment did not significantly affects adherence were similar to other studies elsewhere.
*Conclusion:*There is no gold standard in the assessment of adherence especially in a clinical setting like mine. Various factors militate against adherence to HAART such as lack of HIV knowledge, inability to disclose HIV status, distance to health facility, stigma and delay in accessing care and drugs as a result of man power shortage. It is recommended that adherence counseling and patients-care provider relationship should be step up with some financial stimuli to patients to facilitate their adherence to HAART.

Abstract ID: 85

Frequency and associated factors for caregiving among elderly patients

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Abstract:
Aim: To study frequency and associated factors for caregiving among elderly patients visiting a teaching hospital in karachi, Pakistan.
Methodology: A cross sectional quetionnaire based study was conducted at the community health centre (CHC), Aga Khan University Hospital (AKUH)Karachi, Pakistan from septamber to november 2009. All consenting individuals visinting CHC and aged 65 years or above were interviewed after taking informed verbal consent and strict confidentiality was assured.
*Results:*A total of 400 completed the interview. Majority were females, 65-69 years age with income of pakistani rupees 10000-50000 and had less than 12 grade education. Over half of the respondents 268 (67%) needed services of a caregiver and 85% of them had an access to caregivers.Among these 195(72%) were provided care by an immediate family member. Almost 25%(98) individuals stated that their cargivers have barriers in providing care and among them 30% believed that the most significant barrier was financial problem and lack of time. Around 37% showed substantial improvement in their relationship with the caregiver while 3.5% stated that the relationship with the caregiver deteriorated during caregiving. About 70% stated that the care provided by the caregiver improved their quality of life. 29% believed that they have unfulfilled needs despite the presence of caregiver with financial need being the most significant unfulfilled need.
Conclusion: Elderly care is provided by majority of the family members resulting in increased satisfaction level however small number still not satisfied due to unfulfilled need of these older people.This demands that efforts should be made to strengthen family support by increasing awareness regarding elderly care and arranging support system by the government.

Abstract ID: 159

Serum plasminogen activator inhibitor 1 (PAI-1) and intra-ocular pressure (IOP): The Guangzhou Biobank Cohort Study

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Abstract:
Background: Increased intraocular pressure (IOP) is a major risk factor for developing ocular disease such as primary open-angle glaucoma. Plasminogen activator inhibitor 1 (PAI-1) plays a role in the turnover and degradation of extracellular matrix proteins (ECM) which are thought to play a role in the pathogenesis of increased IOP.
Aim: To determine if an independent association exists between serum PAI-1 and IOP in humans.

Methods: A cross-sectional study with participants from the Guangzhou Biobank Cohort Study (GBCS-CVS) aged 50–85 years were recruited and received a medical check-up including measurement of serum PAI-1, IOP, blood pressure, fasting LDL- and HDL-cholesterol, glucose and obesity measures. Information on socioeconomic and lifestyle factors was also collected. Subjects were divided into tertiles based on serum PAI-1 and a logistic regression analysis was performed to derive an odds ratio for having high IOP for each tertile. Personal, social and vascular confounders were adjusted for.
Results: The risk of increased IOP was significantly raised with higher serum PAI-1, with adjusted odds ratios (95% confidence intervals) for second and third tertiles of 1.31 (0.81-2.12) and 1.81 (1.15-2.83), respectively. Haematocrit, glycosylated haemoglobin (HbA1c), heart rate, and high-density lipoprotein (HDL-C) were the only vascular risk factors positively associated with serum PAI-1 levels (p from 0.03 to <0.01).
Conclusion: There is a strong relationship between serum PAI-1 and IOP in this older Chinese population. Further studies are needed to confirm these findings in this and other populations.

Abstract ID: 309

Abuse among school going adolescents: is it associated with school performances and mood disorders

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Abstract:
Background: Abuse is a major public health problem among adolescents, globally. Adolescent's mental and physical health, general well-being, and ability to become a productive adult, all are being affected by exposure to abuse. The objectives of this study were to assess the proportion of various types of abuses and their association with school performances and psychological stress among adolescents in Pakistan. Method: This was a cross-sectional school survey of 414 adolescent students (age 14 to 17 years) conducted in six schools of three major cities of Pakistan. Data was collected using the self-administered and pre-tested structured questionnaire. All the data was collected and managed by trained medical students. Chi-square test was used to calculate the association of various types of abuses with poor school performances and psychological stress.
Results: In all, 33.7% participants were physically abused and 57.0% participants were verbally abused during the last 12 months. Over half of study participants (59.2%) were involved in physical fight and 47.1% adolescents had suffered with injury during the preceding year. Adolescents being bullied were 41.4% during the same period. Verbal abuse (p=0.05), physical fight (p=0.05) and bullying (p<0.001) were significantly associated with poor school performances among adolescents. While physical abuse (p=0.05), verbal abuse (p=0.003), injury (p=0.02) and bullying (p<0.001) were significantly associated with psychological stress among adolescents.
Conclusion: In this study, various types of abuse were quite prevalent in adolescents which are significantly associated with poor school performances and poor mental health. Further research is warranted to identify the causes of abuse among adolescents. Interventions at various levels are also recommended to prevent abuse among adolescents.

Abstract ID: 343

Dietary Habits among Adolescent Boys and Girls in Urban Pakistan

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Abstract:
Background: Globally, unhealthy dietary habits among adolescents are constantly on the rise, posing a high risk of obesity, diabetes, cardiovascular and other non-communicable diseases including cancer. Our study aimed to assess the dietary habits and their coexistence among the adolescents of Pakistan.
Methods: A cross-sectional study was conducted among 414 students aged 13-17 years studying in different schools of three largest cities of Pakistan. Patterns of dietary intake were assessed by a structured, self-administered and pre-tested questionnaire among adolescents. All the data was managed by medical students who were trained prior for this task.
Results: Among all 78.5% and 83.3% adolescents were found to consume fruits and vegetables less than four times a week respectively. Majority (58.2%) of adolescents were eating out at a restaurant/party more than once in a month, more boys than girls ($p < 0.01$; OR = 2.17; 95% CI = 1.46 – 3.23). Similarly higher proportion of boys (75.3%) were consuming soft drinks more than 4 times a month as compared to girls (60.7%), ($p < 0.01$; OR = 1.98; 95% CI = 1.29 – 3.01). About half of the adolescents were missing breakfast frequently, more girls than boys ($p < 0.01$; OR = 1.96; 95% CI = 1.33 – 2.91) while about three-fourth of the boys and girls (76.1%) were found to be missing lunch. The choice of food among adolescents during lunch break at school was found to be fast food (70.6%), soft drinks (33%), chocolates (30.6%) and fruits (2.9%). The existence of 1, 2, 3, 4, 5 and 6 unhealthy dietary habits were present in 2.4%, 7.2%, 15.9%, 30.7%, 29.2% and 14.3% of the adolescents respectively, the habits including skipping fruits, skipping vegetables, visiting restaurants, consuming soft drinks, missing breakfast and missing day meals.
Conclusion: Overall, a huge proportion of adolescents in this study have unhealthy dietary habits. Interventions are required at various levels to optimize appropriate dietary habits. Parents, teachers and concerned authorities at schools as well as media all have a role to play in promoting healthy dietary habits among the adolescents. More research is recommended to explore this important issue at a larger scale.

Abstract ID: 479

The Mode of Transmission for Human Immunodeficiency Virus (HIV) in Indonesia 2010

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Abstract:
Introduction: HIV can be transmitted from person-to-person via several pathways. This research aims to evaluate the frequency of each mode of transmission commonly found in Indonesia. This information is needed to educate the society and to break the transmission cycle. Hence, reducing the prevalence of HIV infection in Indonesia.
Methods: A cross-sectional study was done by gathering secondary data from POKDISUS, one of the biggest HIV research centers in Indonesia. From all of the patients who were registered in 2010, 408 patients were found to fulfill the research criteria and the data on how they became infected with HIV were collected. The anamnesis was carried out by qualified doctors and the mode of transmissions were categorized into six large groups i.e. sexual, sharing of needle (in narcotic use), tattoo, blood transfusion, medical equipments and accidental contact to infected blood.
Results: 273 patients (66.9%) acquired the virus from a single mode of transmission, 109 patients (26.7%) were exposed to two different transmission methods, 24 patients (5.88%) to three possible ways and the remaining 2 patients (0.490%) to a total of 4 possible modes of transmission. Upon analysis, the frequencies of each mode of transmission, from the most frequent to least frequent were: sexual contact (63,7%), sharing of needles (60.0%), tattoo (9.07%), blood transfusion (4.41%), medical equipments (2.45%) and accidental contact to infected blood (0.245%).
Conclusion: Indonesia remains vulnerable to HIV infections despite of its cultural judgment and opposition towards free sex and drug use - the two most frequent risk factors found in this research. Annual finding of the frequency of HIV transmission via blood transfusion, accidental contact to infected blood and medical equipments, allows detection of change in quality of clinical service in Indonesia. The data can also be used as a basis of education to the society to improve public health as a whole.

Abstract ID: 518

Evaluation of primary care physician's performances managing cases in the city of Yogyakarta

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Abstract:
Background: Primary Care Physicians (PCP) hold the most strategic position on stratified management of health care. Low performance will cause an overutilization and financing inefficiency. In order to improve this aspect first, we need to conduct a consistent evaluation of doctor's accomplishment of standardized quality of care. The results may help us identifying the improvable components and be a consideration of managing general improvement strategy.
Methods: The research was conducted in cross-sectional design. 31 phycisian from 13 PHC in the City of Yogyakarta self-evaluated their performance ability level of managing 156 primary cases based on experience in primary setting (performance). The cases are predetermined by Indonesian Medical Council (2006) as level 4, which are, could be managed completely without reffering by PCP. The average level of all subjects then compared to Indonesian Standard of Doctor's Competency (SKDI). Subject's characteristics, resources, case incidence, and organizational support were also studied.
Results: 155 out of 156 primary cases are not managed completely by the respondents and are still reffered to the secondary health care. Seventeen cases are reffered without prior treatment. Those primary cases are founded by 65% of physicians in real setting. Generally, PHC physician's performance in managing the primary cases are in the level 78.5% of predetermined competency. Resources support only 47.4%, third-side financing support 89.3%, and organizational support 89.3%. All respondents state that their competences, as an internal factor, need to be improved.
Conclusion: Primary Care Physician's Performance in managing primary cases are still below their predetermined competency. There should be improvement in resources and Continuing Medical Education program in order to improve the quality of health care.

Abstract ID: 553

Prevalence and risk factors of Diabetes Mellitus in a Community-Based Study at Al-Khobar City. Saudi Arabia.

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Abstract:
Background: The prevalence of DM in the Saudi Eastern Province on 2005 (30 and above age-group) was 17.2%. Further and recent studies needed to find the Prevalence and risk factors of diabetes and their significant relations at Al-Khobar City in particular, on 2010. METHODOLOGY: A cross-sectional community-based survey, among individuals of both sexes, aged 15 years and above was carried out within the World Diabetes Day Campaign held on 9-10 December 2010 in Dhahran Mall, Al-Khobar city. The study was carried out on 215 Subjects, using a convenient sampling technique of a quota of 300 visitors (71.7% response rate). Data was collected by a personal face-to-face interview taking a short history and filling the check list, followed by estimation of random capillary blood glucose using a portable glucometer, and blood pressure using a manual sphygmomanometer. Our Standards were the WHO definition of high blood pressure, hyperglycemia, and BMI. Statistical analysis: Was performed by using the SPSS version 11.5.
Results: A lot of valuable information derived from this survey. Prevalence of Self-reported DM, Hyperglycemia, Hyperlipidemia, and Smoking were 17.7, 18.1, 23.7, and 30.7 % respectively. Factors like; Age > 45 years, BMI ≥

24.9kg/m(2), high blood pressure, Hyperlipidemia, Family history, and Low activity level were significantly associated with the presence of diabetes. Of all diabetic patients; 31.6% had 5 risk factors of DM, and 26.3% had 4 risk factors.
Conclusion: Our methodology provided a great successful rate in this Pilot Study, compared to previous studies. The high prevalence of DM and its risk factors in this eastern Saudi population needs further evaluation and investigations. Health education Programs about DM risk factors and preventive measures are needed, since there is a high incidence of Adjustable risk factors and strong relation to the development and control of diabetes disease.

Session Pulmonology

Abstract ID: 64

Tracheobronchial Immunomodulation by interferon in patients with COPD

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Abstract:
Introduction: Treatment of chronic obstructive pulmonary disease is one of the important problems of modern medicine. Perspective way in treatment of COPD is using of medications influenced on local protection against infections.
Aim: To evaluate the efficiency of tracheobronchial immunomodulation by Interferon in complex treatment of patients with chronic obstructive pulmonary disease.
Methods: The study was carried out on 30 patients of 45 – 60 years old (57,5±12,5) with COPD (chronic obstructive bronchitis). Tracheobronchial immunomodulation was conducted with help of α-Interferon. 3 doses of α-Interferon were used for one administration. Evaluation of biochemical (pH, general protein, sialic acid) and immunological (alveolar macrophage activity, T- and B-cells, IgA, IgG, IgM) markers was realized on 1st day (1st stage), on 5th – 7th day (2nd stage) and on 12th – 15th day (3rd stage) of treatment.
Results: A significant improving of biochemical markers was found after immunomodulation. On 2nd stage of investigation pH decreased on 0,39±0,03, general protein decreased on 3,3±0,53 g/l, sialic acid fell on 15,0±1,9 (p<0,001) comparing with the beginning indexes. On the 3rd stage decreasing of pH on 0,56±0,04, general protein on 4,0±0,63 g/l, sialic acid on 47,0±3,3 (p<0,001) was observed. Local immunomodulation led to increasing of alveolar macrophage activity, which was maximum on 2nd stage of studying. Phagocyte percent increased on 10,41±4,6%, phagocyte index increased on 1,77±0,29 (p<0,001). Interferon made a marked influence on T-cell population and IgA secretion. On 2nd stage T-cells concentration increased on 10,4±0,89%, and on 3rd stage of investigation increased on 22,3±2,07% (p<0,001). On the 2nd stage concentration of IgA increased on 0,06±0,03g/l. IgM wasn't detected.
Conclusion: Thus, prescribing of Interferon for local tracheobronchial immunomodulation leads to improving the efficiency of intensive respiratory treatment and fast recovery of patients.

Abstract ID: 154

Associated pathology in adolescents with pulmonary tuberculosis

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Abstract:
Aim: explore the features of the influence of comorbidity on the course of pulmonary tuberculosis in adolescents. Objectives: examine the structure of comorbidity among adolescents with pulmonary tuberculosis; identify forms and complications in this category of teenagers; characterize this group in the presence of MBT +, MDR (multi-drug-resistance) and contact to persons with tuberculosis. Materials: 277 cases of pulmonary tuberculosis in adolescents. For the development of TB infection, there are certain conditions in the form of partial damage to physiological systems, particularly immunity; in addition, it in itself leads to decompensation of the structures of the body, which is a breeding ground for the development of associated diseases. Characteristics of the group: Boys - 43,32%, Girls – 56, 68%, City-64, 71%, rural-34.29%, Contact-54,15%, MBT + -46,57%, MDR – 28,52%.Clinical signs- cough- 46.80%,weakness - 36.70%,Temperature- 11.20%,Sweating- 5.80%,weight loss -4.30%, hemoptysis -2.90%,loss of appetite - 1.40%,headaches -0,48%. Types of pulmonary tuberculosis: infiltrative -58.12%,focal- 27.08%,pleurisy - 5,42%,disseminated- 1.44%,tuberculoma- 2.52%, primary tuberculous complex-1,08%, tuberculosis of intrathorathic lymphnodes-1.44%, tuberculosis of bronchi -0,36%.Forms of pulmonary tuberculosis with concomitant diseases: infiltrative -64.40%, focal - 26.90%, tuberculoma -2,88%, pleurisy- 2,88%, primary tuberculous complex-0,96%, disseminated- 0,96%,tuberculosis of intrathoracic lymphnodes-0,96%. Comparative characteristics of adolescents with pulmonary tuberculosis with / without co-morbidities: contact -55.10% /52.60%,MBT + -54.80%/ 41.60%,MDR -36.53% /21.39%, complications -13.46% /6.90%.Structure of complications of pulmonary tuberculosis in adolescents: tuberculosis of bronchi -38.40%,pleurisy -27%,hemoptysis -11,50%dissemination- 7,70%, cavity 3,80%, atelectasis -3,80%,bronchiectasis -3,80%,toxic hepatitis-3,80%.Conclusions: In the structure of co-morbidity more common are following: gastrointestinal diseases (17.6%), nervous system (12%), urinary system (11.2%), thyroid diseases and allergy (8%). The most common forms of pulmonary tuberculosis with comorbidity: infiltrative -64.4%, focal-29.6%, pleurisy -2,88%, tuberculoma -2,888%. In the group of adolescents with co-morbidity complications, contact, MBT +, MDR are more frequent than in the group without co-morbidity.It is needed to monitor the teens ,they must undergo medical check-ups regularly, paying.

Abstract ID: 394

Oculo-pulmonary disease - Approach to diagnosis

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Abstract:
Background: Oculo-pulmonary diseases commonly present with ophthalmic involvement and mediastinal lympadenopathy, and common differential diagnosis include tuberculosis and sarcoidosis. In these patients with oculo-pulmonary syndromes, there is scant data on the etiology based on tissue diagnosis. This etiology can also vary, depending on the part of the world studied, as tuberculosis is common and sarcoidosis reported to be uncommon in the Indian setting, We conducted this study to define the tissue diagnosis in patients presented with eye involvement and mediastinal lymphadenopathy, which will help to guide management.
Material and Methods: 40 consecutive patients with ocular manifestations and mediastinal lymphadenopathy were considered for transbronchial needle aspiration and biopsy (TBNA) of the mediastinal lymph nodes. Ocular manifestations were evaluated by an ophthalmologist. TBNA was done using a flexible bronchoscope with conscious sedation and topical anesthesia. Rapid on-site evaluation (ROSE) was used in all the cases. The samples were subject to both cytologic, histologic (if applicable), and microbiologic processing, by standard methods. Results There were 12 males (30%) and 28 females (70%). The location of lymph nodes included Pre tracheal(9), right(18) and left para tracheal(8), subcarinal(19) and hilar(5). The adequacy rate (lymphocytes on cytology) was 100%. CT guided TBNA was used in 2 patients The diagnoses included tuberculosis (17/40, 42.5%) and sarcoidosis (23/40, 57.5 %). No complications were noted. The ocular manifestations included panuvetis, anterior & intermediate uveitis, and others including scleritis and kerato conjunctivitis sicca.
Conclusion: Patients presenting oculo-pulmonary involvement with mediastinal lympadenopathy have predominantly sarcoidosis and less commonly tuberculosis as shown in our study. This is the first study to define etiological diagnosis in such oculo-pulmonary syndromes, especially in the Indian subcontinent. The data shows that sarcoidosis is more common than tuberculosis, which is in contrast to prior practice, where most cases were treated as tuberculosis in India in the absence of tissue diagnosis. Clinical Implications in patients presented with ocular manifestations, and mediastinal lymphadenopathy, a strategy guided by TBNA, with a high yield is important to make an accurate tissue diagnosis. Appropriate diagnosis permits adequate treatment on both

Abstract ID: 426

Apoptotic versus necrotic tumor cell fragments used in dendritic cell-immunotherapy to treat malignant mesothelioma

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Abstract:
Background: Malignant mesothelioma is an aggressive tumor with asbestos exposure as the main risk factor. With no effective therapy yet available, most mesothelioma patients die within 12 months after diagnosis. A promising strategy in cancer treatment is immunotherapy. Using the body's natural defender the immune system, this strategy is safe and with limited side effects. One such approach uses ex-vivo cultured Dendritic Cells (DC) stimulated with tumor antigens. After injection, these DCs will migrate to the lymph nodes where they present the tumor antigens to T cells that can subsequently induce a tumor-specific immune response. Previous studies revealed that DC-based immunotherapy is able to induce antitumor immunity leading to a prolonged survival in mice and demonstrated the safety in patients. In this study I focused on apoptotic tumor cells for DC vaccine preparation. Apoptotic tumor cells have high levels of heat shock proteins (HSP) which makes them able to induce stronger tumor-specific T cell responses. HSP are molecular chaperones with a broad repertoire of tumor antigens. Objectives: The purpose of this study is to optimize, both in vitro and in vivo, the development of a novel therapeutic vaccine against malignant mesothelioma based on apoptotic tumor cell fragments-pulsed DCs.
Methods: The necrosis and apoptosis of AB1 mesothelioma tumor cells were detected after an in vitro treatment of heat shock and UVB radiation or freezing-thawing. The AB1 tumor cells were harvested after treatment and added into the culture of immature dendritic cells (DCs). The immune phenotypes and morphological features of DCs were analyzed by flow cytometry for the maturation markers: CD40, CD80, CD83, CD86, and CD195.
Preliminary results: Necrosis predominated after these treatments. But the apoptotic ratio was higher in heat shock combined with UVB radiated AB1 cells than that in freezing-thawing cells (38.7% vs 6.0%).
Conclusion: As compared with the treatment of freezing-thawing, heat shock and UVB radiation gives a higher apoptotic ratio of AB1 cells. An upcoming animal experiment should reveal the effect of apoptotic AB1 tumor cell stimulated DCs on survival rate of mice. When proven successful in mice, these results can lead to an optimized method to induce anti-tumor responses and to improve survival in patients.

Abstract ID: 545

Vitamin D Deficiency and Risk for Developing Pulmonary TB

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Abstract:
Background: Apart from the nutritional benefits of

Vitamin D; immune homeostasis is also being recognized as an important function; for e.g. 1,25(OH)2D3 induces anti-mycobacterial activity in monocytes and macrophages. As reports of widespread vitamin D deficiency emerge, it is hypothesized that low levels of vitamin D may predispose to the development of mycobacterial disease. Objective: We carried out this study to assess whether an association exists between the vitamin D status of an individual and the development of pulmonary Tuberculosis (TB).
Methods: In a cross sectional design, we surveyed close contacts of patients diagnosed with pulmonary TB over a 3 month period, October – December 2009. Contacts had serum vitamin D levels measured and screening chest X rays performed. All those with abnormal X rays had sputum samples collected for AFB smears. No contacts had been screened previously, nor were they under treatment for latent TB infection.
Results: 75 contacts were surveyed, 19 (25.3%) had abnormal chest X rays. 15 of these were smear positive for acid fast bacilli. Mean serum Vitamin D levels in contacts that developed TB were significantly lower; 10.2 ± 7.4 v/s 14.1 ±6.6, p 0.03 than those who did not develop TB in the 3 month follow up period. There were no significant differences found in the BMI between these two groups. Low serum vitamin D also was not found to correlate with BMI, p 0.84. Conclusions: Low serum vitamin D levels appear more commonly in contacts that develop TB. It would seem that supplementation of dietary vitamin D maybe a cost effective strategy in the prevention of mycobacterial disease.

Session: Radiology

Abstract ID: 254

The Prevalence and Topography of Cerebral Microbleeds in Alzheimer's Disease Patients and Elderly

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Abstract:
Introduction: Ultra-high field 7 Tesla MRI (Magnetic Resonance Imaging) is a new advanced ultra-high resolution MRI. The study aimed to evaluate the clinical utility of 7 Tesla MRI in cerebral microbleeds (CMB) study. CMB are old and asymptomatic types of haemorrhage and observed under microscope as hemosiderin-laden macrophages. In MRI term, CMB is a focal signal loss (diameter ≤10mm) observed on T2*Gradient Recalled Echo MRI. The study focused on prevalence, topography and tissular location of CMB with associated risk factors of Alzheimer's disease (AD), age and male gender.
Methods: 10 AD patients and 45 healthy controls (mean age=58.9±9.6; 51% male) were recruited in this study. An optimised MRI protocol for CMB detection was used (3D T2*w MRI, 7 Tesla, TE=20ms, TR=50ms, spatial resolution=5mm). CMB were manually visualised using FSL images. CMB were characterised by black spots, round or oval-shaped and atleast half-bound by parenchyma.
Results: Prevalence of one or more CMB was atleast twice higher than previous conducted prevalence studies using low field MRI. 70% AD patients and 71.4% healthy controls over 60 years old had atleast one CMB. The association between CMB prevalence and age, presence of AD, age-presence of AD, presence of AD-male gender and age-presence of AD-male gender was proved by crosstabulation Chi-Square and logistic regression analysis to be significant ($p<0.05$). In results on CMB topography, CMB were significantly distributed in temporal lobe in AD patients and frontal lobe in healthy controls ($p<0.05$). Volume-based analysis confirmed significant distribution of CMB in temporal lobe for AD patients ($p<0.05$). In tissular topography, AD patients significantly preferred CMB distribution in superficial cortex while age-matched healthy controls preferred subcortical white matter ($p<0.0001$). Volume-based analysis confirmed significant distribution of CMB in white matter region for healthy controls. ($p<0.0001$)
Conclusion: The significant results were robust and coherent with hypotheses and literature background study. These paramount findings suggested ultra-high field 7 Tesla MRI as important breakthrough in highly advanced MRI human brain study.

Abstract ID: 257

Nonalcoholic Fatty Liver Disease, Carotid Intima-Media Thickness and lipid profile in epileptic children

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Abstract:
Background: Sodium valporate and Carbamazepine are among frequent medications utilized for seizure control in children. Weight gain, fatty liver disease, hematological disorders and cardiovascular disorders have been reported as side effects of this widely prescribed medication. Hematologic disorders are among frequent complications of Carbamazepine. The aim of this study was to determine fatty Liver Disease, Carotid Intima-Media Thickness (IMT) and lipid profile in epileptic children.
Materials and methods: Twenty three children receiving valproic acid therapy and thirteen who were under treatment of Carbamazepine for at least 6 months referred to a children's medical center between September 2010 and May 2011 enrolled in this cross-sectional study. Lipid profile, liver sonography pattern and lipid profile compared between two groups.
Results: Five patients in sodium valporate group had Nonalcoholic Fatty Liver Disease (grade one), while no one in Carbamazepine group had this pattern ($p=0.02$). We did not observe any differences regarding serum lipid profiles, right and left intima media thickness of common carotid arteries. Alp, AST and ALT levels were not differ significantly between two groups. No hematologic disorder observed in patients.
Conclusion: fatty liver disease should be considered in children under sodium valporate treatment.

Abstract ID: 680

Diagnostic Accuracy of Sixty four Multi-slice CT Angiography in assessment of Arterial Cut-off and Run-off in comparison with Surgical findings as Standard of Reference

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Abstract:
Introduction: The accurate anatomic mapping and determination of the severity of arterial disease that is an important health problem of elderly is of a great significance. We aimed to determine the diagnostic value of 64-multislice CT angiography (MSCTA) in arterial disease in run off and cut off sites, taking into consideration the results of surgical findings of our study as a standard of reference.
Methods: Over the period of study, MSCTA followed by an operative intervention was carried out on a total of 38 patients with clinical sign and symptoms suggestive of arterial disease(AD) who all had the vascular surgery indication. The mean age of patients was 34 ± 15.86 (range from 23 to 93) years. MSCTA was executed using a 64-slice CT scanner, during the arterial phase of injecting the nonionic, contrast medium with a power injector, at rate of 5 ml/sec into antecubital vein and exploration and revascularization of peripheral AD was performed intraoperatively.
Results: The most common cause of vascular occlusion was atherosclerosis and the arterial disease was more common in lower extremities. The most frequent site of stenosis due to MSCTA findings was in superficial femoral artery. Spearman's correlation coefficients showed a high degree of agreement amongst the raters. The Sensitivity, specificity, positive predictive value(PPV), negative predictive value(NPV) and the accuracy of MSCTA compared to surgery were 83.8%, 96%, 96.8%, 81.3% and 89%, respectively. MSCTA findings were compared with surgery as a standard of reference which showed concordance in the majority of cases(81.6%). Cut off sites were correctly identified by MSCTA in 97.3% of the patients and the most common sites of discordance observed in our study were in run off sites(18.2%).
Discussion: MSCTA angiography, as a novel diagnostic modality, could be a suitable alternative and may be a viable choice, for routine clinical diagnosis.

Abstract ID: 779

CT evaluation of stapes prosthesis in patients with otosclerosis

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Abstract:
Background: One of the most important methods of otosclerosis treatment are procedures of stapedectomy and stapedotomy. In very few cases of postoperation complications connected with using prosthesis of stapes are observed. The aim of the study was to visualize and evaluate usefulness of different techniques of computed tomography in assessing postoperative complications of stapes implantation.
Methods: In the group of 41 patients with otosclerosis whom underwent CT of temporal bone in Diagnostic Department in Clinical Hospital No 1 in Zabrze we identified 9 patients after stapes prosthesis implantation. Eleven ears were analyzed in total. The evaluation of prosthesis location was analyzed in 3D volume rendering (VR), multiplanar reconstruction (MPR) and virtual otoscopy techniques (VO). The length of stapes prosthesis and their locations were evaluated in CT post-processing techniques.
Results: The results of our study shows that MPR reconstructions allowed the evaluation of the length of prosthesis with high repeatability between observers. In 7 out of 11 cases virtual otoscopy techniques failed to assess the length of stapes prosthesis. VO method proved to be the most usefulness and reproducible in the assessment of the position of prosthesis around the oval window and inner ear. Our results show that 3D VR technique is lower repetition method in relation to the MPR in the assessment of the length and position of prosthesis relative to basal plate.
Conclusions: The results of measurements of the length of the stapes prosthesis in reconstruction of the MPR is the most reproducible. Virtual otoscopy is the most useful method of assessment is too-deep position of the stapes prosthesis. 3D VR reconstructions do not show superiority over other techniques studied in the assessment of the length of the stapes prosthesis, and postoperative complications in patients with otosclerosis.

Session: Rheumatology

Abstract ID: 552

The Differences in Cardiopulmonary Involvment between Different Serological Groups of Patients with Systemic Sclerosis

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Abstract:
Introduction: Systemic sclerosis (SSc) is a multisystemic autoimmune disease which causes fibrosis and damage of skin and visceral organs, above all lungs, digestive system, heart and kidneys. In nearly 95 % of cases antinuclear antibodies (ANA) can be detected in patients' blood serum, which enables us to further determine the presence of specific ANA which have a prognostic value.
Aim: To asses the occurrence and differences in cardiopulmonary manifestations of SSc among different serological subtypes of patients.
Material and methods: The retrospective study was conducted on 81 patients (71 women and 10 men) diagnosed with SSc. Demographic and clinical data on the patients, which had been obtained from EUSTAR (EULAR Scleroderma Trials and Research group) centre of Institute of Rheumatology in Belgrade, were gathered and analyzed.

The patients, all ANA positive were divided into three groups based on presence of specific serotypes of auto antibodies: anti-topoisomerase I antibodies positive (ATA), anti-centromera antibodies positive (ACA) and non-ATA non-ACA positive. The clinical cardiopulmonary manifestations of the disease were assessed in each group and were compared afterwards.
Results: There was no significant difference in cardiopulmonary involvement except for two characteristics: forced expiratory vital capacity (FVC) shows significantly lower values and lung fibroses occurs more frequently in ATA positive group in comparison to ACA positive group of patient. Modified Rodnan skin score (mRSS) was significantly higher in ATA positive patients comparing to other two groups.
Conclusion: Examined groups of SSc patients divided by presence of specific ANA in blood serum are similar by cardiovascular manifestations. However, the ATA positive patients have more severe lung fibrosis and skin damage in comparison to ACA group of patients. Key words: Systemic sclerosis, antinuclear antibodies, cardiopulmonary involvement

Abstract ID: 745

Diffuse cutaneous systemic sclerosis patients have greater internal organ involvement than those with the limited cutaneous subset of the disease

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Abstract:
Background: Systemic sclerosis (SSc) is a connective tissue disease characterized by fibrosis of the skin and internal organs, pronounced alteration in the microvasculature and frequent cellular and humoral immunity abnormalities. Our goal was to perform a transverse study of patients with SSc, assessing the clinical presentation and organ/system involvement of patients with SSc. Furthermore, we compared the two SSc subsets: limited cutaneous SSc (lcSSc) and diffuse cutaneous SSc (dcSSc), trying to determine whether dcSSc has greater internal organ involvement.
Methods: 53 patients (7 males and 46 females) with SSc were included. All patients were extensively investigated with regard to the entire spectrum of manifestations of the disease using specific scores (Rodnan skin thickness score, European Scleroderma Study Group (EScSG) disease activity score) and laboratory work-up, clinician assessment, imaging techniques.
Results: Of the 53 patients included, 29 (54.7%) belonged to the dcSSc subset and 24 (45.3%) to the lcSSc subset. All 53 patients reported Raynaud's phenomenon. The dcSSc patients presented more frequently with cutaneous edema (63.6% vs. 36.3%), joint involvement (78.5% vs. 21.4%) and lung involvement (70% vs. 30%) and had more severe peripheral vascular involvement, leading to a poor outcome. Esophageal lesions were slightly greater both by prevalence and by severity in the dcSSc group.
Conclusion: Our results show extensive internal organ involvement in SSc patients and confirm the hypothesis that the dcSSc subset has a greater degree of internal organ involvement (especially the lungs), suggesting a poorer prognosis.

Session: Social Medicine

Abstract ID: 29

Self-esteem and socio-economic diversity in adults affected by personality traits and psychological well being

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Abstract:
Background: The most basic task for one's mental, emotional and social health, which begins in infancy and continues throughout life, is the construction of a positive self-esteem. The beliefs and evaluations people hold about themselves determine who they are, what they can do and what they can become. The objective of the work is to assess whether personality traits and mental health contribute to the relationship between socio-economic status and self-esteem.
Methods: Sample size calculation was done using the W.H.O. software, where á=0.05, 1-beta=80, P1=0.10, P2=0.20, n(sample size)=253. The researcher recruited 500 subjects to avoid the chances of type 2 error. Adults of 30 years were included living in the major districts of the town. Participants with epilepsy, schizophrenia and those who were on psychotropic drugs were excluded. The self-esteem was assessed with the Rosenberg Self-Esteem Scale (RSES), cronbach's alpha =0.88. Socio-economic status was measured by the Family Affluence Scale (FAS), cronbach's alpha =0.60. Psychological well-being was measured using the 12-item General Health Questionnaire (GHQ-12), cronbach's alpha =0.71. The personality was measured using the Ten-Item Personality Inventory (TIPI), cronbach's alpha =0.66.
Results: Hierarchical linear regression showed family affluence, personality traits of extroversion, agreeableness, emotional stability, openness to experiences were significantly associated with self-esteem. FAS, TIPI Extroversion, Agreeableness and Conscientiousness had the highest standardized Beta coefficients.
Conclusion: The socioeconomic status has a significant relationship with one's self-esteem. A high family affluence is related with a high self-esteem furthermore it has an effect on the personal satisfaction and happiness. The design and implementation of health programs with self-esteem as one of the core variables is an important and promising development in the health promotion.

Abstract ID: 685

Use of smoke less tobacco amongst the staff of tertiary care hospitals in the largest city of Pakistan

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Abstract:
Background: Use of Smoke Less Tobacco (SLT) is very common in South and South-East Asian countries. It is

significantly associated with various types of cancers. The objectives of this study were to assess the proportion of hospital staff that use SLT, to identify the factors associated with its use and their practices.
Methods: In a cross-sectional study, 560 staffs of two tertiary care hospitals were interviewed in the year 2009. Nurses, ward boys and technicians were counted as a paramedic staff while drivers, peons, security guards and housekeeping staff were labeled as non-paramedic staff. SLT use was considered as usage of any of the following: betel quid (paan) with or without tobacco, betel nuts with or without tobacco (gutkha) and snuff (naswar).
Results: About half (48.6%) of the hospital staff was using at least one type of SLT. Factors found to be statistically significant with SLT were being a male (OR=2.5; 95% CI=1.8-3.7); having no/less years of education (OR=1.7; 95% CI=1.2-2.4) and working as non-paramedic staff (OR=2.6; 95% CI=1.8-3.8). Majority of SLT users were using it on regular basis, for > 5 years and keeping it in oral cavity for > 30 minutes. About half of the users started due to peer pressure and had tried to quit this habit but failed.
Conclusion: In this study, about half of the study participants were using SLT in different forms. We suggest educational and behavioral interventions for control of SLT usage.

Abstract ID: 708

Sexual delinquency in Niš from 2006 to 2010 year

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Abstract:
Background: Sexual violence occurs in all areas, all societies and cultural settings and at all times. According to modern forensic-psychiatric point of view it is primarily an aggressive act and non-sexual gratification. The aim of this research was to provide global insight into the frequency and specificity of crimes against the dignity and morality, in terms of forensic expertise, and to ascertain the incidence of sexual delinquency in the period 2006/2010 in relation to the period 1999/2006.
Methods: This paper is a retrospective analysis of the material of the Institute of Forensic Medicine in Nis, 2006/2010. Also the documentation for the period 1999/2006. year was used.
Results: Among the 45 persons suspected to be victims of sexual violence, in most cases there was a suspicion on forced sexual intercourse. The largest number of victims gave a report after one day, five days or more. The largest number of examined were at the age of 10-14 years, pupils, from the urban environment. Sexual intercourse is generally commited by perpetrator who is known to the victim, during the night (18-24h), usually in a house or apartment, mainly achieved by force. Of the vagina and vaginal introits spermatozoa was not usually found microscopic, which does not exclude the possibility of a violent sexual intercourse. Preserved sperm or parts were found in 15.56% of cases as a confirmation of completion of sexual intercourse.
Conclusions: The frequency of sexual delinquency is relatively the same, and we can say that the crisis in our society the past 10 years is maintained at the same level.

Session Surgery

Abstract ID: 57

Comparing Harmonic Scalpel with Conventional techniques in thyroidectomy: A Randomized Clinical Trial

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Abstract:
Background: Traditional haemostatic techniques in thyroidectomy may cause some damages to surrounding tissues. However, it is believed that these damages can be reduced using Ultrasonic dissector devices like Harmonic scalpel. Therefore, we aimed to evaluate the efficacy of ultrasonic dissectors (Harmonic Scalpel) versus conventional techniques (Clamp and Tie) by a randomized clinical trial.
Materials and Methods: A single blinded randomized clinical trial was performed at a training center. Sixty eight eligible participants were enrolled to group1 (operated with Clamp and Tie technique) and group2 (operated with Harmonic Scalpel). We recorded the followings: age, sex, haemostatic technique, duration of surgery, pathology, thyroid weight, operative blood loss, length of hospital stay, postoperative recurrent laryngeal nerve injury, changes in calcemia, pain, drainage volume, and hematoma formation.
Results: The results demonstrated that using Harmonic Scalpel in thyroidectomy significantly reduces operating time and intraoperative bleeding. Postoperative drainage, pain, hypocalcemia, and length of hospital stay were significantly lower in Harmonic Scalpel group. Voice score was better in HS group, but the difference was not significant. CONCLUSIONS: The use of Harmonic Scalpel in total thyroidectomy reduces many intra and postoperative complications and is faster than conventional techniques.

Abstract ID: 96

Determination of contamination of surgical field in head and neck oncological and reconstructive surgery

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Abstract:
Aim: To determinate amount, type and timing of the surgical field contamination, and to define possible complications that can occur after resection of advanced tumor of maxilla and oral cavity with one stage reconstruction.
Methods: The prospective study approved by Bioethical Committee. During surgical resection and reconstruction performed with all standards of asepsis, we took swabs from surgical field and from surgical drapes near the field. Samples were taken every 2 hours (in 0, 2, 4, 6 hour), which correlated with the timing of the specific parts of

the surgeries. Samples were delivered to the microbiological laboratory immediately. Microbiological examination was performed with standard microbiological diagnostic protocol. Complications were defined by a follow up examination of the surgical patients. Materials were divided in three groups defined by the duration time of the surgery (lasting less than 4 hours, lasting 4-6h, lasting more than 6 hours).
Results: Our research is still in progress and results are preliminary. 143 samples out of 190 obtained in 32 procedures were contaminated. Peak of the contaminations was reached just after resection part of surgery in all groups (51 out of 63 samples). Statistically evident rising trend of contamination was reported only in group of samples from surgical drapes from over 6 hours surgeries(y=1,15x + 3,33; R2= 0,98). Reported microorganisms were natural microbial flora of the skin and oral cavity. The antibiotic resistance was similar to the common. Infection occurred in 2 out of 32 patients (1 of 2 was SSE). Other complications, such as necrosis of the skin graft, hematoma, delayed wound healing were recorded in 5 cases.
Conclusion: In spite of observing standard asepsis rules the contamination of the surgical field with natural microbial inhabitants of the skin or oral cavity occurs frequently. There seems to be little correlation between the contamination of surgical field and the complications rate. Further measures to improve asepsis, like frequent change of the surgical equipment should be considered in order to avoid potentially dangerous microbial contamination.(1)
(1)WIMC 7th May 2011, 'Determination of contamination of operation field in head and neck oncologial surgery' oral presentation.

Abstract ID: 166

Intraabdominal hypertension in patients after lung tissue resection, treated in the Department of Thoracic Surgery

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Abstract:
Background: In the last decade a significant growth of interest in intra-abdominal pressure (IAP) and abdominal compartment syndrome (ACS) has been observed as causes of increased mortality among patients treated in surgical wards and ICU. Physiologically intra-abdominal pressure does not exceed 5 mmHg. The diagnosis of ACS authorizes the IAP higher than 25 mmHg (according to some authors - 20 mmHg) and at least one of the symptoms, such as oliguria < 0.5 ml/kg/hr., high inspiratory pressure in the airways (peak inspiratory pressure - PIP) > 45 cmH2O, hypoxia, decreased cardiac output (DO2I < 600 mlO2/min/m ^{2}), hypotension, and acidosis. 4-point scale intraabdominal hypertension (IAH): stage 1 (10-15 mmHg), stage 2 (16-20 mmHg), stage 3 (21-25 mmHg), stage 4 (> 25 mmHg) is commonly used.
Methods: The study included 13 patients (5 F, 8 M), mean age 63,2 years (± 8.7), who in the period from January to May 2011 underwent lung tissue resection (lobectomy/ pneumonectomy) due to neoplasmatic changes. Among all patients survey was carried out, in which particular attention was given to: the value of BMI, a history of diseases, previous surgeries, medications, and stimulants. IAP was measured using UnoMeter Abdo-Pressure ™ kit. Measurements were performed every 4 hours starting from the end of surgery to 4 days after surgery (24 measurements). Moreover, based on blood pressure was calculated the value of MAP (Mean Artery Pressure) and APP (Perfusion Abdominal Pressure).
Results: In postoperative period all patients had increased IAP. In measurements, mean IAP was: after the operation- 17.6 mmHg, 1st day- 17.9 mmHg, 2nd day- 19.3 mmHg, 3rd day- 17.9 mmHg, IV day- 17.9 mmHg (mean- 18.3 mmHg). Avg. APP 68.8 mmHg. Conducted survey showed: avg. BMI- 29.4 kg/m2 (mass of 3 patients was within normal limits, 5 were overweight, 5- obese), 8 patients (62%) had hypertension, 4 patients (31%)- were treated for peptic or doudenal ulcer, 3 patients underwent cholecystectomy in the past.
Conclusion: 1. IAP measuring helps to predict the development of ACS and complications which have a significant impact on the prognosis. 2. The largest increase in IAP (at the level of the second degree of IAH) was noted in the 2nd day after lung tissue resection. 3. IAP values were higher in overweight and obese patients. 4. Range of resection did not correlate with the IAP values.

Abstract ID: 214

Polarization Monitoring of Pathological Changed Biological Tissue Hemangiomas

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Abstract:
Background: All actual physical bodies are optically inhomogeneous. Studies of laser radiation scattering in optically inhomogeneous objects are of significant interest for a broad range of problems of contemporary optics. Specific features of formation of coherent fields associated with diffraction on extended non-plane objects with arbitrary statistics (both Gaussian and non-Gaussian) were determined in the scalar approximation. Statistical characteristics were also analyzed (including fluctuation and correlation distributions of amplitude, phase, and intensity of random fields that take into account statistics of phase-inhomogeneous objects). A correlation of a set of statistical moments providing the most complete description of a random object with a low phase variance and corresponding correlation parameters of scattered radiation field were observed and used for diagnostic purposes within the framework of validity of the phase chaotic screen model. The aim of this work was to find a correlation between the polarization structure of objects of biological tissue hemangiomas and orientation-phase structure of their crystalline phase, which would be effective in the diagnosis of pathological lesions.
Methods: For having an objective estimation of biological tissue hemangiomas and blood plasma laser images polarization azimuths [2] coordinate distributions let us use the analysis of the totality of the first orders' statistical moments of their relative values: • Hemangioma (15 samples) – Mean (0,69 0,073); Dispersion (0,12 0,014); Skewness (1,43 0,12); Kurtosis(1,33 0,19); • Blood plazma (15 samples) - Mean (0,18 0,025); Dispersion (0,28 0,034); Skewness (1,14 0,17); Kurtosis(2,13 0,372); • Blood plazma – normal (15 samples) - Mean (0,095 0,01); Dispersion (0,11 0,019); Skewness (0,23 0,035); Kurtosis(1,15 0,21)

Results and Conclusion: 1. Laser polarimetry of blood plasma laser images azimuths coordinate distributions is effective in diagnostics of hemangiomas. 2. The totality of diagnostically urgent properties, determining the interconnection between statistic characteristics of blood plasma laser images azimuths coordinate distributions and human physiological state.

Abstract ID: 222

Singular Structure of Polarization Images of Blood in Diagnostic of Hemangiomas

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Abstract:
Background: In parallel with traditional statistical investigations, formed in recent 10 to 15 years is the new optical approach to describe a structure of polarized inhomogeneous fields in the case of scattered coherent radiation. The main feature of this approach is the analysis of definite polarization states to determine the whole structure of coordinate distributions for azimuths and ellipticities of polarization. The so-called polarization singularities are commonly used as these states: - states with linear polarization when the direction of rotation for the electric field vector is indefinite, the so-called L points; - circularly-polarized states when the azimuth of polarization for the electric field vector is indefinite, the so-called C-points.
Methods and materials: This work is dedicated to an experimental investigation of the coordinate distributions of the polarization singularities of the bile secrets representations for the purpose of a possible usage of such information in the diagnostics of human physiological state As the objects of the investigation there have been used optically thin layers of human blood: • normal – group 1 (37 patterns) – Mean (0,634 0.072); Dispersion (0,198 0,032); Skewness (2,689 0,42); Kurtosis(3,8 0.51); • hemangioma - group 2 (36 patterns) - Mean (0,706 0,012); Dispersion (0,149 0,023); Skewness (21,74 2,17); Kurtosis(46,8 7,37);
Results: It is seen from the obtained data that the statistical distribution of singularly polarized points of a group 1 blood layers representation is close enough towards the normal one, the Skewness values and an Kurtosis of singular distributions are sufficiently low. The values of the statistical moments of Skewness and Kurtosis have being practically increased on one level that indicates upon the abrupt changing in the statistics of the line density dependence of a singular points quantity in the image of the group 2 blood layers. There have been determined the analytical conditions of the formation of a single and doubly degenerated polarization singularities and experimentally researched the statistical characterizations of their coordinative distributions in the bile secrets images representations of a different physiological condition.
Conclusions: It has been shown that the 3-rd (Skewness) and the 4-th (Kurtosis) statistical moments of the linear density of the singular points are the most sensitive towards the optical structure of the blood layers.

Abstract ID: 235

Perforator's incompetence at venous ulcers – comparison of clinical and ultrasonographic results with intraoperative findings

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Abstract:
Background: For development of venous ulcers, the most significant are perforators: Cocket I, II, III, 24 cm perforator, Boyd and Dodd's perforators, which were investigated in this study. The aim of this study was to determine the validity of clinical tests and ultrasonographic results in incompetent perforator detection, compared to intraoperative findings (golden standard) in patients suffering from venous ulcers.
Methods: This retrospective study included sixty patients (23 men and 37 women) with changes in superficial and deep venous system and with venous ulcers classified as C5 and C6 according to CEAP classification. On all patients we performed physical examination using the Trendelenburg's test I and II, Perthes' test, Pratt's test and Color Duplex scanning (CDS US). Statistical analysis included ANOVA, t test, sensitivity and specificity and positive and negative predictive value.
Results: The average age of male patients was 53.3±9.9 years and female patients was 53.9±10.1 years. Mean age of men and women was not significantly different (t=1,386). Dominant symptoms and signs in more than 80% of patients treated for incompetence of perforators were: ulceration, pain, dermatitis, swelling, fatigue when standing. Sensitivity of CDS US in Dodd, Boyd, 24 cm, Cocket III was 100%, and in Cocket II and I was 98%. Specificity was 100% in all perforators. Sensitivity of clinical tests in Dodd, Boyd, 24 cm was 100%, in Cocket III was 94%, in Cocket II was 91% and in Cocket I was 89%. Specificity was 100% for all perforators.
Conclusion: The Color Duplex scanning is highly sensitive and accurate method for preoperative detection of perforator insufficiency. Additionally, because dermathophlebosclerosis and venous ulcerations are primarily caused by incompetence of perforators Cocket I, II and III, usage of CDS US seems to be necessary. On the other hand, clinical tests present a basis for further detection and diagnosis of venous diseases, especially at venosus ulcers classified as C5 and C6 according to CEAP classification. Furthermore, they are cheap and do not require other than clinical examination. Therefore, usage of clinical tests as a screening method for detection terminal state of chronic venous insufficiency is applicable and recommended.

Abstract ID: 242

The Influence of Medical Gauze Bandage Containing Gold Nanoparticles on the Regeneration of Aseptic Wound

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Abstract:
Background: There is a rise of interest to the therapeutic properties of gold nanoparticles in the last time. It links

with their unique electronic, optical, thermal, chemical, biological properties. At the same time up to date it's not clear how gold nanoparticles impact on regenerative ability of aseptic wounds. Aim of the study: the research of influence of medical gauze bandage containing gold nanoparticles aiding the regeneration of aseptic wound.
Material and methods: We used in the study medical gauze bandage containing gold nanoparticles 4-30 nm in size. It was created by impregnation of ordinary medical gauze bandage by organosols of gold, created by a metal vapor synthesis method. Ordinary medical gauze bandage was as a control. For the study of influence of medical gauze bandage containing gold nanoparticles we sewed protective box on the interscapular region of albino rat males under ketamine narcosis. Inside of this protective box it was performed the modeling of aseptic wound (diameter was 1.5 cm) in sterile conditions,. The dressing was carried out every day with the placement of ordinary medical gauze bandage in control group and in experimental group - medical gauze bandage containing gold nanoparticles. The wound area was measured on third, seventh and fourteenth day. During research the requirements of European Convention for the Protection of Vertebrate Animals used for Experimental and Other Scientific Purposes were observed.
Results: The wound area on third day was in control group 167.44 ± 4.85 mm2, in experimental group 155.04 ± 4.49 mm2 ($p=0.069$). On the seventh day wound area decreased to 117.05 ± 10.12 in control and 99.62 ± 6.24 ($p=0.157$) in experimental group. On the fourteenth day it was 51.28 ± 7.61 and 2.00 ± 0.77 ($p<0.001$) accordingly. The wound was healed entirely on the twentieth day in the first group and on the fifteenth in the second one. So, the using of medical gauze bandage containing gold nanoparticles allowed accelerating the wound healing speed in comparison with the ordinary bandage. It apparently connected with the stimulating impact of gold nanoparticles on regeneration processes. Conclusions: Medical gauze bandage containing gold nanoparticles has stimulating influence on the regeneration processes in aseptic wound and it can be used in the form of agents for local wound treatment. At the same time the mechanism of stimulating influence of gold nanoparticles is not established and it needs to carry out further researches.

Abstract ID: 119

The role of the ubiquitin ligase regulator CAND1 in adipogenesis

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Abstract:
Aim: Obesity is one of the most severe modern world diseases and has serious consequences like type II diabetes or cardiovascular problems. The differentiation of preadipocytes to adipocytes called adipogenesis is a precondition of the development of obesity. Understanding the exact mechanisms of adipogenesis could lead to the discovery of new treatments of obesity. The expansion of the fat tissue requires angiogenesis. Recently we have shown that the COP9 signalosome (CSN) is involved in angiogenesis as well as in adipogenesis. The CSN is a highly conserved multiprotein complex which regulates the ubiquitin proteasome system (UPS) by modifying the activity of cullin-RING ubiquitin ligases (CRLs). Another regulator of CRLs and an antagonist of the CSN is Cullin-Associated Nedd8-Dissociated 1 (CAND1) protein. It determines the composition of CRLs and the specificity of the UPS. So far, the role of CAND1 in adipogenesis is unknown and will be studied in this project.
Methods: We are using LiSa-2 cell line as a model system for adipogenesis. LiSa-2 preadipocytes can be differentiated to adipocytes by stimulation with insulin, cortisol and triiodthyronine. During 22 days of differentiation, western blots will be carried out to estimate the protein amounts of CAND1, CSN subunits, components of CRLs, regulators of adipogenesis like PPAR-γ, and CRL-substrates like p27 and c-jun by using specific antibodies. We will knockdown CAND1 in the early stages and study the impact on CRL composition. In particular, we are interested in the incorporation of specific F-box and BTB proteins.
Results: Preliminary data show that CAND1 protein level increases during adipogenesis of LiSa-2 cells. This is accompanied with an increase of CSN subunits and of cullin 3. In HeLa cells we have demonstrated that CAND1 knockdown led to an upregulation of the F-box protein Skp2 which is accompanied with accelerated degradation of p27. On the other hand, F-box proteins Fbxw7 and β-TrCP were not influenced. In LiSa-2 cells we will check the same F-box proteins and selected BTB proteins under condition of CAND1 knockdown.
Conclusion: Our preliminary results confirm our hypothesis that CAND1 has a role in adipogenesis. This supports earlier observations that CAND1 is involved in differentiation processes. At the end of the project we hope to have more insight into the exact function of CAND1 during adipositas.

Abstract ID: 278

Treatment and diagnosis of mediastinal tumors and cysts by video-assisted thoracic surgery (VATS).

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Abstract:
Introduction: Video-assisted thoracic surgery (VATS) is often used to perform total resection of mediastinal tumors. It is an attractive alternative to thoracotomy and operations through cervical or transsternal approaches. There are numerous reports in the literature describing results of thoracoscopic approaches and suggesting that they are as effective as thoracotomy. Aim of the study: We present our own experience in treating mediastinal lesions using videothoracoscopy, we try to assess diagnostic possibilities, and we discuss technique of the procedure and advantages of minimally invasive treatment methods.
Material and methods: A total of 198 patients, including 123 (62%) women and 75 (38%) men were treated for mediastinal lesions in the Department of Thoracic Surgery, Zabrze between 1999 and 2011. Mean age of the patients was 43 years.
Results: Among 160 patients the lesion was located in upper mediastinum, and the most frequent symptoms of tumors within this area were those of myasthenia gravis.

Histopathological examinations revealed: thymus persistens (n=117), thymoma (n=12), thymus recidivans (n=3), atrophia thymi (n=2). Conversion was necessary in 8 cases to left anterior thoracotomy or to classic procedure through sternotomy. Among the group of 25 patients the lesions were detected in posterior mediastinum. Histopathological examinations revealed: mesenchymal cysts (n=6), neurogenic tumors (n=5), leiomyomas (n=2), one lipoma and one esophageal diverticulum. Conversion to thoracotomy was necessary in one case due to numerous adhesions and disintegrating tumor in the preparatory process. Central mediastinal lesions were diagnosed in 13 patients. Histopathological examinations confirmed that cyst-like tumors were prevalent (n=8). Mean duration of the procedure in the whole group was 102 min, mean length of hospital stay after the procedure was 5 days. No deaths were recorded in the study group, while complications were noted in 5 patients. Eleven patients with myasthenia gravis required mechanical ventilation after the procedure. All data were compared by the following statistical methods: statistica 9.0pl, test Manna-Whitney'a, test Anova Post-hoc RiR-Tuckey'a, test chi 2 Persona. In addiction a logistic regression model was used wheras p <0,05 was accepted as statistically significant. Conclusions: VATS is a safe technique, recommended for treating and diagnosing mediastinal tumors or cysts due to s

Abstract ID: 303

Madelung's disease as a particular case of lipomas of maxillofacial region

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Abstract:
Background: Lipomas are the most widespread benign neoplasms of face and neck. They occur as single nodes (lipomas) and diffuse lipomatosis, and develop asymptomatically for a long time, especially if not visually accessible. Symmetric excrescences of adipose tissue chiefly in the neck region, called Madelung's disease, present a special interest. The aim was to find out the common reasons of occurring of Madelung's disease, to show the necessary treatment and to suggest the ideas for prevention.
Methods: During 2007-2010 years 42 patients with lipomas of maxillofacial region were examined and treated in the Kharkiv University clinic of maxillofacial surgery. Among them there were 12 with lipomas localized in the neck region, 26–in the facial region, 4–with annular lipomas (Madelung's disease).
Results: Patients with lipomas of face and neck (single neoplasms) were aged 20-55, mainly female (57,9%), in most cases somatically healthy. All patients with annular lipoma of neck were aged 47-59, male, with hypersthenic body build, alcohol abusers; revealed were subcompensated cardiovascular insufficiency, susceptibility to hypertension, and left ventricular hypertrophy. According to classification of process extension (V.M.Topalo, 1992), in 2 patients lipomatous nodes were related to the 2nd degree (as occupying the anterior surface of neck on both sides), and in the other 2 patients–3d-4th degree (as spreading to anterior chest surface, behind the jugular notch, to posterior neck surface and superior third of back). All patients were surgically treated. By the 2nd degree of extension the lipomatous nodes were extracted simultaneously from a broad collarform incision on the anterior neck surface. By the 3d-4th degree the operation was carried out in three stages with a month intervals between them. Lipomatous excrescences were removed from the anterior neck surface, parotid and occipital regions. Corrective and substitutive treatment was carried out in postoperative period. After a year neither relapse nor intermuscular excrescence were detected. The cosmetic result was satisfactory.
Conclusion: Our observations confirm the data concerning affection by annular lipoma of male mainly, aged more than 40, alcohol abusers. In consideration of concomitant diseases and constitutional features, such patients require correction of life-providing systems. On the assumption of classification of process extension, surgical treatment should be carried out in stages.

Abstract ID: 314

Cardiac myxoma - the influence of surgical technique on late outcome

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Abstract:
Background: Cardiac myxomas are the most frequent primary tumors of the heart in adults, and they can be found in each of four cardiac chambers. Although biologically benign, due to their unfavorable localization, myxomas are considered "functionally malignant" tumors. Diagnosis of cardiac myxoma is indication for cardio surgical treatment. Aim of our research was to analyze the influence of different surgical techniques (left, right, biatrial approach, tumor basis solving) on early, and late outcomes.
Methods: This study involved 30 patients with cardiac myxoma operated from 2003 to 2010, at the Institute for Cardiovascular Diseases, Clinical Centre of Serbia. 10 of them were male (33,3%) and 20 female (66,6%), average age 44,56 years. The diagnosis was made according to clinical presentation, echocardiographic examination and cardiac catheterization. After the surgery average follow-up period was 2,8 years.
Results: In 4 (13,33%) patient's myxoma was localized in the right, while in 26 (86,66%) it was found in left atrium. Average size of myxoma was 4,8 cm. There was no operative mortality, a woman died in 7th postoperative day, and three patients died during distant follow-up. Occurrence of new cardiac arrhythmias was ascertained in 7 patients during the follow. Functional hemodynamic status improved significantly in 12 (40%) patients compared to preoperative period. Statistical analysis showed that there was no worsening of NYHA class. There were no relapses in follow-up period.
Conclusion: Excellent survival rate with significant functional improvement, rare postoperative complications and no relapses, justify the applied strategies of surgical approach and tumor basis solving in our series.

Abstract ID: 317

Endothelial regenerative capacity and angiogenic potential in patients with abdominal aortic aneurysms

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Abstract:
Background: Endothelial regenerative capacity and angiogenic potential are important physiological variables in the pathology of abdominal aortic aneurysm (AAA) disease. These functions are thought to be effected by a variety of putative circulating endothelial progenitor cells (EPCs) and other angiogenic monocyte- and lymphocyte-derived cell populations. EPC levels negatively correlate with total cardiovascular risk but little is known about their role in AAA. Aims: To enumerate putative EPCs and angiogenic monocyte- and lymphocyte-derived cell populations in patients with AAA in comparison with age-matched controls. Due to the ubiquity of atherosclerosis in patients with AAA, we used both healthy and atherosclerotic control groups. Patients and
Methods: Mononuclear cells were isolated from peripheral blood samples taken from patients with AAA (n=32) or peripheral vascular disease (PVD, n=17), and age-matched healthy controls (HC, n=19). Cells of interest were quantified using the Hill endothelial cell-colony forming unit (EC-CFU) assay and by flow cytometry (combinations of CD3, CD14, CD34, CD45, CD115, CD133, KDR, TIE2 and CXCR4).
Results: Compared with HC (6.10 CFU/well) and PVD patients (3.72 CFU/well), AAA patients had lower levels of EC-CFU (1.80 CFU/well) (AAA vs HC p=0.0047) and CD14+/CD45+/KDR+/TIE2+ cells (AAA vs HC p=0.0025). These cells do not have the capacity to form neovessels but have been correlated with cardiovascular risk factors and clinical events. As a percentage of all live cells, levels of CD34+ cells (0.058% vs 0.020%; p=0.0022) and CD34+/CD45– cells (0.980% vs 0.439%, p=0.0052) were higher in AAA than in HC. Although rare in the circulation these cells are capable of forming vessel-like tubules in vivo. Conclusions: Consistent with the presence of multiple cardiovascular risk factors, AAA patients had lower levels of EC-CFU and angiogenic monocytes. However, AAA was associated with higher levels of CD34+/CD45– cells, which may contribute to neovascularisation, a process central to the pathophysiology of aneurysm formation.

Abstract ID: 319

Treatment of isolated traumatic splenic injuries in children

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Abstract:
Introduction: The percentage of abdominal cavity organs trauma in children is 20% of all traumatic injuries, among them occurrence of traumatic splenic injuries (TSI) is 30-50%. Until recently the only effective radical method of treatment children with TSI was spleenectomy. The rate of postsplenectomic complications was 15-20%, 50% of them were pyo-septic. (Williams M.D., 2005; Potoka D.A., 2002). The aim of the study was to evaluate our experience in the management of isolated splenic injuries in children and to identify factors that could influence surgical intervention outcome.
Methods: To the investigation were included 115 children with TSI. The causes of splenic injuries were: traffic accidents (n=62 (53,91%)), fall from a height (n=25 (21,74%)), home accidents (concussions and hits) (n=14 (12,17%)), accidents during sport games (n=12 (10,44%)), stab and incised wounds (n=2 (1,74%)). During the hospitalization, to all traumatized children has been applied a full complex of physical and instrumental examination.
Results: 23 patients were managed conservatively by traditional haemostatic therapy, which included inhibitors of fibrinolysis (e.g. Dicynone). If standard conservative methodic didn't produced positive results, it has been combined (in 33 patients) with pharmacotherapy, focused on reducing portal venous pressure – vasoconstrictor Somatostatin or its synthetic analog Octreotide were prescribed. In 2 cases Desmopressin additionally has been used. Splenectomy was performed in 9 children. In 43 patients, if there was no possibility to preserve the spleen, its tissues were transplanted to the epiploon after splenectomy. Among the other organ-preserving operations, the atypical resection of spleen has been performed in 3 patients. The splenorrhaphy has been performed in 2 patients suffering the spleen's upper pole and middle segment's parenchyma rupture. In different cases it has been performed with either teflon gasket or omental graft. In the distant period in 39,13% children perfect results of treatment were achieved, in 33,91% - good, in 2,61% - unsatisfactory.
Conclusions: Non operative treatment can be adopted in majority of children with isolated I-III grade splenic injuries. Surgical intervention should be required for the IV-V grade splenic injuries or when patients are haemodynamically unstable.

Abstract ID: 358

Breast Cancer Sentinel Lymph Node Mapping Near Infrared Guided Indocyanine Green and Indocyanine Green Human Serum Albumin in Comparison with Gamma Emitting Radioactive Colloid Tracer

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Abstract:
Background: Sentinel lymph node biopsy (SLNB) is an effective aid in assessing the stage of breast cancer patients. Recently, a novel method of using near infrared (NIR) guided indocyanine green (ICG) and ICG conjugated with human serum albumin (ICG:HSA) for SLNB has shown true potential. The aim of this study was to compare the usefulness of ICG and ICG:HSA against the current standard method of using gamma ray emitting radioactive colloids (RC).

Methods: 49 breast cancer patients underwent SLNB procedure using RC tracer. From this group, 28 patients were compared against ICG, while the remaining 21 patients were compared against ICG:HSA. In all patients, the number of visible fluorescent path and the number of sentinel lymph nodes (SLNs) stained with both fluorophores and RC were noted. Clinical and pathological comparison were also performed.
Results: Real time lymphatic flow using NIR guided method was observed in 47 of 49 patients (96%). All but in one case, SLNs detected by RC tracer were also detected by its respective NIR fluorophore. Additionally, ICG detected 10 additional SLNs in 8 patients while ICG:HSA detected 3 additional SLNs in 3 patients. Statistical analysis revealed no difference between the number of SLNs detected between ICG versus ICG:HSA and RC versus ICG:HSA. However, a significant statistical difference was observed between RC and ICG as well as between combined NIR guided method and RC method. Conclusions: SLNB using NIR guided ICG or ICG:HSA seems to be an effective alternative. Comparing with RC, ICG:HSA seems to be a better alternative than ICG alone.

Abstract ID: 445

Gilmore hernia: a new technique for repair

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Discipline: Surgery

Abstract:
Gilmore hernia: a new technique for repair Background. Gilmore hernia (GH) was first described in 1980 by the British surgeon Jerry Gilmore as chronic pain in the groin area, which emerges in sportsmen as a result of dilated superficial inguinal ring (SIR) caused by a specific physical exertion. The high rate of misdiagnosed and recurrent GH after different type of herniorrhaphy suggests its systematic search. Purpose: Here, we present a new open operation for GH. Methods. From 2008 to 2011, we treated 10 patients with GH by using a new open operation. After subcutaneous infiltration with diluted epinephrine solution, the skin and hypodermic tissue were dissected. The structure of the anterior wall of the inguinal canal was carefully examined, upon which in all the cases linear inter-tissue ruptures of the aponeurosis of m.obliquus externus abdominis (3.5-4.8 cm long and up to 2.5 cm wide; connected with the SIR in 3 cases) were verified, with n. Ilioinguinalis entrapment (to the edge of the disrupted aponeurosis) and its displacement to the lateral angle of rupture. Behind the rupture line, the anterior wall of the inguinal canal was dissected from the SIR to the point located 1 cm away laterally from the outer edge of the rupture. Upon typical mobilization of both parts of the aponeurosis and verification of n. Ilioinguinalis, it was carefully sharply separated from the cicatrical adhesions all the way along within the range of the inguinal canal. The dissected nerve was displaced beyond the inguinal canal through the artificial aperture (3 mm) in the lateral segment of the lower edge of the aponeurosis and placed tension-free between the aponeurosis and hypodermic tissue. Thereupon, the integrity of the aponeurosis of m.obliquus externus abdominis (in two cases edge-to-edge, in five cases with duplicate formation, including one case of alloplastic strengthening of the anterior wall of the inguinal canal) was restored and then SIR was formed. The hypodermic tissue and skin were stitched layer-by-layer using atraumatic sutures. Results. No surgical or post-operative complications were observed. The post-operative course ran smoothly. In the very first day after the surgery all patients reported the eliminated pain syndrome and extended range of pain-free movements. In all the patients, the wounds healed by primary intention. As a result, subject to the adequate rehabilitation, permanent clinical effect was achieved, which allowed resuming active

Abstract ID: 487

Antibiotic-associated colitis (AAC) as a new problem of innovative surgery

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Abstract:
Background: Antibiotic-associated colitis (pseudomembranous colitis) as a complication of therapy manifests by symptoms of acute abdominal pathology with difficulties of diagnostics and treatment.
Methods: Retrospectively and prospectively 24 AAC cases were studied in Lviv emergency hospital during 5 years. The informativity of ultrasonography was estimated according to the diagnostics of edema of the colon wall and intraabdominal fluid.
Results: Patients received treatment in five different departments from acute appendicitis (16,7%), acute pancreatitis (12,5%), polytrauma (12,5%), pneumonia (12,5%), malignant tumors (12,5%), hemorrhagic stroke (8,4%), urological diseases (8,4%), colitis (8,4%), acute cholecystitis (4,2%) and subdural empiema (4,2%). Surgical diseases prevailed (66,7 %), in 15 (62,5 %) patients AAC developed in postoperative period (up to 30 days), that stipulated diagnostic and treatment difficulties. First symptoms of AAC manifested from two to three weeks after administration of antibiotics. Initial antibiotics were: cephalosporines (41,6 %), fluoroquinolones (41,6%), ß-lactame antibiotic (16,7%). The clinical manifestations of AAC were diarrhea (up to 15 times a day), pseudoperitonitis and general intoxication. According to the course of disease and conventional criteria patients were stratified into mild (16,7 %), moderate (41,7%) and severe (41,7%). Diagnose was based on clinical data and the results of ultrasonography (95,8%). Additional diagnostic methods were used in complicated cases: fibrocolonoscopy (29,2%), laparoscopy (12,5%), computed tomography and contrast study of the colon (4,2%). We analyzed 14 clinical cases that showed high diagnostic efficiency of ultrasonography. All of them (100 %) showed large (up to 5 times) colonic wall thickening of the whole colon (85,7 %) or some parts of it (14,3%) up to 17 mm (M ± SD = 8,4 ± 3,3 mm) and presence of exudates (64,3%) in the abdominal cavity. Generally 4(16,7%) patients had manifestation of peritonitis. Diagnostic laparoscopy (3) and laparotomy (1) were done for them. Initial therapy of AAC included enteral use of methronidasole (87,5%) or vancomicini (12,5%) up to two weeks. Conclusions: 1) AntiAntibiotic-associated colitis is a potential complication of the antibiotic therapy in patients of different departments;2) Ultrasonography is an informative method in diagnostic of

AAC, it was especiallespecially effective in postoperative period and in sever

Abstract ID: 494

Follow-up after Bentall operation

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Abstract:
Background: The Bentall operation is a type of open heart surgery for patients who have lesions of the ascending aorta associated with aortic valve disease. The procedure is concerned with composite graft replacement of the aortic valve, aortic root and ascending aorta, with re-implantation of the coronary arteries into the graft. The research was carried out to determine the mortality and to evaluate associated risk factors after Bentall procedure.
Methods: The study included 159 consecutive patients hospitalized between 01.2005 and 11.2010. in first Department of Cardiac Surgery – Silesian Medical University in Katowice. Age of study group was 56.2±12.2 years and 75% of them where male. In the group of 159 patients 52% suffered from acute aortic dissection and 48% from aneurysm of the ascending aorta. 54% patients with acute aortic dissection were in class I and 46% were in class II according to De Bakey classification. Descriptive variables are presented as means and standard deviations. Patients were compared with $\chi 2$ test. Follow-up was obtained from 70% of patients for an average of 36 months (range 12-60 months).
Results: Average hospitalization time was 12±10.6 days. 66% patients suffered from artery hypertension, 42% from coronary heart disease, 25% from bicuspid aortic valve, 7% from diabetes, 10% from hypercholesterolemia, 23% from atrial fibrillation, 22% from obesity, 22% from nicotine dependency. 4.4% of patients were after myocardial infarction, 5% were after revascularization procedure. 21% of patients underwent CABG and Bentall surgery at the same time. The mortality was 28% in group with acute aortic dissection and 9% in group with aneurysm of the ascending aorta. The research shows that simultaneous revascularisation procedure (OR=2.35; p=0.0362) appears to be main cause of high mortality also age above 65 years is important risk factor (OR=2.5; p=0.0172).
Conclusions: Early mortality is significant however the long-term survival outcomes are good.

Abstract ID: 480

Perineural invasion in colon cancer: prognostic significance and correlation with aggressive behavior

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Abstract:
Background: Perineural invasion (PNI) is associated with poor outcome in several malignancies and can be observed in the absence of lymphatic or vascular invasion. PNI has gained increasing recognition as a potential predictor of survival in large bowel malignancies, however only few studies assess its significance in colon and rectum cancers separately. The goal of this study was to evaluate PNI as a potential prognostic factor in colon cancer and to assess its correlation with aggressive tumor phenotype.
Methods: We reviewed the records of 183 consecutive patients with colon cancer resected at our institution. Overall survival was determined using the Kaplan-Meier method and the prognostic significance of PNI and other eight candidate variables was evaluated using the Cox proportional hazards model. The association of PNI with various histopathologic characteristics was assessed using the Fisher's exact test.
Results: PNI was identified in 39% of the tumors. The overall 5-year survival rate was 60% in PNI-negative tumors and 35% in PNI-positive tumors ($p<0.001$). On multivariate analysis, PNI (HR=1.8) was an independent prognostic factor for survival. It was observed in 11.5% of cases with node-negative disease (stage I and II) and in 22% of the cases with absent vascular invasion. PNI was correlated with advanced tumor stage ($p<0.001$), incomplete resection ($p=0.03$) and presence of vascular invasion ($p<0.001$).
Conclusion: PNI is an independent prognostic factor in colon cancer and should be considered when stratifying patients for adjuvant treatment. The neoplastic invasion of the nerves is also significantly associated with established histopathologic variables indicative of aggressive tumor behavior.

Abstract ID: 532

Antiapoptotic and protective effect of tetramethylpyrazine during the ischemic - reperfusion injury of small intestine

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Abstract:
Introduction: Tetramethylpyrazine (TMP) is a biologically active alkaloid isolated in 1957 from the traditional Chinese herbal medicine, which has long been used in traditional medicine. Its pharmacological actions include vasodilatation, inhibition of platelet aggregation and strong antioxidant effect. According to some studies it has also a promising protective and antiapoptotic effect on the neural and renal tissue. The aim of the present study was prove the protective effect of this drug on the small intestine in the ischemic-reperfusion (IR) model. Prove its antiapoptotic effect and display its possible application as a preconditioning therapy in the abdominal but also transplantation surgery.
Methods: In the experiment, Wistar rats (n =108) with weight 280+/-30g were used. The rats were divided into control group K (n = 12) and 8 experimental groups (each n=12): IR0, IR1,IR12, IR24 and A0, A1, A12, A24. Groups (A) received 30 min. before the ischemic attack 30mg/kg of TMP into the inferior vena cava. Groups (I) received equivalent dosage of the saline solution. All experimental groups underwent 1-hour ischemia of the cranial mesenteric artery followed by 0, 1,12, 24 hours of reperfusion. Histopathological injury index (HII) was

scored after Hematoxylin-eosin staining using Park/Chiu scoring system (0-8).Goblets cells were detected after Alcian blue staning. For quantification of the apoptosis were used TUNEL and caspase-3 antibodies. For determination of the functional state it was obtained bioptic samples of intestine and determined sucrase and maltase activities and their changes in the epithelium.
Results: Results of our experimental work suggest that TMP treatment could have positive impact to small intestine ischemic-reperfusion injury. Protective effect scored by HII was the most significant in the A1 group- 75% lower damage. The antiapoptotic effect was proved in all A groups, approximately 32-54% lower values. Protecting effect to enterocytar enzymatic activities was also proved and it was about 30-40%. Conclusions: These results demonstrate that TMP has the protective effect on the small intestine, which suggest that TMP could act as an agent for pharmacological intervention during the ischemic-reperfusion injury of intestine. Supported by the grants APVV-0252-07 and VEGA 1/0369/09.

Abstract ID: 541

Evaluating Human Adipose Tissue As A Source Of Endothelial Progenitor Cells

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Abstract:
Background: Endothelial progenitor cells (EPCs) are a circulating, bone-marrow derived cell population which appears to play a pivotal role in the vasculogenesis of ischaemic tissue; a function which presents a potential clinical benefit in improving wound healing and re-vascularisation of autologous and synthetic tissue implants in reconstructive surgery. To date, successful isolation of EPCs has only occurred from human peripheral blood whilst adipose tissue is under investigation as a potential source of EPCs. This study examines the potential of adipose tissue and lipoaspirate as sources of EPCs both through (1) direct isolation and (2) by means of differentiation.
Methods: (1) Adipose derived stem cells (ADSCs) were isolated from donor adipose tissue and LA and were subjected to a density centrifugation step (Ficoll-paque). The resultant cell population was cultured in endothelial cell based medium (containing VEGF and other factors) and characterised using Immunofluorescence and MACS analysis. (2) ADSCs were isolated from donor adipose tissue and LA. Adipogenic and endothelial differentiation was promoted by culture in a selection of various differentiation media. Cell populations were characterised using Oil-Red-O and Immunofluorescence. LA derived ADSCs were also mounted onto CultiSpher-GTM microbeads, a model synthetic implant.
Results: We have shown that ADSCs can be isolated from both solid adipose tissue and LA with little difficulty. (1) Density centrifugation from both sources resulted in a homogenous cell population with a spindle shaped, fusiform morphology. vWF staining showed no areas of immunofluorescence suggesting no EPCs were present in this population (2) Differentiation experiments showed ADSCs from adipose tissue and LA successfully differentiate into adipocytes. As proved by their uptake of Oil-Red-O. These cells are also viable for culture on micro carrier beads.. vWF staining of EPC differentiation experiments successfully demonstrated discrete areas of vWF expression suggesting small quantities of EPCs may be present in the ADSC population after isolation. Conclusions: Adipose tissue and LA represent a readily available source of multipotent adult stem cell for use in regenerative and reconstructive medicine. ADSCs can be isolated with little difficulty and our results suggest these cells can be selectively differentiated into two functionally distinct lineages: adipocyte and EPCs; cells with vast potential for clinic

Abstract ID: 549

Evaluation of using platelets riched plasma (PRP) in rhinoseptoplastic surgery

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Abstract:
Background: Rhinoseptoplastic surgery takes leading position in the surgical treatment of otorhinolaryngologic pathology (Tsarapkyn G., Turovsky A.,2010). Platelet-rich plasma (PRP) is blood plasma that has been enriched with platelets. (Ferreira CF, 2005; J. Wolf, 2009). In PRP concentration of platelets is in several times higher than normal. PRP used for hemostasis, to accelerate tissue regeneration, for reducing scar formation, and as local antiseptics. The objective of this study was to evaluate the local use of PRP in rhinoseptoplastic surgery.
Methods: We have operated on 30 patients (10 of them were with drawing on the verge of skin and mucous, 10- with drawing on the mucous and 10 with drawing on the verge of skin as a control group according from where the first incision was cut). Among them were 18 men and 12 women. Age ranged from 18 to 51 years. Patients with coagulopathy and thrombocytopenia were not included in the study. PRP was prepared from venous blood of the patient after intake of cubital vein using a two-stage centrifugation. We took 10 ml of blood immediately before surgery and placed in a special tube with 1 ml of sodium citrate. We centrifuged blood 5 minutes at a speed of 1500 rpm. All erythrocytes and leukocytes from the whole blood were deleted. Then we centrifuged this balance of blood 20 minutes at a speed of 3000 rpm. Immediately prior to use it, we with a help of sterile tweezers took a received clot from test-tube, which we put on intraoperative incision.
Results: PRP, that was used intraoperatively locally, stimulates the regeneration of tissue in the postoperative period and reduces rehabilitation. Due to its use on the verge of mucosal and skin postoperative period decreased in comparison with the group of mucous incision and the group of skin incision. The incidence of early and late postoperative bleeding after using the PRP in the study groups was not observed. Conclusions: PRP used locally in surgical interventions in the nasal cavity is safe (there were no risk of contracting infectious diseases or of any allergic reactions) and is a less invasive procedure. Using PRP – is an effective way to stimulate tissue regeneration and to prevent the bleeding in early and late postoperative period.

Abstract ID: 593

Role of cellular and tissue transplants in complex treatment of acute necrotising pancreatitis

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Abstract:
Background. Actuality of the study is based on a high lethality outcomes (30-60%) and incapacitating complications after the treatment of acute pancreatitis. The aim of the research is to increase efficiency of the complex treatment of patients with pancreonecrosis by systemic and local stimulating of the reparative regeneration using the cord stem cells (CSC) and local transplantation of the cryopreserved cord tissue (CCT). Methods. The cellular and tissue technologies in complex treatment of acute necrotizing pancreatitis was applied in 19 cases compared to 35 controls without ones. Proteolytic activities of the blood plasma, general and local unspecific reactivity were assessed in all patients. US-guided fine-needle biopsy of pancreatic and parapancreatic cysts (PPC) and their pigtail draining was performed by indications. Indications for the open surgery were: free located necrotic caries in pancreas or parapancreatic tissue, increased values of procalcitonin test (>2 ng/ml) and C-reactive protein (>192 mg/ml) without downward trend. Indications for applying the cellular and tissue therapy was increasing the local connective tissue and decreasing of the tissue immunity. The cord blood samples were cryopreserved in cryobank (-196ºC). CSC suspension diluted in physiological solution (1:1) was administered intravenously slowly from the 2-3 day after the draining or surgery during the 3-5 days. Results. Mean in-hospital stay in the control group was 30,2±2,9 days, in the main group - 24,5±3,5 days. Complication developing rate in the control group was 48.1 %, in the main group – 24.7%. There were no transplant rejection nor anaphylactic reactions. In the main group the permanent cure rate increased in 1.65 ($p<0.05$) at the first stage without the open surgery applying. Inpatient stay duration decreased in 1.47 ($p<0.05$) compared to the control group. The open surgery stage was delayed and it gave an opportunity for a more successful surgery. Mortality rate in the main group was lesser in 2.06 ($p<0.05$), postoperative staying was lesser in 1.83 ($p<0.05$) times. Transplantation of the CSC and CCT stimulated the reparative processes in a connective tissue, decreased development of postnecrotic PPC in 4.8 ($p<0.05$) and fistulas formation in 3.12 times (ð<0.01). Conclusion. Administering of the CSC and local transplantation of CCT is safely and effective method which decrease the rate of postoperative complications in the complex treatment of pancreonec

Abstract ID: 690

Botulinum toxin injection for the treatment of chronic constipation in children (A Randomized Clinical Trial)

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Abstract:
Introduction: Constipation is a common problem in children, accounts for about 25% of a pediatric gastroenterologist's work and is one of the 10 most common problems seen by general pediatricians, and when it becomes chronic fecal impaction, overflow soiling and megarectum may develop. Children with chronic idiopathic constipation (IC) may not respond to conventional treatments of laxatives, enemas, and toilet training . However, a number of surgical options may be considered when medical treatment fails. Myectomy of the internal anal sphincter (IAS) has been performed on some children after failure of medical treatment to treat idiopathic constipation. Botulinum toxin is a new therapeutic agent in the treatment of chronic idiopathic constipation in children and less invasive than myectomy of the internal anal sphincter (IAS). The aims of the study were to evaluate the outcome of injection of botulinum toxin into the internal anal sphincter (IAS) for treatment of chronic idiopathic constipation and to assess the symptoms with control group.
Methods: This was a randomized control trial (RCT). Patients were included in the study if they had failed to respond to laxative treatment for chronic idiopathic constipation and pediatricians referred the patients to the pediatric surgeons,for further management of chronic idiopathic constipation. All study patients at first step must had normal perineal examination, normal anorectal manometery and normal barium enema.then under generalized anesthesia 160 unit botulinum toxin injected into the internal and external anal sphincter and patients followed up for two years.
Results: eighty children were recruited and 40 were randomized to the botulinum group and 40 were randomized to the control group. There were significant improvements in symptoms of constipation: soiling, pain and difficulty with defecation, delay in defecation, hard stool and reduce impacted stool, general health and behavior, and fecal impaction of rectum.

Abstract ID: 716

Minimally invasive surgery in the treatment of biliary tract lithiasis

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Abstract:
Background: Minimally invasive surgery in the treatment of biliary tract lithiasis, or laparoscopic cholecystectomy, based on the classic surgical principles with new technology solutions, includes planned and emergency surgery. Evaluation the frequency of laparoscopic cholecystectomy (LC) compared to conventional (OC), length

of hospital stay and cost-benefit procedures, as well as the distribution of patients according to sex and age structure, in our material.
Methods: This retrospective analysis included 618 patients, with the diagnosis of biliary tract lithiasis, male and female, age over 18 years old, who were hospitalized and treated at the Clinics for Abdominal, Endocrine and Transplantation Surgery at the Clinical Center of Vojvodina, in the period from 01.01. to 31.12.2010. Laparoscopic cholecystectomy was performed in all patients who were scheduled for elective surgery, unless they didn`t want this approach. In emergency operations, the selection of approach was on the treating surgeon, with the consent of the patient.
Results: Results show a higher frequency of LC-367 (59%) compared to OC-251 (41%). Length of hospital stay for patients operated LC is significantly shorter and is 2 days, while the OC is 7days, which is statistically significant ($p < 0.05$). Cost-benefit procedures LC compared to OC, shows a high level of statistical significance ($p < 0.005$). LC frequency is higher in women 71%, and represents a statistically significant difference ($p < 0.05$). The patients are from the same age group, which means that there are no restrictions on the age structure of patients.
Conclusion: Length of hospital stay LC is significantly shorter and allows faster return normal life activities, average of 7 days. Laparoscopic cholecystectomy represents effective and economical way to treatment of biliary tract lithiasis

Sessions: Unspecified

Abstract ID: 210

The results of thoracoscopical method of epicardial electrode implantation in Left ventricle (Experimental research)

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Abstract:
Purpose: To develop the thoracoscopical method of epicardial electrode implantation in LV. Materials: The work is executed in 2005-2010 in the Scientific Centre of cardiovascular surgery after Bakulev, Russian Academy of Medicine Sciences, on dogs (n=13) with weight in 20-30kg. The operations were carried out in the conditions of artificial ventilation of the lungs and total intravenous anaesthesia. The standard 5-mm laparoscopical reusable tool, 300_10-mm optics and video complex of firm «Storz» were used in this work. Criteria of operation efficiency and safety: duration of operation and Artificial ventilation of the lungs in a after operating period, volume of blood loss, number and character of surgical complications, adequacy of ECS rhythm imposing.
Methods: Electrocardiogram, invasion arterial pressure, pulsioxymetry, thoracoscopy.
Results: The operations were conducted from the 4 port left-side thoracoscopy, thus the I and II port were disposed in 4-5 intercostals, the III port - in 6 intercostals,, the IV port – in 5 intercostals,. The section of a pericardium was conducted from an aorta to the apex of LV, 2-cm lateral from the left diaphragmatic nerve. Stabilizing of LV was arrived by two 5-mm laparoscopic tampon-holders. The head of an active epicardial electrode (IV port) was brought to the intervascular wall of LV, where was fixed between tampon-holders to myocardium of LV by twisting in the wall of LV on 2,5 turn clockwise. Then the head of electrode was additionally fixed to LV by two interrupted sutures with the help of 5-mm laparoscopic needle- holder. The distal end of electrode was taken outside from a breast (I port) and further was conducted hypodermically in the left pectoral area with the help of a vascular clip, where was connected to ECS. At imposing of an artificial rhythm from ECS, the sensitiveness of a ventricular electrode was 4,3mV, and a stimulation threshold - 0,5V /0,3ms. The operation duration was 40-45min, artificial ventilation of the lungs duration in after operating period -30min, and there were not any bleeding and surgical complications.
Conclusion: Thoracoscopical implantation of epicardial electrode in LV is possible, safe and there are no any surgical complications. The procedure can be conducted for realignment therapy to the patients with chronic heart failure with blockade of right bundle branch block, when implantation of an endocardial.

Abstract ID: 387

In vitro and in vivo comparison of 18-F-labelled ML-10 with 68-Ga-Cys2-AnxA5 for molecular imaging of apoptosis

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Abstract:
Background: Recently, 18F-ML-10 was introduced as a promising PET tracer for imaging of apoptosis. In this study we compared 18F-labelled ML-10 to a 68Ga-labelled AnxA5 and evaluated them as apoptosis tracers in several distinct models. In vivo imaging of apoptosis allows visualising and monitoring regions with a high degree of apoptotic cell death, as for example in cardiac and brain infarcts. Imaging of apoptosis can also be useful in oncology, as an early follow-up of cancer treatment could be achieved by measuring the amount of programmed cell death in the tumour.
Methods: A protocol for the radiosynthesis of 18F-ML-10 was developed. In vitro cell binding of the radiopharmaceuticals was studied in control, anti-Fas mAb treated and necrotic Jurkat cells, as well as in a model for plasma membrane depolarisation (PMD). In vivo stability and biodistribution were studied in healthy mice. Dynamic μPET imaging of apoptosis was evaluated in anti-Fas treated mice and mice with muscular apoptosis.
Results: Both radiotracers were able to detect apoptosis in vitro although 18F-ML-10 uptake values were very low compared to 68Ga-Cys2-AnxA5. Only 18F-ML-10 showed uptake in PMD cells. In vivo 18F-ML-10 and 68Ga-Cys2-AnxA5 were both stable. The biodistribution data indicated a fast urinary clearance with only minor hepatobillary clearance for both tracers, although a high retention in the kidneys was observed for 68Ga-Cys2-AnxA5. Both tracers showed a 3-4 times higher uptake in apoptotic muscular tissue in comparison with healthy

muscular tissue. Animals with hepatic apoptosis showed an increased liver uptake which was most pronounced for 18F-ML-10. However, for 18F-ML-10, an increase was observed in almost all organs.
Conclusion: Unlike 68-Ga-Cys2-AnxA5, the uptake of radiolabelled 18F-ML-10 was driven by PMD and showed much lower uptake values in apoptotic cells in vitro. 18-F-ML-10 showed a more favourable biodistribution profile compared to 68-Ga-Cys2-AnxA5. Both radiotracers were able to detect apoptosis in vitro and in both animal models of apoptosis. In comparison, 18F-ML-10 has the lowest background activity, however it also shows lower target uptake as compared to 68Ga-Cys2-AnxA5. In conclusion, this study showed the strength and weaknesses of 68Ga-Cys2-AnxA5 and 18F-ML-10 and demonstrated their potential applications for imaging apoptosis in infarct, stroke and/or tumour tissue.

Abstract ID: 408

Multipotent Stem Cells: Regenerative Abilities and Therapeutic Significance

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Abstract:
Background: With the discovery of multipotent stem cells, regenerative medicine has taken to new heights with the aim of providing therapeutic use of stem cells to cure certain genetic and incurable diseases and unexpected life traumas. The aim therefore is to harness the work these cells naturally do, so they can treat other conditions they are not necessarily designed to heal. Objective: The objective of this study is to determine the therapeutic use of multipotent stem cells, its effectiveness and the extent of its regenerative abilities.
Methods: This involved scientists being able to grow stem cells in the lab for an extended period of time, manipulate their genes, and growing colonies of identical cells after they had been genetically modified. Using their best-performing methods they found that the best polymers for growth contained a high percentage of acrylates, a common ingredient in plastics, and were coated with a protein called vitronectin, which encourages cells to attach to surfaces. The researchers got the stem cells (both embryonic and induced pluripotent ones) to continue growing and dividing for up to three months. They were also able to generate large quantities of cells i.e in millions.
Results: Using stem cells from umbilical cord blood, 100 kids with chronic blood-related diseases such as sickle cell disease, thalassemia, and leukemia, through their sibling donor cord blood transplantation program, which began in 1997. Also treating cerebral palsy with cord blood stem cells may repair the injured parts of the brain by replacing damaged cells with healthy ones. Disease improvement has been observed in 30 patients in a recent study. Researchers at the University of Florida studied young children (aged 2 to 7 years) with type 1 diabetes, each of whom had cord blood banked at birth. The children received transplants using their own stem cells. Results for the first 6 months post transplant showed that the children's blood sugar levels were better controlled, and they required lower insulin doses each day.
Conclusion: From trails and research it is evident that multipotent stem cells may have a significant role in their therapeutic use in regenerative medicine.

Abstract ID: 427

Fallacies in describing supinated, midprone and pronated forearm in various positions of the shoulder joint

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Abstract:
Background: Now days, Anatomy is ruled over by Molecular biology and the Classical Descriptive Anatomy has taken a back seat. I would be discussing about a very basic concept in Descriptive Anatomy,being misunderstood for 100's of years. It is a common practice to label forearm as supinated, pronated or midprone depending upon whether the palm is facing up, down or towards the body respectively without considering position of the shoulder joint. Various radiological examinations like CT/ MRI of the forearm often involve putting the arm in different positions like overhead abduction etc. which makes forearm to appear differently though it remains fixed in same rotational alignment.The aim is to correctly define the position of forearm in various positions of the shoulder joint.
Methods: Forearm of 10 normal volunteers was examined in 3 commonly used radiographic positions with shoulder in neutral position, forward flexion and in overhead abduction. A clinical test was evolved to identify correct rotation of the forearm by assessing the plane and direction of flexion-extension movements of both wrist and the elbow joint. The radiological examination of the forearm was also done in coronal plane to confirm correctness of the clinical test.
Results: Forearm when in supination or pronation, showed plane of flexion-extension movements of both wrist and elbow joints to be the same while these were at right angles to each other in midprone position. The direction of flexion-extension movements of both wrist and elbow joints was same in supination while it was seen in the opposite direction to each other in pronation. Radiological examination revealed radius and ulna to lie parallel to each other in supination while radius was seen crossing over the ulna in pronation.
Conclusion: Clinical and radiological correlation demonstrated that many of the described rotated positions of the forearm in renowned journals and text-books have been identified incorrectly. For e.g. forearm in a prone subject in the overhead abducted shoulder position with the thumb pointing up and the palm facing medially was found to be supinated though it is described to be midprone. Many studies have evaluated the effect of forearm rotation on TFCC,ulnar variance etc. Similarly it is imperative for any radiographic study to have a detailed and accurate description of the position of the forearm for correct interpretation of the results and valid comparison of its data with

Abstract ID: 424

Altering functional low density lipoprotein activity by RNAi-mediated targeting of the HMG CoA Reductase Pathway.

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Abstract:
Background: The Low Density Lipoprotein Receptor (LDLR) mediates low density lipoprotein (LDL) sequestration to form the major route for uptake of extracellular cholesterol. LDLR loss-of-function mutations result in familial hypercholesterolaemia, for which heterozygotes can be treated with statin therapy, with partial success. Cellular LDLR expression is under the control of sterol response elements, which are activated by sterol response element binding protein when cellular cholesterol levels are decreased. Objectives: This project investigates a novel strategy to increase LDLR expression by using siRNA technology to knock-down expression of HMG CoA reductase (HMGCR), the rate-limiting enzyme in de novo cellular cholesterol synthesis.
Methods: Hepatocyte cells were transfected with validated siRNA targeting exon 5 of HMGCR. Knockdown of HMGCR was assessed by Western blot. Downstream effects of knockdown on transcription of LDLR are investigated in two ways: firstly by transfection of a plasmid containing the human genomic LDLR promoter locus and luciferase reporter gene, and secondly with a fluorescently labelled LDL homologue (DiI-LDL) analysis of endogenous LDLR activity post-siRNA transfection.
Results: A 69% knockdown of HMGCR was demonstrated by siRNA transfection. DiI-LDL binding was increased more than twofold by HMGCR knockdown by comparison with binding in a scrambled-siRNA transfected control. Knock-down is shown to increase functional LDLR activity, which may be attributed to an increased LDLR expression in response to decreased de novo cholesterol synthesis.
Conclusion: These results indicate that targeted knockdown of HMGCR could be a potential novel gene therapy for the treatment of hypercholesterolaemia. There already exists the technology for liver-directed siRNA delivery, which could be used to implement HMGCR knock-down in vivo. There is also scope to develop siRNA therapy in conjunction with other LDLR-replacement strategies currently under development as treatments for FH.

Abstract ID: 496

Determination of the effects of Silymarin on mitochondria of hepatocellular carcinoma cells

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Abstract:
Background: Silymarin, a flavolignan from milk thistle, is utilized against several liver pathologic situations in both clinical and experimental conditions. It has an interaction with mitochondria in apoptotic period and alters mitochondrial membrane potential. As a result proapoptotic proteins are released from mitochondria. In this study, we aimed to observe silymarin induced mitochondrial changes in hepatocellular carcinoma cells by electron microscopy.
Method: HepG2 hepatocellular carcinoma cells will be maintained in an incubator with 5% CO2, 95% moisture, and 37 °C. 300 ng/mL silymarin will be applied to cells in 72 h time period. Mitochondrial changes will be determined by electron microscopy.
Results and conclusions: Previously, apoptotic effects of silymarin on HepG2 cells have been demonstrated. Determination of possible effects of silymarin on mitochondrial structure during apoptosis will give supportive information to enlighten mechanisms of silymarin induced cell death.

Abstract ID: 555

Neurotrophins and their receptors influence the regeneration of a nervous tissue after multiorgan injury caused by gamma irradiation

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Abstract:
Background: The neurotrophins (NTs) are a group of low molecular weight proteins, which belong to a family of growth factors. They are synthesized mainly in a nervous tissue and tissues, which depend on neural activity. They regulate growth, differentiation and activity of neurons acting by receptors like p75, TrkA, TrkB, TrkC and others. Their expression is induced by different physiological and pathological factors as a part of regenerative response on a tissue as well as systemic level.
Objective: We aimed to evaluate a pathophysiological regenerative response of an organism by evaluating the expression of neurotrophins and their receptors in kinetics of time after radiation injury in selected mouse tissues.
Methods: Six to eight-week old BALB/c mice were subjected to gamma irradiation (1000cGy). In different timepoints organs like: brain, heart, peripheral blood and bone marrow were collected and mononuclear cells were separated from blood and bone marrow cells by density gradient centrifugation. RNA Isolated from the samples was reverse-transcribed (RT-PCR) and qRT-PCR was used to measure gene expression of NTs (NT3, BDNF, NGF, GDNF), their receptors (p75, TrkA, TrkB, TrkC), proliferation (PCNA) and stem cell marker (Sca1), as well as proteins related to apoptosis (Bax, Blc2, Cas3). The results were correlated with identical non-radiated controls.
Results: Since the first hours of the radiation injury we observed substantially higher production of NTs and their receptors, on mRNA level, in brain and to certain extend heart tissue. Moreover, the elevated expression of NTs was accompanied by an increase in Sca-1 and PCNA transcript amount.
Conclusions: Simultaneous, elevated expression of NTs and their receptors, along with an increase in PCNA and Sca-1 transcript levels may reflect the presence of proliferating tissue-specific stem/progenitor cells within brain tissue. Together, these findings indicate that the process of endogenic CNS regeneration is realized by early residual cells (neural, glial, endothelial). The understanding of

complex interaction between residual/circulating stem cells and NTs/neurotrophin receptors may contribute to developing new strategies of stem cell-based therapy for patients.

Abstract ID: 583

Structural Investigation of effects of Beta Carotene on mitochondria of Multiple Myeloma cells

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Abstract:
Background: Multiple myeloma (MM) is a clonal B-cell neoplasia which is characterized by the accumulation of monoclonal immunoglobulin producing malign plasma cells in bone marrow. Recent studies have demonstrated that vegetable rich diets have protective effects on the occurrence and prognosis of various cancers. Beta-carotene (BC) is a pro-vitamin of retinoid compounds. In addition to dietary intakes, BC is also taken as supplements. BC is well defined for its antioxidant effect in cells against ROS production which affect cellular proliferation pathways, and development and prognosis of carcinogenesis. However, BC may also exert pro-oxidant effects depending on concentration. In this study, we aimed to determine effects of BC on mitochondria of MM cells. Method: ARH77 multiple myeloma cells will be maintained in standard cell culture conditions. BC will be applied to ARH77 cells as previously reported relevant achievable peak plasma level, 8 μM, for 24 hours. Mitochondrial changes will be determined by electron microscopy.
Results and conclusions: Previously, pro- and antioxidant effects of BC on various cells have been demonstrated. However, effects of BC on cells seem to be dependent on origin of cells, malignancy and concentration applied. Structural examination of mitochondria of ARH77 cells in response to BC application may provide supportive information to enlighten BC induced cellular changes in MM.

Abstract ID: 594

"The effects of co-culturing marrow derived endothelial progenitor cells and mesenchymal stem cells on osteogenesis and angiogenesis of poly (D, L-lactide-co-glycolide)/hydroxyapatite nanocomposite scaffold implantation"

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Abstract:
Background: One of the major challenges in bone tissue engineering is the constructs vascularisation ability. One of the current strategies is co-culturing of marrow derived endothelial progenitor cells and mesenchymal stem cells which may improve angiogenesis of the construct and facilitate tissue regeneration. Endothelial progenitor cells (EPCs) and mesenchymal stem cells (MSCs) were differentiated from bone marrow of Wistar rat and the phenotypes of them were proved before implantation. The porous poly (D, L-lactide-co-glycolide)/hydroxyapatite nanocomposite scaffolds were synthesized. The EPCs were seeded on scaffolds followed by seeding of MSCs in A group. In B group, scaffolds were only seeded with MSCs. Free scaffolds were identified as a control group. 6 male adult wistar rats were used in this study. Three circular 3.5mm circular defects in the every rat cranium were created and replaced with the grafts. Two animals in each group were sacrificed in the time order of four; eight, and 12 weeks and tissue samples were sent for histological analysis. In comparison, the co-culturing grafts results in a widely distributed capillary network, osteoid generated and absent ischemic necroses. Co-culturing of marrow derived endothelial progenitor cells and mesenchymal stem cells improve neovascularisation in grafts, prevented the ischemic necrosis and improved osteogenesis. This method is a useful strategy to facilitate bone regeneration.

Abstract ID: 645

Ionizing Radiation: A new tool in Regenerative Medicine

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Discipline: other

Abstract:
Background: Peripheral Arterial Disease (PAD) is a vascular dysfunction affecting 12-14% of the population. Much research work has been done into therapeutic angiogenesis but no clinical approach using pro-angiogenic factors showed consistent results. During radiotherapy, tissues surrounding the tumor are also exposed to ionizing radiation (IR), but at low doses, and their biological effects remain unclear. Recently, we demonstrated in both zebrafish and mice models that low doses of IR accelerate embryonic and adult angiogenesis. So, considering the property of low doses of ionizing radiation as an angiogenic stimulator, we purpose to investigate whether it can be used to produce therapeutic angiogenesis.
Methods: We used a mouse model of unilateral hind-limb ischemia. Mice entire legs were irradiated or not with 0.3 Gy for 4 consecutive days post-ischemia, using a linear accelerator x-rays photon beam. In 7-ìm cryostat sections of calf muscles, capillaries were labelled by CD31 immunohistochemistry followed by haematoxylin counterstain. Adipocyte accumulation and regenerating areas were assessed at several time points. Capillary density was measured as the ratio of capillaries to myocytes. Blood flow was evaluated by laser Doppler imaging (MOOR instruments). To account for variability between measurements, the results were expressed as the ratio of perfusion in ischemic and intact limbs.
Results: Our results show a significant increase in capillary density in ischemic irradiated muscles when compared to non-irradiated ones. Additionally, the regenerative phase, characterized by central nuclei and adipocyte accumulation, is maintained longer in irradiated mice and we may hypothesize that adipocyte accumulation may contribute to increase capillary density. To functionally assess the capillary density increase found previously, we measured blood perfusion in both experimental groups, using a laser Doppler imager. According to our results, a significant increase of blood flow at lower extremities is

found as early as 15 days post-ischemia in irradiated when compared to non-irradiated mice.
Conclusion: This innovative way to stimulate angiogenesis may hopefully become a tool in Regenerative Medicine, since it raises the possibility of a novel therapeutic strategy: using very low doses of IR to stimulate angiogenesis in a great variety of diseases associated with insufficient angiogenesis.

Abstract ID: 701

Determination of methylxanthines in commercial preparations of tea and energy drinks

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Discipline: other

Abstract:
Introduction: For preparing beverages with different contents of caffeine, variety of plant species that naturally contain caffeine are used: coffee seeds, tea leaves, Paraguay (Mate) tea, guarana and others. Caffeine stimulates central nervous system, reduces sleepiness and fatigue and increases mental concentration. Caffeine effects cardiovascular system by increasing the strength and frequency of heart beat. It stimulates respiratory system by increasing lung ventilation. Goal: Aim of this study is determination of methylxanthines content in different commercial preparations of tea and energy drinks available for sale in the Republic of Serbia. 25 samples separated into two groups were tested (teas and energy drinks).
Methods: Contents of methylxanthines (caffeine, theophylline and theobromine) in preparations were determined by high-performance liquid chromatography (HPLC).
Results: Content of caffeine in commercial tea samples ranged 3.6579-13.178 mg/100ml and theobromine 0.0305-0.5986 mg/100ml. Samples of energy drinks contained caffeine in the range of 0-30.79 mg/100ml which is lower than declared content. Theophylline was not present in any of analysed samples.
Conclusion: During this study it was determined that all analysed samples of commercial preparations of tea contain caffeine and theobromine. The highest content of caffeine is present in black tea, and theobromine in green tea sample. Obtained result for samples of energy drinks containing caffeine, are lower than declared. Analysis of energy drinks samples without caffeine verified declared content of this methylxanthine. Higher results of methylxanthines contents in tea and energy drinks may be achieved by using more suitable solvent for their extraction.

Abstract ID: 788

The Ethical Dilemma of Embryonic Stem Cell Research

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Abstract:
Objective: To determine the knowledge, attitude, and ethical concerns of medical students as regards to Embryonic Stem Cell (ESC) research.
Subjects and Methods: This questionnaire based descriptive study was conducted in Civil Hospital Karachi (CHK), Pakistan from February to July 2008. A well structured questionnaire was administered to medical students and graduate doctors, which included their demographic profile as well as questions in line with the study objective. Informed consent was taken and full confidentiality was assured to the participants. Data was entered in Statistical Package for Social Sciences (SPSS version.12) and analyzed.
Results: A total of 204 male and 216 female medical students and doctors were administered questionnaires out of which 105 males (51.4%) and 108 females (50%) were aware of embryonic stem cell research and its ethical implications. 40% males and 47% of females were of the opinion that life begins at conception. 46% males and 39% females were in favor of stem cell research with only 31% males and 28% females supporting ES cell research. Less than 1/3 of students supported using frozen embryos for research purpose while more than 2/3 indicated that they were unlikely to support abortion for stem cell research purpose.
Conclusion: The majority of the students were in favor of stem cell research with some reservations regarding ES cell research. A sizeable amount of students abstained their views reflecting their incoherent moral and religious views. The finding of the study indicates a need for incorporating bioethics in medical student"s curriculum.

Poster

Session: Biochemistry

Abstract ID: 155

Quantitative RT-PCR method in BCR-ABL translocation quantification

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Abstract:
Introduction: The results of numerous studies, performed in the last two decades, showed that the Bcr-Abl gene translocation is the most important factor in the pathogenesis of chronic myeloid leukemia (CML). The activity of tyrosine kinase as the product of the fusion gene is the crucial factor for the malignant transformation of hematopoetic cells in vitro and in vivo. The main hypothesis in our study is that the quantitative RT-PCR is the optimal method for the detection of Bcr-Abl gene translocations in patients with CML.
Aim: The main aim of our study was to test the application of the RT-PCR method in the detection of Bcr-Abl gene translocations in patients with CML.
Materials and methods: For qRT-PCR analysis of Bcr-Abl translocation, we used the RNA samples isolated from the venous blood from two patients diagnosed with the chronic myelogenous leukemia. The qRT-PCR method used in our analysis used the Double dye oligonucleotide method. For the qRT-PCR quantification, we used the IPSOGEN Bcr-Abl FusionQuant® Kit, on ABI PRISM 7000 Sequence Detection System instrument.
Results: The qRT-PCR analysis in two CML patients showed the presence of Bcr-Abl transcript, and precise and accurate quantification of the Bcr-Abl fusion gene, with respect to the reference Abl gene.
Conclusions: The results of our study showed that the application of the quantitative RT-PCR is the optimal method in the detection of Bcr-Abl gene translocations in patients with CML. This method is characterised by the precision, reproducibility, specificity and sensitivity.

Abstract ID: 345

Risk factors in the development of restenosis after PCI in the population of Montenegro

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Discipline: Biochemistry

Abstract:
Background: Atherosclerotic process is the basis for the development of restenosis. PCI has become the main treatment for atherosclerotic lesions. Restenosis is the major limitation of PCI, but its pathogenesis after mechanical injury is still incompletely understood. There is some controversy concerning the role of lipids, lipoprotein and LDL oxidation in restenosis following PCI.
Aim: Does the follow up lipid parameters could be used as independent markers for the occurrence of restenosis after PCI?
Methods: 156 men and women with symptomatic stenosis underwent PCI in the CC of Montenegro, in period from May 2006 and May 2007. 24 patients with implanted stents were included in the study. At the beginning of the study each patient was subjected to the following clinical – laboratory checkup - anamnesis and clinical status, blood pressure measurement, smoking and alcoholic status and laboratory results before and after PCI at regular time intervals. Serum levels of cholesterol, triglycerides, LDL and HDL were measured. After six months the same patients were subjected to angiographic control by Doppler ultrasound of blood vessels and based of haemodynamic evaluation we divided the patients into two groups: a group with restenosis and one without restenosis, also a control group in this study.
Results: After six months restenosis developed in 7 patients (30 %). There were no significant differences between two groups with regard to age, incidence of hypertension, alcohol use, hyperlipidemia, obesity and smoking. The two groups did not significantly differ with regard to plasma concentration of total cholesterol, triglyceride, LDL and HDL the sequence of measurements.
Conclusion: Plasma lipids and lipoproteins cannot be independent markers of risk leading to restenosis and restenosis after successful procedure occurs 30-50% of patients after six months.

Abstract ID: 449

Anti tumor effects of novel p-cymene ruthenium compound on C6 rat astrocytoma cell line in vitro

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Discipline: Biochemistry

Abstract:
Background: Due to the fact that astrocytomas are the most common of all brain tumors and still very difficult to treat, they are often target of many studies.
Objective: The aim of this study was to investigate the anti-tumor potential of novel Ru(II) complex on C6 rat astrocytoma cell line.
Methods: Cell viability was determined using acid phosphatase assay. Propidium-iodide, annexinV-FITC/propidium-iodide and acridine-orange staining were used to determine the cell cycle distribution, presence of apoptosis and levels of autophagy, respectively, by flow cytometry.
Results: Cell viability showed that novel ruthenium complex displays high cytotoxic activity following 24 and 48-hour treatment (IC50 values 9.4±3.6μM and 5.4±3.2μM, respectively). DNA fragmentation analysis revealed marked increase in percentage of cells in subG0 phase to 6.01% (24h) and 10.91% (48h) in applied concentration (10μM), compared to 0.28% of cells in the control (untreated) samples. This finding indicates

increase in DNA fragmentation as a result of the effect of Ru(II) complex. Analysis of phosphatydilserine externalization showed increase in Ann-positive (Ann+) cells: 5.3% (5 μM) and 9.01% (10μM) Ann+ cells following 24-hour treatment, as well as 18.91% (5 μM) and 53.72% (10μM) following 48-hour treatment, compared to 4.74% of Ann+ cells in the control samples. Treatment with this complex has not resulted in autophagy increase.
Conclusion: The novel p-cymene Ru(II) complex displays potent anti-tumor activity to rat astrocytoma C6 cell line in the micromolar concentration range. The observed anti-tumor effect seems to be, to an important part, mediated by the apoptotic mechanism.

Abstract ID: 450

The role of autophagy in cytotoxic action of 1-methyl-4-phenyl-2,3-dihydropyridine (MPP+) on SH-SY5Y human neuroblastoma cell line

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Abstract:
Background: The neurotoxicity induced by MPTP (MPP+) is one of the most valuable models for analysing pathological aspects of Parkinson's disease. MPP+ has toxic effects on mitochondria, since it inhibits complex 1 of respiratory chain, which results in decrease in ATP production. Low ATP level can affect many cellular functions, and lead to either apoptosis or autophagy.
Objective: The objective of this study was to investigate the role of autophagy in MPP+ toxicity on human neuroblastoma cell line.
Methods: Cell viability was determined by acid-phosphatase and MTT assays. Propidium-iodide, acridine-orange, dihydroethidium (DHE) and JC-1 staining were used for cell cycle analysis, detection of autophagy, superoxide anion production and changes in mitochondrial inner-membrane potential, respectively, using flow cytometry
Results: MPP+ showed dose-dependent cytotoxic activity following 24 and 48-hour treatment, with IC50 value of 1.93 ± 0.19 mM after 48 hours (determined using acid-phosphatase assay). The MPP+ treatment (4mM) stimulated free radical generation, as determined by the increase in superoxide anion production, that reached its peak after 8-hour treatment, and subsequent mitochondrial inner membrane depolarization, that was most pronounced after 16-hours. Flow cytometric analysis following acridine-orange staining revealed marked increase in FL3/FL1 fluorescence intensity ratio (where FL1 stands for green fluorescence of cell body, and FL3 for red fluorescence of lysosomes), indicating that MPP+ treatment with increase level of autophagy. Cell cycle analysis following propidium-iodide staining showed no changes.
Conclusion: MPP+ showed high cytotoxic effect on SH-SY5Y cells. It may be concluded that autophagy, preceded by superoxide anion production and inner mitochondrial membrane damage, plays an important role in toxic effect of MPP+ on neuroblastoma cell line.

Abstract ID: 455

The Inhibition of Acetylcholinesterase by Iranian Herbs Used to Treat CNS Disorders

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Discipline: Biochemistry

Abstract:
Background: Acetylcholine is one of the most important known neurotransmitter in the neural system involved in Alzheimer's disease (1). In mild to moderate forms of Alzheimer's disease, acetylcholinesterase inhibitors like galantamin, donepezil and rivastigmin are considered as first choice of treatment (2, 3). Recently, there has been a common movement toward the use of herbal medicine in treating neurologic disorders (4, 5). Studies have worked on the plants used in the traditional medicine of countries like Portugal, Denmark and Korea to discover valuable herbs in treatment of Alzheimer's disease (6-8). This study was performed to screen the herbs of Iran folk medicine, which are used in the treatment of CNS disorders, to find plants with acetylcholinesterase inhibitory effects(8) as a valuable source of acetylcholinesterase inhibitors.
Methods: A total number of twenty-one herbs were collected from herbal shops across the city of Tehran; For each plant, 1gr of the powder was soaked in 20 ml of 50% aqueous methanol (V/V) solution for 24h at room temperature, filtered and the solvent was evaporated under reduced pressure. To achieve further-desired concentration of extracts, the evaporated extract was re-dissolved in 50% methanol solution. The modified form of Ellman method was used to calculate the inhibition of acetylcholinesterase for each extract (9, 10).
Results: In this study, 21 herbs were screened for acetylcholinesterase inhibitory effect. Nine out of twenty-one herbs (B. officinalis, C. quadrivalvis, C. aurantium, H. perforatum1, H. perforatum2, P. graveolens1, P. graveolens2, S. aegyptiaca and T. platyphyllos) showed an excellent inhibition of acetylcholinesterase with inhibition of 80 to 100%, 10 herbs had a moderate inhibitory activity on acetylcholinesterase (inhibition of 50 to 80%) and two herbs had mild inhibitory effect on acetylcholinesterase (inhibition < 50%).
Conclusion: H. perforatum and P. graveolens exhibited the best inhibitory effect, which, could be considered, as a natural source for acetylcholinesterase inhibitors.
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Abstract ID: 733

HIV-1 transgene expression related to alveolar epithelial barrier function

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Abstract:
Background: HIV-infected individuals are at increased risk for acute and chronic airway disease even though there is no evidence that the virus can infect the lung epithelium. Although HIV-related proteins including gp120 and Tat can directly cause oxidant stress and cellular dysfunction, their effects in the lung are unknown.
Aim: The goal of this study was to determine the effects of HIV-1 transgene expression in rats on alveolar epithelial barrier function.
Method: Alveolar epithelial barrier function was assessed by determining lung liquid clearance in vivo and alveolar epithelial monolayer permeability in vitro. Oxidant stress in the alveolar space was determined by measuring the glutathione redox couple by high performance liquid chromatography, and the expression and membrane localization of key tight junction proteins were assessed. Finally, the direct effects of the HIV-related proteins gp120 and Tat on alveolar epithelial barrier formation and tight junction protein expression were determined.
Results: HIV-1 transgene expression caused oxidant stress within the alveolar space and impaired epithelial barrier function even though there was no evidence of overt inflammation within the airways. The expression and membrane localization of the tight junction proteins zonula occludens-1 and occludin were decreased in alveolar epithelial cells from HIV-1 transgenic rats. Further, treating alveolar epithelial monolayers from wild type rats in vitro with recombinant gp120 or Tat for 24 hours reproduced many of the effects on zonula occludens-1 and occludin expression and membrane localization HIV-1 transgene expression impaired alveolar epithelial barrier function To investigate epithelial barrier function in vivo, we examined lung liquid clearance following intratracheal saline challenge as we have previously described. This technique provides a sensitive index of overall lung epithelial barrier function, which is the integration of active fluid transport and paracellular permeability. As shown wet:dry ratios in HIV-1 Tg rats following saline challenge were increased ~2-fold higher above baseline than comparably challenged WT rats ($P < 0.05$), reflecting a significantly decreased ability to clear saline from the lung. Note that the baseline wet:dry ratio of the rat lung is 4.7 as we have published previously [27], and therefore the data are plotted to reflect the relative increases from this baseline in each group.

Session: Cardiology

Abstract ID: 56

Thyroid function in epileptic children using Carbamazepine, Primidone, Phenobarbital and Valproic acid

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Abstract:
Introduction: In this study, we investigated the changes of serum levels of free T4 and T3, T3 resin uptake (T3RU) and TSH in epileptic children during chronic treatment with anti-epileptic drugs (carbamazepine, Primidone, phenobarbital and valproate) and 3 months later than prescription.
Material and Method: This study consisted of four case-series comparisons, was accomplished on 115 (in 4 same groups) epileptic children who were involved 37 girls and 78 boys with ages between 2 months up to 15 years (mean: 62.06 ± 44.97 years), who were taking either phenobarbital (n=29), PRM(n=28), CBZ(n=29), or VPA(n=29) at least for 3 months were evaluated T3, T3resin uptake(T3RU), T4 and thyroid-stimulating hormone(TSH) levels in start and end of study.
Results: All patients were in euthyroid state, there were no clinical findings or laboratory results of hypothyroidism. In collation with thyroid hormones before of prescription in all bundles (Phenobarbital, CBZ, VPA and primidone), there was no significant distinctions in serum FT3, FT4, T3ru and TSH levels. No statistically meaningful relation were found between thyroid function and thyroid hormons levels variants and among AEDs receiving time and thyroid function and thyroid hormons levels, in any of 4 groups ($P > 0.05$).
Conclusion: Thyroid function should be evaluated intermittently in epileptic children using AEDs especially in long term prescriptions.

Abstract ID: 163

The Results of Thoracoscopical Harvesting of the Internal Thoracic Artery with an Ultrasound 5-mm Laparoscopic Blade during Endo Mimr (Endoscopic minimally invasive myocardial revascularization) Surgery

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Abstract:
Aim: Examining the results of thoracoscopic harvesting of Left ITA with ultrasound 5-mm laparoscopic blade and ultrasonic generator "Harmonic-300(Ehticon Endo Surgery, USA) Methods and Material. The study was performed from 2006–2011 at the experimental department of the Bakulev Center for Cardiovascular Surgery on dogs (n = 15) weighing 17-24 kg. Efficacy and safety of the operations were estimated in terms of blood loss, duration

of surgery, graft patency according to intraoperative flowmetry (U.S. Flow "HT 107" firm "Transonic System Inc.") and ITA angiogram.
Results: At I&II stages of the operation, thoracoscopic harvesting of ITA was carried out using a laparoscopic ultrasound scalpel, III stage was visual mammary-coronary bypass on the anterior wall of the left ventricle on a beating heart from a 8 cm mini-thoracotomy, at the left, 4th intercostal space. In harvesting the branches of ITA, a successful resection in a period of 4-5 seconds using the parameters of ultrasonic generator on "3", movement amplitude of ultrasonic scalpel was 75nm/cycle. However, there was some bleeding from the lateral branches of the ITA (n = 3), blood loss was ≈ 50 ml. Mammary-coronary bypass was associated with a blood loss of 100ml. The duration of harvesting of the Right ITA- 42.6±2.2 min, Left ITA-44.1±1.3 min. Duration of bypass of Left Anterior Descending Artery (LADA) and Diagonal Branch (DB) ≈ 10 min. Prior to harvesting, flow volume of ITA was 63.3±1.4 ml/min, Left ITA – 68.1±1.1 ml/min. During the harvesting, flow volume decreased and amounted to: Right ITA – 43.9±1.3 ml/min (69.5% of the original flow volume) Left ITA – 48.4±1.4 ml/min (71.1%). After harvesting, flow volume progressively increased and amounted to: Right ITA – 51.7±1.5 ml/min (81.8% of the original flow volume), Left ITA – 56.6±1.1 ml/min (83.1%). After completion of the mammary-coronary bypass, flow volume of ITA shunts was: Left ITA in position of LADA – 38.3±1.4 ml/min, Left ITA in position DB – 20.2±1.0 ml/min, with an internal diameter LADA 1.5-2.0 mm, DB – 1.0-1.5 mm. Angiography (n = 4) 3 months after the operation – there was a 100% patency of bypass grafts of ITA.
Conclusion: Thoracoscopic harvesting of the conduits, ITA «in situ» in "protected" form using an Ultra Sound 5-mm laparoscopic scalpel doesn't damage the artery wall, but bleeding of the lateral branches of the ITA may occur and consumes time.

Abstract ID: 179

On the hospital mortality in patients with ST-elevation myocardial infarction treated with primary percutaneous coronary intervention during on- versus off-hours

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Discipline: Cardiology

Abstract:
Background: Some of the previous studies have reported the higher hospital mortality rates in patients with ST-elevation myocardial infarction (STEMI) treated with primary percutaneous coronary intervention (pPCI) during Off-Hours comparing with STEMI patients treated with pPCI during On-Hours. The aim of our research was to compare the hospital mortality in STEMI patients treated with pPCI during On- versus Off-Hours in the Clinic for Cardiology, Clinical center of Serbia.
Methods: The study included 784 consecutive STEMI patients treated with pPCI in 2009. The patients were categorized by their admission time to the cath-lab during On-Hours (work days from 7 a.m. to 7 p.m, 367 patients) versus Off-Hours (work days from 7 p.m. to 7 a.m. and weekends, from Friday 7 p.m. to Monday 7 a.m, 417 patients). The patient groups were compared by baseline demographic, clinical and angiography characteristics. The time delay between the onset of symptoms and the first balloon inflation as well as between the first medical contact and the first balloon inflation were also compared.
Results: The baseline demographic, clinical and angiography characteristics were similar in both patient groups. The time delay between the onset of symptoms and the first balloon inflation (256,7 min during On- vs 267,5 min during Off-Hours) as well as between the first medical contact and the first balloon inflation (148,1 min during On- vs 153,9 min during Off-Hours) were also similar in both patient groups. No significant difference was found in hospital mortality rates between the observed groups of patients (3,8% during On-Hours vs 2,5% during Off-Hours).
Conclusion: There is no significant difference in hospital mortality between STEMI patients treated with pPCI during On-Hours and STEMI patients treated with pPCI during Off-Hours in the Clinic for Cadiology, Clinical center of Serbia.

Abstract ID: 401

The incidence of mechanical and electric complications after acute myocardial infarction in patients with diabetes mellitus and in patients without diabetes mellitus

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Abstract:
Objective: The aim of this work was to determine the incidence of mechanical and electric complications in patients with and without diabetes mellitus, who survived acute myocardial infarction.
Methods: Retrospective study, that included 188 patients, in Clinical Center of Montenegro, 58 patients with and 130 patients without diabetes mellitus, who were hospitalised due to acute myocardial infarction in the intensive cardiology care unit, during the period from 1st January to 1st September 2009.
Results: This study has shown that the most frequent electric complications in both categories of patients were atrial fibrillation, ventricular tachycardia, ventricular fibrillation and AV bundle branch block and the most common mechanical complication was the heart failure. Statistic data have shown that one third of all non diabetic patients had electrical complications and two thirds had mechanical complications. The most frequent complication was atrial fibrillation (found in 59.23% of these patients), followed by ventricular tachycardia (found in 31.53% of these patients),ventricular fibrillation (found in 6.15% of these patients) and AV bundle branch block (found in only 3.07% of these patients). All of these complications were more frequent in men (75%).Less than one third of all DM patients had , above mentioned , electrical complications and less then one fifth had mechanical complications. Similar to non diabetic patients, all electrical complications were more frequent in men (55%). The most common electrical complication was atrial fibrillation (found in 54.54% of these patients), followed by ventricular tachycardia (found in 27.27% of these patients),ventricular fibrillation (4.54% of these

patients) and AV bundle branch block (13.6% of these patients).
Conclusion: Our study confirmed that the incidence of mechanical and electrical complications seems to be more common in patients without DM (p < 0 .0 5).

Abstract ID: 402

Congenital heart problem with septum defect

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Abstract:
Introducing the occurrence of congenital heart problems with septum defect is a very important part of pediatric medicine. During the research we tried to find the biggest problems and obstacles during the diagnostic procedures of this kind of diseases.
Objective: The Aim of the study is to investigate the occurrence of congenital heart problems with septum defect within all discovered congenital heart issues at the Children's Diseases Department in period from 01.01.2006. to 31.12.2007.
Methods: Methods used for this research was method the method of retrospective analysis. Study was conducted on all kids with chronic heart problems who spent time at the Children's Diseases Department in time period from beginning of 2006 to the end of 2007.
Results: Results in time period from 01.01.2006. to 31.12.2007. There have been diagnosed 48 cases with the congenital heart problem and amongst those 38 had congenital heart septum defect. VSD has been diagnosed with 23 kids (60,52%) and ASD diagnosed with 13 kids (34,21%), and in 2007. Furthermore, two cases of ASD have been diagnosed. There was no significant statistical difference in gender variations during this study. ASD type has been found in two cases (15.32%) and ASD type II in eleven patient cases (84.62%). Membrane type of VSD was found in 14 cases (60,87%) and muscular type in 11 cases (39,13%). There has been an incidence of 50% of ASD found in preschool age and incidence of 57% of VSD found in newborns.
Conclusion: Out of total children diagnosed, 45% of them had spontaneous closing of openings, 33% has been operated on and 22% of them are still under close observation. Point the results of this research show that even with limited finances and limited diagnostic equipment but with the help of highly educated and experienced staff and great prenatal diagnostic abilities as well as continued close patient care, outcomes with complications or even death are brought to minimum.

Abstract ID: 419

Plasticity of neuropeptides in human stellate ganglia after acute myocardial infarction

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Abstract:
Background: Sympathetic ganglia neurons form neuroeffective contacts almost in all human organs and tissues, providing regulation of vital function and maitaning of homeostasis. Stellate ganglia is the main source of hearts sympathetic innervation. Objectives: The aim of the present study was to analyze changes in immunoreactivity of MET-enkephalin, Vasoactive Intestinal Polypeptide, Galanin and Neuronal NO Synthase in human stellate ganglia after acute myocardial infarction.
Methods: Autopsy samples of 12 stellate ganglia obtained within 10 hours after death due to acute myocardial infarction in age from 45 to 59 were examined. For control purposes autopsy material of 5 human stellate ganglia of the same age without any cardiovascular diseases were taken. All specimens were free of genetic and congenital malformation. To analyze the distribution patterns of the studied neuropeptides the method of indirect immunohistochemistry was used.
Results: It was revealed that acute myocardial infarction induces significant growth of MET-enkephalin, Vasoactive Intestinal Polypeptide, Galanin and Neuronal NO Synthase immunoreactivity in human stellate ganglia.
Conclusion: It was suggested that ischemia caused by acute myocardial infarction is a factor that induces the synthesis of the studied neuropeptides in the human cervical-thoracic ganglia. This may have a protective effect and render support in limitation of ischemic injury.

Abstract ID: 439

Evaluation of the risk of patients with atrial fibrillation according to demographic and morphologic characteristics

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Abstract:
*Background:*Atrial fibrillation (AF) is a chronic, irregular atrial rhythm, the AV node responds intermittently hence an irregular ventricular rate. It is the most common cardiac arrhythmia - the estimated perpetual risk for an episode of AF in the common population is 25%. Classification of AF begins with distinguishing a first detectable episode, irrespective of whether it is symptomatic or self-limited. Published guidelines from European and American cardiac associations classify this arrhythmia into 3 types: paroxysmal, persistent and permanent AF. Although not in itself generally life-threatening, frequent episodes of persistent AF or permanent arrhythmia of this kind may result in structural heart changes, leading to progressive heart failure and extracardiac complications among which stroke is the most significant (up to 7 times that of the general population.
*Materials and Methods:*A retrospective research, including 99 consecutive patients (42 males and 57 females) at an average age of 65,5±10.1 (45-96) years, who were admitted to the Clinic of cardiology, Department of Internal Diseases “Prof. St. Kirkovich” for the period January-December, 2010 with electrocardiographic data for AF. We analyzed some demographic characteristics (age, gender), risk profile, morphologic and functional cardiac changes in different types of AF – paroxysmal, persistent and permanent.
*Results:*The statistics were made based on the data that we gathered. What we had out of the patient history was age,

gender, left atrium (49,0±8.8), forced capacity (49,6±15.4), right ventrical (30,5±4.5), septum (13,2±1.7), therapy, hypertension, diabetes, COPD, ischemic hearth disease. The type of the AF in the patients was random 9 of them was with paroxysmal AF (9.3%), 15 - with permanent (15.5%) and 73 – with persistent (75.3%). Only 11 of the patient was with newfound AF, the other 83 was with an long time diagnosed AF. Some of the patients was on anticoagulant therapy. We looked for patients with vascular accidents.
Conclusion: Atrial fibrillation is a rhythm disorder, affecting predominantly female gender. The average age of patients with AF, randomized in our study is 65 years. Arterial hypertension is the leading risk factor, that could be associated with occurrence of AF, followed by acute/chronic pulmonary disease and ischemic heart disease.

Abstract ID: 483

Frequency-dependent pro-arrhythmic effects of serotonin(5-ht) on extracellular field potential of atrioventricular node of isolated rabbit AV-Node

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Abstract:
Background: Despite numerous studies on effects of 5-HT on atria and ventricle, a few study explored AV- nodal effects of 5-HT. The purposes of the present study were (a) to determine whether exogenous 5-HT modifies the rate-dependent electrophysiological functions of the AV node and (b) to assess the potential contributions of various 5-HT (5-HT2, 5-HT3, and 5-HT4) receptors and the autonomic nervous systems in 5-HT effects.
Methods: Basic nodal conduction time (AH), refractoriness (ERP, FRP) and rate-dependent facilitation and fatigue were determined by specific predefined stimulation protocols in 69 isolated, perfused rabbit AV-node (8 groups). Various concentrations of 5-HT (30-300 μM) alone or with 5-HT, non-selective â and M antagonists were used in different groups.
Results: Exogenous 5-HT in a concentration-dependent manner (30-300 μM) decreased AH, ERP,FRP and WBCL Cycle Length. 5-HT (150 and 300 μM) significantly increased fatigue and decreased facilitation. Effects of 5-HT on fatigue and facilitation were antagonized by Tropisetron and SB203186, respectively. Excitable index significantly decreased by 5-HT. Nadolol antagonized 5-HT effects on nodal conduction and refractoriness.
Conclusion: We concluded that rate-dependent positive dromotropic effects of high concentration 5-HT is predominantly via a release of catecholamines (tyramine-like effect) which can be abrogated by Nadolol. 5-HT receptors play an important role in the development of fatigue and induction of facilitation, respectively. The results demonstrated a potential pro-arrhythmic effects of 5-HT on AV-node during sinus cycle and rapid tachycardia by specific 5-HT receptors.

Abstract ID: 504

Should radiofrequency ablation be the first choice in Atrial Flutter management?

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Abstract:
Background: Current management of atrial flutter (AFL) includes as a first-line therapeutic option for a well-tolerated first episode: electrical cardioversion, pharmacological cardioversion or atrial overdrive pacing followed by long-term antiarrhythmic therapy. Although this type of arrhythmia encounters an efficient option in cavo-tricuspid isthmus (CIT) radiofrequency (RF) ablation, this therapeutic approach, has a class II indication, with a level of evidence B.
Objective: The purpose of this study was to evaluate, in a prospective manner, the acute ablation success rate and recurrence rate of the atrial flutter after the treatment of a first episode by these two different approaches.
Methods: The study was conducted over a period of 2.5 years in a prospective and non-randomized manner, on 99 patients admitted to the hospital for a first episode of atrial flutter. Patients were divided in 2 groups: group 1 (n=57), including those with success of sinus rhythm conversion after undergoing electrical or pharmacological cardioversion, or atrial overdrive pacing, followed by Amiodarone therapy and group 2 (n=42), including those who underwent RF ablation alone after it was proved by electrophysiological study that the CTI is involved in the AFL circuit. Patients with prior antiarrhythmic therapy, recurrent atrial flutter or contraindications to any of these procedures were excluded. The 2 groups were compared considering the recurrence rate of the AFL after a follow-up period of 12 months.
Results: In group 1, sinus rhythm was achieved in all patients. In group 2, conversion to sinus rhythm was also obtained in all cases, and in 37 patients (88.1%) a bidirectional isthmic block criteria was also obtained. The reccurence rate was 57.9% for group 1 and 9.5% for group 2, a rate 6 times lower for the RF ablation group (p=0,01).
Conclusion: A first episode of atrial flutter should be considered as a candidate for RF catheter ablation, due to its high success rate and long-term efficiency in maintaining sinus rhythm, along with a low recurrence rate compared to current first-line therapeutic options.

Abstract ID: 524

Association of Wells' Prediction Rules' risk groups with incidence of Pulmonary Embolism in NRITLD DVT Registry Participants

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Abstract:
Background: Pulmonary embolism (PE) is one of the major causes of hospital death. Timely diagnosis is essen-

tial for a rapid initiation of treatment to improve patients' outcomes. Clinical prediction rules could be formed to estimate the clinical probability of PE. Such estimates could help to find patients who needed further testing. The purpose of this study was to assess the diagnostic accuracy of the Wells PE criteria among DVT patients suspected to have coexisting pulmonary embolism, using the data from the prospective NRITLD DVT Registry.
Methods: Among the Patients who were enrolled in NRITLD DVT registry those with objective data regarding presence or absence of PE were selected. In the patients with CTPA-confirmed PE, Wells' score was calculated.
Results: 86 patients were included (58 males, 28 females, mean age = 54.39 ± 1.74 years), 54 of them had coexisting PE (embolic burden score: 10.77 ± 1.181). The patients were divided into two, or three risk groups according to Wells' model, however no significant difference in the relative frequency of PE was seen. (P = 0.99, and P = 0.261, respectively).
Conclusion: Risk groups according to Wells' PE score are not associated with the different frequencies of PE. Possibly other cut points could divide the patients in the subgroups more related to the chance of PE occurring.

Abstract ID: 536

Comparison of Magnetic Resonance Imaging and Transthoracic Echocardiography in evaluating aortic valve morphology in patients with thoracic aortic aneurysm

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Abstract:
Background: Current ACCF/AHA guidelines recommend surgical correction of thoracic aortic aneurysm (TAA) when the diameter of either aortic root or ascending aorta exceeds 5.0 cm in patients with bicuspid aortic valve (BAV), compared to >5.5 cm in patients with tri-leaflet aortic valve. Aims: To assess whether Magnetic Resonance Imaging (MRI) is more sensitive than TTE at identifying BAV and whether this would translate into a difference in clinical management for patients with TAA.
Methods: Data was prospectively collected for patients undergoing MRI for assessment of aortic diameter. The aortic diameter and aortic valve morphology obtained from MRI were compared with TTE.
Results: Out of 36 patients, 11 were found to have BAV on echocardiography compared to 17 on MRI. Using MRI as the gold standard in identifying BAV, TTE was found to have 64.7% sensitivity, 94.7% specificity. 3 of the 6 patients with BAV unidentified by TTE had aortic dimensions between 5.0 and 5.5 cm and would have been referred for surgery under current guidelines.
Conclusion: TTE underestimates the prevalence of BAV with important clinical consequences for patients with TAA. We suggest that assessment of aortic valve morphology should be performed routinely in all patients referred for MRI of TAA.

Abstract ID: 580

The influence of socioeconomic characteristics of patients on clinical manifestations of coronary heart disease

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Abstract:
Background: Cardiovascular diseases are the most frequent causes of mortality in Europe and the world. Socio-economic status is significantly related to cardiovascular morbidity and mortality.
Aim: The study aims to examine if there is interdependence between socio-economic status of our patients and coronary heart disease (CHD).
Methods: The retrospective research involved 68 patients with coronary heart disease. The patients were divided into three groups according to their clinical manifestations. Group I involved 17 patients diagnosed with Angina pectoris (AP). Group II involved 27 patients who had myocardial infarction (MI), and Group III involved 24 patients diagnosed with chronic heart failure (CHF). The groups were compared in accordance to their clinical and socio-economic characteristics. Data related to clinical characteristics were obtained from medical records, and data on socio-economic parameters were obtained through interviews with respondents.
Results: The studied groups did not show statistically significant differences in demographic and clinical characteristics (risk factors). Socio-economic indicators with statistically significant difference among groups are level of education (p=0.031) and personal income (p=0.001). A notably higher frequency of patients with lower level of education and lower personal income is evident in groups with AP and CHF, while a high frequency of patients with higher level of education and higher personal income is found in the group that has MI.
Conclusion: The study has shown that there is a significant difference among groups researched on CHD in relation to level of education and level of personal income. Our study has shown that lower personal income and lower level of education are typical of patients with angina pectoris and chronic heart failure, while higher personal income and higher level of education are typical of patients who have suffered from a myocardial infarction.

Abstract ID: 584

Cardiovascular risk factors in relation with adiponectin and inflammatory markers in patients with metabolic disorders

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Abstract:
Background: The relationship between adiponectin levels, inflammatory markers and various cardiovascular risk factors has been investigated and discussed in different studies. Moreover, it seems that the variants in the adiponectin gene and its receptors are associated with

metabolic diseases, including glucose intolerance and diabetes. Our aim was to investigate the relationship of various cardiovascular risk factors with adiponectin and PCR (C-reactive protein) in patients with metabolic diseases.
Material and method: In an observational study 65 patients, age 50 to 78 years have been assessed. The patients were further divided into two groups: 33 pts. With controlled DM type 2 and 32 pts. with glucose intolerance. All patients were clinically evaluated (BMI, PA, habit of smoking, systolic and diastolic arterial pressure, cardiovascular risk score Framingham, ECG and echocardiography) and the following laboratory tests performed (serum glucose, OGTT, HbA1, ESR, fibrinogen, leucocytes, total cholesterol, HDL-cholesterol, LDL-cholesterol, triglycerides, PCR (C-reactive protein) and adiponectin. T test, partial correlation and linear regression were used (SPSS).
Results: A negative correlation was noticed between adiponectin values and fasting serum glucose levels (both studied groups). There have been significant statistically differences between 2 groups regarding adiponectin ($p<0.01$), CRP ($p<0.01$), HDL-cholesterol ($p<0.05$), BMI ($p<0.05$). In diabetes patients group we noticed a positive correlation between adiponectin and HDL-cholesterol ($p<0.05$) and a negative correlation between adiponectin and CRP ($p<0.01$) and between adiponectin and HbA1c values ($p<0.05$). In the glucose intolerance patients group, there were no significant correlations found between adiponectin and other cardiovascular risk factors, except BMI and PA ($p<0.05$). For this group, it has to be mentioned that adiponectin was significantly negative correlated with the 2h glucose level, information that could support the idea that adiponectin could be considered a good biochemical predictors of type 2 diabetes.
Discussion: Adiponectin is an important marker of cardiovascular disease and could also be a valuable predictor of DM type 2 or glucose intolerance, however we could not establish causality or exclude the possibility that adiponectin is a surrogate marker. Further research should be done to evaluate role of adiponectin, as part of a preventive multi-marker strategy.

Abstract ID: 588

Glomerular filtration rate at admission in patients with non-ST elevation myocardial infarction treated with percutaneus coronary intervention

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Abstract:
Introduction: Impaired renal function is one of the most important factors which determines prognosis of coronary artery disease. The influence of glomerular filtration rate (GFR) in patients with NSTEMI treated with PCI needs further investigation. The
Aim: To compare results of treatment and prognosis according to the GFR level on admission in patients with NSTEMI treated with PCI.
Material and methods: We examined consecutive patients with NSTEMI treated with PCI. Patients were admitted to the III Chair and Clinical Department of Cardiology SUM ¦CChS in Zabrze between 2006 - 2010. They were divided into three groups: I group patients with GFR<30, II-GFR=30-60, and III-GFR>60 ml/min/1,73 m2.
Results: A total group of 470 patients were divided into three groups: I was 18, in II-84, in II-368 patients. Patients with lower GFR level at admission were older and often female. Patients from III group in comparison to patients from II and I group had more often hypertension (77,78 vs 64,34 vs 61,96%;p<0,001), diabetes (68,75 vs 53,85 vs 38,07%;p<0,001) and renal dysfunction (55,56 vs 8,43 vs1,63%;p<0,001). They had higher average level of leukocytes, glucose, cholesterol, and lower level of minimal hemoglobin. Reduced GFR level was connected with lower LVEF and 3-vessel CAD. Lower GFR level was related with higher 30-day (22,22 vs 13,10 vs 1,36%; p<0,001), 6-month (27,78 vs 19,05 vs 4,08%;p<0,001), 1-years (38,89 vs 23,81vs 5,98%;p<0,001), 2-years (85,71 vs 22,58 vs 6,02%;p<0,001), 3-years (100 vs 30 vs 6,90%;p<0,001) and 4-years (100 vs 31,58 vs 13,33%;p<0,001) mortality. The independent prognostic factors which influence long term mortality in analyzed group were: GFR at admission [HR = 2,02(1,32-3,1); p<0,001], level of leukocytes on admission [HR = 1,08(1,01-1,15); p = 0,02], age [1,04(1,01-1,08); p = 0,02], LVEF [0,96(0,93-0,99); p = 0,003], and statin-treatment [0,22(0,12-0,38); p<0,001].
Conclusion: GFR at admission increased the risk of death in patients with NSTEMI treated with PCI in in-hospital and 4-years observation period. It occurred to be an independent prognostic factor influences 4-years mortality.

Abstract ID: 654

PINCH proteins regulate cardiac contractility via PKB/Akt Pathway

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Abstract:
Background: The pumping function of the heart has to adapt continually to different hemodynamic conditions. This requires first the sensing of biomechanical strain (mechanosensing) and then converting these mechanical stimuli into a specific cellular response (mechanotransuction). The ternary complex of Integrin-linked kinase (ILK), PINCH, and Parvin (IPP complex), which was identified more than a decade ago, proposes as an essential component in cardiac mechanical stretch sensor. However, precise function of most components and the associated signaling pathways are still unknown.
Methods: In this study we used the zebrafish as an in vivo model organism to assess the cardiac function after selective depletion of zebrafish orthologs of PINCH1 and PINCH2 by injection of morpholino antisense oligonucleotides.
Results: We show that PINCH proteins localize at sarcomeric Z-disks and costameres in the zebrafish heart and skeletal muscle. Inactivation of either PINCH isoform independently leads to instability of ILK, loss of stretch-responsive anf and vegf expression, and progressive heart failure. The predominant cause of heart failure in PINCH morphants seems to be loss of PKB activity, since PKB phosphorylation at Serine 473 is significantly reduced in PINCH-deficient hearts and overexpression of

constitutively active PKB reconstitutes cardiac function in PINCH morphants.
Conclusion: These findings highlight the essential function of PINCH proteins in maintaining cardiac contractility by stabilizing the IPP complex and thereby regulating PKB/Akt activity in the vertebrate heart.
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Abstract ID: 699

Diagonal Ear lobe Crease Predicts the Severity of Coronary Artery Disease

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Abstract:
Background: Although the association between Diagonal Ear lobe Crease (ELC) and Coronary Artery Disease (CAD) has been proposed, and ELC is suggested as a simple marker of CAD, the relationship with severity of CAD has not been investigated.
Objective: The aim of this study was to evaluate the association between ELC and the presence and severity of CAD.
Methods: In a prospective double blind cross sectional study 100 patient with CAD documented by coronary angiography (case group) and 60 patients with normal coronary angiography (control group) were examined for the presence of ELC. moreover the associations of ELC with severity of CAD (number of coronary arteries with significant stenosis) and with conventional risk factors of CAD were evaluated.
Results: A significant association between ELC and CAD was seen (P0<00002). The observed sensitivity, specificity, positive predictive value and negative predictive value of ELC for CAD were the followings respectively (65%; 78%; 83.6%; 55.6%).also the presence of ELC was associated with severity of CAD (P0<0.013). Although there was a direct correlation between frequency of ELC and increasing age, association of ELC and CAD was independent of age and sex. Statistical analysis revealed that ELC was not associated with conventional CAD risk factors.
Conclusion: The study indicates a positive association between ELC and the presence and severity of CAD.

Abstract ID: 742

Magnesium Orotate Induces Cardioprotection Against Global and Regional Ischaemia Regardless the Timing of Administration During Postischaemic Reperfusion in Rat Hearts

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Abstract:
Background: Acute administration of magnesium orotate (Mg-Or) at the very onset of reperfusion was associated with significant protective effects in isolated rat hearts. The first minutes of reperfusion are recognized as critical for both pharmacological and ischaemic postconditioning-associated cardioprotection.
Objective: The present study was aimed at investigating the importance of timing for Mg-Or associated cardioprotection in two experimental settings: global ischaemia (GI, 1 mM Mg-Or) in isolated hearts and regional ischaemia (RI, 0.01 mg/kg) in vivo.
Methods and results: Sprague-Dawley adult male rats (n = 6-8/group) were randomized into 6 groups: (i) 1, 2 - no additional intervention (Ctrl–GI/RI); ii) 3, 4 - early administration of Mg-Or, 2 minutes before the onset of reperfusion (Mg-Or-E GI/RI); iii) 5, 6 - delayed administration of Mg-Or, 3 minutes after the onset of reperfusion (Mg-Or-D GI/RI). All rat hearts were subjected to 30 minutes of GI or RI followed by 120 minutes of reperfusion. Infarct size was assessed by the 2.3.5-triphenyltetrazolium chloride staining. In both experimental settings Mg-Or elicited an important antinecrotic effect as compared to the corresponding Ctrls (GI: Mg-Or-E 32.07±1.8%, Mg-Or-D 35.02±2.36% vs. Ctrl 70.4±3.7%, $p < 0.001$ and RI: Mg-Or-E 28.44±2.66%, Mg-Or-D 26.0±3.3% vs. Ctrl 48.98 ± 2.26 %, $p < 0.001$).
Conclusion: The presence of Mg-Or throughout the postischaemic reperfusion elicited a significant anti-infarct protection in both experimental settings regardless the timing of administration. Further investigations are required to assess the mechanisms of magnesium orotate associated protection at reperfusion and its persistence in the presence of prologed ischaemic periods.
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Abstract ID: 827

Association of prehypertension and cardiovascular risks

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Abstract:
Background: Prehypertension is defined as a new category of blood pressure to reinforce the health risks. The real frequency of prehypertension in different countries, as in Bulgaria, is still not clear. Controlling prehypertension is a way to set the stage for a lifetime of better health.

Methods: Within 4 years in three seasons – spring, summer and autumn, were studied 4520 people at age of 18-95 years in South Bulgaria. The parameters: body mass index (BMI), waist and hip circumferences, arterial blood pressure (ABP) – systolic (SBP) and diastolic (DBP), plasma lipids (automatic clinic-chemical analyzer with ion selective addictive Optima KONE, Finland), glucose (clinical chemical analyser RA 1000 Technicon, USA), NOMA index and insulin level were followed up.
Results: Prehypertensives were 39% of the population, only one fourth of them treated pharmacologically and the usually applied drug was of the class of Angiotensin Converting Enzyme inhibitors. Male - 63% and female - 37% of them being with Metabolic Syndrome (MS). MS women were presented with: BMI 35.43±3.18 kg/m2, NOMA index 4.15±1.10; increased waist/hip circumferences ratio, ABP (SBP and DBP):120/80 to 139/89. Most of the MS women were insulin resistant and 45% of them demonstrated disglycemia. Plasma HDL-cholesterol was significantly lowered and triglycerides – significantly increased in MS women.
Conclusion: The followed up parameters, indicating prehypertension and metabolic syndrome are responsible for significant cardiovascular risks. The key to short- and long-term benefits is a commitment to healthy lifestyle changes.

Session: Dentistry

Abstract ID: 95

The Effect of low power laser upon side effects of post surgical impacted mandibular wisdom tooth extraction

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Abstract:
Introduction: Surgical removal of impacted third molars usually has some side effects for patients, including trismus and pain. Control of these side effects is important point to reach the aims of treatment including treatment success and patient satisfaction. Several studies evaluated the effect of Red and IR lasers separately but we evaluate the effect of combination of these two lasers on trismus.
Material and methods: The research was performed by controlled randomized clinical trial on 18 patients with age range of 17 to 25 years old. All the patients had 2 impacted mesioangular mandibular third molars in right and left side of mandible. The interval between the surgical operations of both third molars was considered 3 weeks. In experimental group we performed laser irradiation after the surgery and in the control group we just pretend irradiating laser with non operating laser apparatus after doing the surgery. Considering which sides of mandible as experimental or control group were chosen randomly. We measured the amount of mouth opening before surgery and one week after surgery for all the groups.
Results: The results were analyzed by ANOVA-test. The evaluating of trismus in experimental at the seventh postoperative day showed better results than the control group.
Conclusion: Combination of two low power lasers represented a completely safe alternative means of treatment in postoperative complications due to its efficacy in the control of trismus.

Abstract ID: 156

The application of CO_2 and ER:YAG laser for treatment of gingival pigmentation

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Abstract:
Introduction: Melanin pigmentation is an esthetic problem specially when occurs in facial part of gingival which can be seen during speech and smile. There are various procedures for removal of melanotic areas like scalpel surgery, laser surgery, cryosurgery and electrosurgery. The aim of this study was to assess the bleeding and pain after using CO2 and Er:YAG laser for the depigmentation of oral mucosa.
Methods: 10 patients with melanin-pigmented gingival sites on anterior part of two jaws were selected. The treatment was done under local anesthesia. The lesions from midline were divided to two parts (left and right). Then, the left and right part of lesion was randomly treated by co2 or Er:YAG laser. The CO2 laser with wavelength of 10600 nm with average power of 7.2 W (frequency 20 Hz) and Er:YAG laser(2940 nm) with power of 2W and frequency of 20 Hz were applied for this procedure.
Results: In both CO_2 and Er:YAG laser groups, the region of surgery is out of bleeding (dry surgery) and the patients had no complaints of pain and sensitivity.
Conclusion: It seems that laser can be an alternative device for eliminating the gingival pigmentation because of its efficacy in treatment of superficial benign pigmented lesions and decreased trauma for the patients and its ease of use.

Abstract ID: 173

Comparing primary and secondary wound healing discomfort after mandibular third molar surgery: A randomized, double-blind clinical trial

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Abstract:
Aim: Extraction of impacted mandibular third molars is one of the most common procedures in the oral cavity and often is followed by pain, swelling, and post-extraction alveolitis and trismus. It has been suggested that postoperative discomfort is in relation to the type of surgical wound healing. The aim of this study was to compare pain, swelling, and maximum mouth opening in two groups of patients with primary and secondary wound healing after impacted mandibular third molar surgery. Material &
Methods: Thirty-two patients were enrolled in this study and randomly divided into two equal groups, quantitatively and by gender. After the surgical procedures, 16 patients received primary wound closure, while the other

16 participants received secondary wound closure. A visual analog scale was used to collect pain data three days after the surgeries.
Results: A checklist was used to record data regarding swelling size and maximum mouth opening before, immediately following, three days after, and one week after surgery. Frequency tests and a t-test were used for statistical analysis and a P value of <0.05 was considered as statistically significant.
Conclusion: Patients in the secondary wound healing group showed statistically significant lower discomfort regarding pain, swelling size, and maximal mouth opening compared to the primary wound healing group. The authors suggest the use of secondary wound healing closure to reduce post-operative complications such as pain, maximal mouth opening, and swelling size after impacted mandibular third molar extractions.

Abstract ID: 266

Influence of motivation measures for oral hygiene on quantity of denture plaque in elderly patients

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Abstract:
Background: Health education in the broadest sense includes experience (of an individual, a group, a community) that affects believes, knowledge, habits, attitudes and behavior concerning the protection and promotion of health. Denture stomatitis occurs in response to local irritation caused by inadequate dentures, denture plaque and / or inadequate use of dentures. It is manifested in the form of hyperplastic oral mucosa in the oral mucosa beneath the dentures. The aim of this study is to investigate the motivation of patients to maintain oral hygiene and its impact on the amount of denture plaque.
Methods: Thirty elderly patients wearing mobile dentures were examined in the study. Clinical examination revealed the level of oral hygiene, by determining the amount of denture plaque and dental calculus. Raising awareness, education and motivation was conducted through presentations about proper brushing techniques, as well as proper cleaning and storage of mobile dental restorations. After a three week period the checks were made to estimate the effectiveness of the health education work.
Results: The results show the positive effects of motivation measures, which are reflected in the reduced amount of denture plaque on the removable dental restorations. The control examination showed a significant reduction of denture plaque ($p < 0.05$). All subjects mastered and adopted the recommended techniques for cleaning dentures. Health education work with the elderly has led to changes in behavior and the creation of positive habits in oral hygiene.
Conclusion: The study indicates the effectiveness of motivation of elderly patients to maintain oral hygiene and the impact of health education work on the amount of denture plaque.

Abstract ID: 489

Effects of Topical Application of Hyaluronic Acid Gel on Wound Healing following Gingival Recession Treatment

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Abstract:
Background: The main purpose of this study was to evaluate the effects of HA (hyaluronic acid) on the wound healing following gingival recession treatment.
Methods: Nine patients, each contributing a pair of Miller Class I or II buccal gingival recessions, were treated. In each patient, one randomly chosen defect received a connective tissue graft (CTG) with a coronally advanced flap, while the paired defect received a CTG in combination with 0.2 % hyaluronic acid gel (Gengigel®). Clinical effects were evaluated on the 7th, 14th and 21st day post surgery by early healing index (EHI).
Results: Mean EHI values recorded on the 7th day were 2.8 in CTG group, and 4.0 in CTG+HA gel group ($p<0.01$). Results achieved on the 14th day were 3.5 in CTG group and 4.7 in CTG+HA gel group ($p<0.05$), while the results detected on 21st day were 4.4 in CTG group and 4.8 in CTG+HA gel group ($p>0.05$).
Conclusion: Results of this study confirm that use of HA gel provides superior wound healing response in early healing period (first two weeks post surgery). This can be explained by anti-edema and anti-inflammatory effects of hyaluronic acid. After this period, there are no significant clinical effects on wound healing process and treatment

Session: Dermatology

Abstract ID: 161

Investigation of the effect of commercial preparations of the concentration of urea 10%, itching and skin moisure

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Abstract:
Introduction: The skin is a permanent barrier to many influences from the environment. Dry skin is one of symptoms in many patients with dermatological diseases. About 30% of the population complained of occasional or permanent in some of the symptoms of dry skin. It is known that to preserve the barrier function of skin is essential composition of lipids in the corneal layer of epidermis. Lipid in the corneal layer 50% ceramides, 26% fatty acids, 20% cholesterol ,3% triglycerides and 1% cholesterol ester.
Objective: Preparations with concentration of 10% urea to preserve and enhance the barrier function of epidermis and mitigation symptoms dry skin, and the ratio of male and female populations and their disposal for the second half of 2010. in dermatovenerology clinic.

Materials and methods: During the writing of this paper, we used a retrospective analysis of protocols for June-December of 2010 for a period of six months in outpatient of dermatovenerology. A total of 930 patients of which 158 of them, that is 16.98% the symptoms, itch. Of 158 patients were 89 women, that is 56.32% and men 69 that is 43.68%.
Results: Treatment is initiated preparations for topical application and 89 womens (56.32%) and 69 male patients (43.68%) were administered twice daily topical commercial products with 10% urea. In 79% of cases in both groups we had a good response rate with a significant reduction in itching.
Discussion and conclusion: After statistical analysis shows that in our patients, statistically significant improvement in skin moisture in both groups of patients already after 7 days of application. Commercial preparations with a concentration of urea 10% have a favorable and long- lasting effects on skin hydration.

Abstract ID: 165

Efficacy of Arnebia euchroma on third degree burn wound healing; based on stereological and pathological analysis

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Abstract:
Background: The present study was carried out to evaluate the wound healing effect of Arnebia euchroma extract, which is traditionally used in some places as well as some Iranian tribes, in comparison with silver sulfadiazine on third degree burn wounds.
Material and methods: In a randomized experimental study, 48 female Sprague-Dawley rats with average weight of 220±20 g were used. The standard third degree burn wounds were created on the posterior of their necks. The rats were divided into four groups, The Silver Sulfadiazine ointment treated group (SS), The two Arnebia Euchroma Hydroalcoholic(AE) extract treated groups, at the concentration of 10% and 20% (AE10, AE20), and the control group. Wound healing processes were compared using randomized stereological and pathological methods.
Results: Analysis of specimens revealed that, re-epithelization in wounds, fibrosis, closure-rate, granulation tissue formation, and inflammatory response was significantly higher in ointment treated groups (SS, AE10 and AE20) compared with control group ($p<0.05$). Statistically significant increase of fibroblasts densities were observed in SS group, AE10 and AE20 ($p<0.03$) in comparison with Control group. Total volumes of collagen fibers in SS and AE10 groups were similar ($p>0.1$) but had a significant difference with AE20 and controls ($p<0.03$). Vessels length densities (Lv) in AE10 increased significantly comparing with controls (P=0.46); AE20 and SS did not have noticeable differences here.
Conclusion: Results disclose that, Arnebia euchroma can be a good substitute for today's topical chemotropic treatments of third-degree burn wounds considering the lower costs, lesser side effects and acceptable efficacy.

Abstract ID: 245

Depression and quality of life in Alopecia Areata

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Abstract:
Background: Alopecia areata (AA) is a skin disease with prevalence of 0.2 % in general population and unknown etiology. On contrary of low physical impairments Alopecia areata causes a lot of cosmetic problems while most clinicians do not pay attention to mood disorders and quality of life impairments as the consequences of disease.
Aim: To quantify the burden of Alopecia areata in Iranian patients by estimating health related quality of life instruments and investigating depression in such cases.
Methods: From January 2009 until January 2010 one hundred Alopecia areata patients who were randomly selected (by simple random selection) from outpatient clinic of Razi Hospital (Center of skin diseases of Tehran University of Medical Sciences) were asked to answer to valid and reliable instruments such as Beck Depression Inventory (BDI), SF-36 and DLQI (Dermatology Life Quality Index)questionnaires.
Results: Mean scores of BDI, SF-36and DLQI of patients were14.4±9.7, 68.04 ±15.1 and 6.4±5.5 respectively. BDI scores were significantly different between male and female participants (F=18.1 ±11.2 vs. M=12.7±8.5 p=0.01) but SF -36 and DLQI scores did not significantly differ between 2 groups. Duration of the disease, BDI and age had no significant correlation with DLQI scores. Cases with highly beard involvement had the highest BDI score who had the lowest SF-36 score.
Conclusion: mood disorders such as depression should be considered by dermatologists in order to pay particular attention to the risk of high quality of life impairment in AA cases.

Session: Endocrinology

Abstract ID: 40

Changes in Expression of Calpain 3 May Reflect Early Retinal Neurodegeneration in Models of Type 1 and Type 2 Diabetes Mellitus

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Abstract:
Background: Diabetes is the leading cause of irreversible blindness in adults. Recent evidence suggests that early neurodegeneration of the retina is a critical component of diabetic retinopathy. Early changes include increases apoptosis, glial cell reactivity and microglial activation and these could explain some of the functional abnormalities that are seen early in diabetes. The aim of this study was to investigate the expression of retinal genes in ani-

mals with diabetes mellitus to shed light on early changes associated with diabetic retinopathy and cataracts.
Methods: We investigated changes in the expression of retinal genes that may be involved in early neurodegeneration in models of type 1 diabetes (streptozotocin-induced rat) and type 2 diabetes (Zucker Fa/Fa rat). Changes in gene expression were identified using low-density expression arrays and confirmed by fast real-time RT-PCR and immunocytochemistry.
Results: One gene that showed particularly marked changes in expression was calpain 3. Calpain 3 expression was 15-fold decreased compared with control ($P<0.001$) at 7 weeks after administration of streptozotocin. In contrast there was a fifty-fold increase at 12-weeks ($P<0.05$). There was a similar decrease in calpain 3 expression ($P<0.0001$) at 10 weeks (very early) in the Zucker Fa/Fa rats. Immunocytochemistry showed that calpain 3 was localized to retinal ganglia cells and revealed a marked increase in retinal expression in diabetic animals. Calpain 3 and a splice variant (Rt88) are expressed at very low levels in normal retina, but increased expression is associated with triggering of the caspase cascade and apoptosis in retinal ganglion cells and has been reported in several pathological conditions of the eye, including ischemia reperfusion injury, oxidative stress, growth factor deprivation, hypoxia, N-methyl-N-nitrosourea-induced retinal injury, acute high intraocular pressure, light-induced retinal degeneration, as well as models of inherited retinal degeneration. However previous studies have not linked expression of calpain 3 with early retinal damage in diabetes.
Conclusion: If the changes in calpain 3 expression contribute to early retinal neurodegeneration, then it is possible that selective calpain inhibitors could be of value in preventing activation of the caspase cascade and the apoptosis of retinal ganglion cells in this disease.

Abstract ID: 178

Comparison of lipid levels, blood pressure and glycemic control in patients with type II diabetes mellitus with and without " hypertriglyceridemic waist"

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Abstract:
Background: Metabolic syndrome includes the presence of abdominal (central) obesity, high blood pressure, increased triglycerides, low "good" HDL cholesterol and insulin resistance. Metabolic syndrome is a major health problem worldwide; people suffering from this syndrome are in increased risk of developing heart and blood vessels disease and diabetes type II. The first sign of metabolic syndrome is obesity - the central type of obesity, where fat accumulates mostly around the waist. "Hypertriglyceridemic waist" presents waist size more than 90cm in men and more than 85 cm in women, and it also presents an easy way to define people with visceral type of obesity. The aim was to evaluate the connection between the presence of "hypertriglyceridemic waist" in patients with type II diabetes mellitus and lipid disorders, disorders of blood pressure and glycemic control in these patients.
Methods: One hundred consecutive patients with type II diabetes mellitus were seen (52 men and 48 women) and hospitalized in a daily hospital - Clinic for Endocrinology, Diabetes and Metabolic disorders. Each patient's medical history was taken, clinical examination was performed as well as the anthropometric measurements. Blood pressure measurements, laboratory analysis of biochemical parameters and glycemic control were performed.
Results: Among patients with type II diabetes mellitus was noted the presence of "hypertriglyceridemic waist" in 44 of 100 (44%) patients. The sex ratio was approximately the same: 23 out of 52 men (44.23%) and 21 out of 48 women (43.75%). Men with the presence of "hypertriglyceridemic waist" had a statistically higher level of total cholesterol, diastolic blood pressure and have higher level of HbA1c, and higher level of morning and postprandial glucose. Women with the presence of "hypertriglyceridemic waist" had statistically higher levels of total and LDL cholesterol, diastolic blood pressure and have higher levels of postprandial glucose.
Conclusion: Our results indicate that the presence of " hypertriglyceridemic waist" in our patients is associated with the presence of other conventional risk factors for atherosclerosis such as cholesterol and high blood pressure, and the presence of poor glycemic control in men.

Abstract ID: 374

Raised serum estrogen and progesterone concentrations in female rats treated with extract of Alstonia boonei (De wild)

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Discipline: Endocrinology

Abstract:
Background: Alstonia boonei (Ab) is a deciduous plant used in Nigeria for the treatment of various ailments. It is reputed in traditional medicine to have anti-malarial, antipyretic, analgesic, and anti-inflammatory properties. Many anti-malarial and antibiotic agents have been reported to have anti-fertility actions; example, the anti-fertility action of quinine, tylosin and chloroquine have been documented. Studies have proven the anti-fertility effect of Ab on male rats. The effect of Ab on reproductive functions leads to the question whether it affects sex hormones. The absence of information on the female sex-hormonal effect of Ab (a potent anti-malaria plant) attracted our research attention. The level of female sex hormone is very significant in female reproductive function. The aim of this research is to investigate the effect of Alstonia boonei stem bark extract on the serum estrogen and progesterone concentrations in mature non-pregnant female rats.
Materials and methods: Forty rats weighing 100-150g were randomly allocated to 8 experimental groups of 5 rats each. Group1 was given 0.5mg/kg normal saline and served as the control. Groups 2, 3, and 4 received 50, 100, and 200mg/kg of the extract (Ab stem bark extract) daily for 2 weeks respectively. The doses were repeated for groups 5, 6, 7, and 8 for 4 weeks respectively. All drug administration was by oral intubation. At the end of the respective periods, the rats were sacrificed under chloroform anaesthesia. The serum concentrations of the hormones were determined using Elesy's auto analyzer.
Results: Ab extract dose dependently elevated the serum concentrations of estrogen and progesterone at higher

doses and longer periods ($p < 0.05$). The serum hormonal increase by the 2nd week and at 50mg/kg were not significant ($p > 0.05$)
Conclusion: The results indicated that treatment with Ab stem bark extract on female rats is able to increase the serum level of female sex hormones. This effect is more prominent in the group with higher administration dosage, and persists with prolonged administration. We conclude that active substances present in Ab stem bark extract has production enhancement effect on female estrogen and progesterone. Hence it can be used for female contraception (knowing that prolonged increase in blood progesterone and estrogen inhibits ovulation)

Abstract ID: 413

Clinicopathologic peculiarities of thyroid cancer among children

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Abstract:
Background: Despite the fact that thyroid cancer (TC) is much less common in children than in adults, it accounts for 1-3% of the total number of malignant tumors in children. Certain standards have been developed already regarding the treatment strategy. Nevertheless, many issues relating to clinical and biological aspects of the pathogenesis of tumors remain insufficiently studied. Objectives: The aim of this study was to investigate clinical and morphological features of TC in children.
Methods: Research materials include the information from the outpatient charts of 55 children, living in Belarus with morphologically verified TC, that were observed in "Minsk City Clinical Oncology Center" from 2005 to 2010. Statistical analysis of the data was performed. Among examined children girls amounted to 69%, which was significantly higher ($Z = 3,795$; $5 < 0.01$) than boys (31.0%). Mean age of the children at the time of surgery was 13.1 ± 2.1 years.
*Results:*The majority of patients – 96.4% were with TC stage I (T1N0M0). In the right lobe cancer was diagnosed significantly more often than in the left ($Z = 3,501$; $p < 0.01$). Papillary carcinoma predominates- 90.9%. The evaluation of tumor spread in examined children was based on TNM UICC, 2002 classification: T1N0M0 – in 25.5%, T1N1aM0 – in 16.4%, T1N1bM0 - in 23.6%, T1mN1bM0 – in 5.5%, T2N0M0 –1.8%, T2N1bM0 – 5.5%, T2N1bM1 – in 1.8%), T3N1aM0 – in 3.5%, T3N1bMo – in 16.4%. The following volume of primary surgical intervention was performed: 76.4% - total thyreoidectomy, 20.0% - hemithyroidectomy. 3.6% underwent only chemotherapy course without primary surgical intervention. According to results of ultrasonographies in 34 patients before the surgery, the average size of nodules in patients with T1NmM0 was 0,9-2,3 cm, with T2NmMm - 1,1-2,7 cm, and with T3N1mM0 was minimal and amounted to 0,7-1,1 cm. Therefore, the size of the primary neoplasm does not affect the spread of carcinoma. Metastases to the paratracheal nodes were found in 70.6% of patients and metastases in cervical lymph nodes - in 55.9% patients.
Conclusion: In the examined patient population TC was significantly more common in girls. Papillary carcinoma predominates in our clinical series. Most children with TC were diagnosed at stage I. The spread of TC in the examined children does not depend on the size of the primary nodules in the thyroid gland. The majority of examined children with TC underwent total thyreoidectomy.

Abstract ID: 417

The immunomodulatory effect of Echinacea purpurea on bone metabolism markers in osteoporotic patients

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Discipline: Endocrinology

Abstract:
Background: Osteoporosis is rapidly growing in prevalence and morbidity. The current treatment options are still restricted. Hence, newer therapeutic approach is needed. Bone remodeling markers as osteoprotegrin (OPG) and receptor activator of NF-κB ligand (RANKL) play a key role in bone homeostasis1. Echinacea purpurea (EP) is one of the most popular plants in herbal medicine with potential immunostimulatory role in vivo2. Since bone remodeling is regulated through OPG & RANKL and numerous immune regulatory hormones, we investigated the effect of EP as an immune modulator in the expression of mentioned bone markers.
Objective: The aim of this study was to examine whether Peripheral blood mononuclear cells (PBMC) from osteoporotic patients, which were induced by EP have a different expression in OPG & RANKL comparing healthy group or not.
Methods: 30 osteoporotic patients and 30 healthy individuals were recruited. Monocytes were isolated from peripheral blood by the Ficoll density method, cultured and induced with EP. Cells were harvested several times. RNA was extracted and cDNA was synthesized. The expression of OPG & RANKL was evaluated by RT-PCR.
Results: Expression of OPG & RANKL in PBMC of osteoporotic patients had different pattern as compared to healthy group. The results indicated that RANKL/OPG expression ratio was higher in osteoporotic patients as compared to other. After induction of EP in PBMC of participants, the RANKL expression significantly reduced in osteoporotic group whereas in healthy group, slight reduction in RANKL level with no significance was observed. Besides, the level of OPG had been elevated in both groups which were not significant. As well, following the induction, the RANKL/OPG ratio significantly decreased in osteoporotic patients while the ratio decline was not significant in healthy group.
Conclusion: Of noteworthy is that expression of RANKL in osteoporotic patient is clearly reduced after inducing EP. These results support the role of EP as immune system regulator. Also, since osteoporosis occurs as a result of imbalance between bone resorption and formation associated with decreased RANKL/OPG ratio, novel strategies targeting OPG & RANKL system may have an advantageous impact on osteoporosis therapy. So, it's supposed that E.purpurea through its regulatory function in OPG-RANKL axis may appear a promising new therapeutic option in osteoporosis.
References: 1.Collin-Osdoby P, PMID:11274143
2.Woelkart K, P

Abstract ID: 462

Impact of demographic parameters to grade and clinical presentation of brain arterio-venous malformations

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Abstract:
Background: Brain arterio-venous malformations (AVM) are structures which are consisted of pathological blood vessel convolutes, most common localization is supratentorial part of the brain. Most frequent clinical presentation is intracranial hemorrhage. The aim of the study is to determine impact of demographic parameters (sex, age) to grade and clinical manifestations (acute hemorrhage, headache, seizures, neurological deficit) of brain AVM.
Methods: In this study 79 persons were included, surgically treated in Institute for neurosurgery KCS, in period 2005-2010. Mean age was 42,94±1,91 years. Parameters (age, sex, clinical manifestations and grade) were gained in retrospective analysis. The patients were counted and divided into groups based on AVM grade and clinical manifestations. Statistical analysis was made using chi square test. A value of $p<0.05$ was considered statistically significant and $p<0,01$ high statistically significant.
Results: Most common AVM grade was grade II (40,51%), and most common clinical presentation was acute intracranial hemorrhage (56,96%). There was statistically highly significant difference between patient younger and older than 40 years in existence of chronic headaches (X2e(P) = 6,7) and epilepsy (X2e(P) =12,51). Comparing younger and older than 40, it was found statistically significant difference in occurrence of neurological deficit (X2e(P) = 5,14, $p<0,05$).
Conclusion: Age and sex have no impact on AVM grade nor on hemorrhage. Older than 40 years suffer more from chronic headaches and neurological deficit, but younger than 40 have, more often, epilepsy.

Session: Enterology

Abstract ID: 315

Quantificatio of survivin-immunopositive cell of lymph follicles in different type oc chronic tonsillitis

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Discipline: Enterology

Abstract:
Introduction: Chronic inflammations are frequent pathological states of the palatine tonsils. Specific entities are chronic hypertrophic tonsillitis (CHT) and recurrent tonsillitis (RT). During the inflammation in the lymph tissue are expressed many both pro- and anti-apoptotic factors, amongst which is Survivin. Molecular mechanism by which Survivin acts are not so well known, but his role in the inhibition of apoptosis is known.
Aim: The aim of this paper was to show possible differences in the intensity of expression of this marker in the both CHT and RT by measuring numeral areal density of survivin-immunopositive cells in the germinative centers and the mantle zones of the lymph follicles in the chronic tonsillitis.
Material and methods: Material consisted of tonsils taken after tonsillectomy from patients of both sexes, age between 10 and 29 years: 5 tonsils with RT and 5 tonsils with CHT. 5μm thick serial paraffin tissue slices were stained on hematoxylin-eosin and immunohystochemicall metod LSAB+/HRP with application of the antibody for Survivin. Determination of numerical areal density (NA) of survivn-immunopositive cells, that is, average number of cells on 1mm2 tissue, in the lymph follicles of tonsils: germinative centers and mantle zones. The digital pictures were taken with Olympus BX-50. For the quantification of the cells program Image J was used.
Results: By comprising the NA of survivin-immunopositive cells in the germinative centers and mantle zones of the lymph follicles of the tonsils with CHT and RT we found out that there is a statistically important difference in their number in the mantle zones, while there is no such difference in cell count found in the germinative centers.
Conclusion: Survivin is expressed in the mantle zones and the germinative centers of the lymph follicles in the RT and CHT. Difference in the number of this cells in the mantle zones in RT and CHT might indicate that there is a different type of mechanism of expression of the secondary immune response in these two conditions.

Abstract ID: 315

Quantificatio of survivin-immunopositive cell of lymph follicles in different type oc chronic tonsillitis

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Abstract:
Introduction: Chronic inflammations are frequent pathological states of the palatine tonsils. Specific entities are chronic hypertrophic tonsillitis (CHT) and recurrent tonsillitis (RT). During the inflammation in the lymph tissue are expressed many both pro- and anti-apoptotic factors, amongst which is Survivin. Molecular mechanism by which Survivin acts are not so well known, but his role in the inhibition of apoptosis is known.
Aim: The aim of this paper was to show possible differences in the intensity of expression of this marker in the both CHT and RT by measuring numeral areal density of survivin-immunopositive cells in the germinative centers and the mantle zones of the lymph follicles in the chronic tonsillitis.
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pictures were taken with Olympus BX-50. For the quantification of the cells program Image J was used.
Results: By comprising the NA of survivin-immunopositive cells in the germinative centers and mantle zones of the lymph follicles of the tonsils with CHT and RT we found out that there is a statistically important difference in their number in the mantle zones, while there is no such difference in cell count found in the germinative centers.
Conclusion: Survivin is expressed in the mantle zones and the germinative centers of the lymph follicles in the RT and CHT. Difference in the number of this cells in the mantle zones in RT and CHT might indicate that there is a different type of mechanism of expression of the secondary immune response in these two conditions.

Session: Epidemiology

Abstract ID: 399

Gender difference in the presence of risk factors in patients with type 2 diabetes

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Abstract:
Objective: The aim of the study was to investigate differences by gender in the presence of risk factors in patients with type 2 diabetes.
Methods: This study was conducted in Podgorica during the period from February to June 2007. The case group included 64 patients (32 men and 32 women) having diagnosis type 2 diabetes. All individuals were interviewed at the Clinical Centre of Montenegro using questionnaire with 31 closed questions. The data were collected ragarding demographic characteristics (age, sex, education, marital status), stress, habits (smoking, consumption of coffee and alcohol), obesity, physical inactivity and family history of diabetes. The methods of descriptive statistics, t-test and chi square test were used for data analysis.
Results: Statistically significant differences in age between the patients of both genders was not found ($p>0.05$). The men were married significantly more frequently than the women ($p<0.05$). The women had a higher level of education ($p<0.05$). Regarding to the level of body mass index (BMI), physical inactivity, smoking, stress, positive family history of diabetes there were no significant differences between the genders ($p>0.05$). The men drank alcohol significantly more frequently than the women ($p<0.05$), but consummate less coffe ($p<0.05$).
Discussion: In this study, like in many others, age, education, obesity, physical inactivity, smoking, alcohol, stress, positive family his¬tory of diabetes type 2 were identified as present risk factors for diabetes type 2 of both gender.
Conclusion: Men were more frequently married and drank alcohol, women had a higher level of education and more frequently drank coffe.

Abstract ID: 559

Evaluation of School-based Surveillance Systems for Infectious Diseases in Taiwan

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Discipline: Epidemiology

Abstract:
In facing the continuing threat of infectious disease, an effective early outbreak detection system is required to public health and social welfare. The largest outbreak of enterovirus 71 occurred in 1998 in Taiwan with 215 severe cases and 78 fatalities. Nationwide virological surveillance was thus established. Following the outbreak of severe acute respiratory syndrome (SARS) in 2003 in Taiwan, school absenteeism surveillance system changed from the paper-format to web-based reporting. In facing the pandemic influenza A (H1N1) in 2009, Department of Health in Taipei City Government implemented a school-based Internet surveillance system beginning from December 2009. This study proposes to evaluate the widely used nationwide infectious disease surveillance system for school children, and to compare it with web-based school surveillance system for finding out where should be improved in the future for better effectiveness to detect emerging infectious diseases in school children. The temporal and spatial distributions of the two most commonly appeared syndrome – hand-foot-mouth disease (HFMD) and herpangina (HA) were analyzed. The data analysis has been in process. Up to now, the preliminary analysis of nationwide school absenteeism surveillance showed that the patterns of hand-foot-mouth disease or herpangina (mostly due to enterovirus infection) had double peaks, from 2004 to 2007. The peaking weeks were around the 24th and 40th weeks of each year (eg. late June and mid-August) which were parallel well with seasonality and school children gathering periods. These results imply that intense disease surveillance and enhanced hygiene education should be strengthened. We believe this research can be very helpful to improve pediatric infectious disease surveillance and prepare well for next pandemic or any emerging infectious disease agents coming from China or elsewhere into Taiwan for assuring public health security in Taiwan.

Session: Genetics

Abstract ID: 308

Mutation analysis of the STXBP1 gene in patients with early-onset seizures

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Discipline: Genetics

Abstract:
Background: The first few months of life have the highest risk of seizures and epilepsy, frequently resulting from structural, metabolic or vascular defects in the brain at, or

around, the time of birth. However, in a subset of cases, the underlying cause is never found. Recent studies have identified genetic defects in an increasing proportion of these cases. Although the vast majority of the genes identified encode components of voltage- or ligand- gated ion channels, mutations in non-ion channels genes, such as STXBP1, have been reported. STXBP1 is a highly conserved regulatory component of the SNARE complex, which is essential for neurotransmitter release. Several mutations in STXBP1 have been found to underlie Ohtahara syndrome (a very severe form of epilepsy presenting in the first days of life) and non-syndromic mental retardation with epilepsy.
Objective: The objective of this study was to determine the frequency of STXBP1 mutations in a cohort of patients with a range of idiopathic early-onset seizure phenotypes.
Methods: We conducted a mutation analysis study by sequencing the coding regions, and their flanking intronic splice junctions, of STXBP1 in 28 samples.
Results: We identified a total of three novel intronic variants, one of which (c.663+1G>T) was a splice site mutation, predicted to disrupt a conserved position, that was present in the only patient in our cohort found to have suppression-burst on EEG (a key diagnostic feature of Ohtahara syndrome). The other two variants, c.38-3T>C and c.1548-33G>C, were predicted not to be pathogenic by in silico analysis.
Conclusion: These results suggest that STXBP1 disruption is specifically associated with Ohtahara syndrome but probably not with other early-onset epilepsy phenotypes. This will be useful data to guide the selection of future patients for clinical testing of STXBP1.

Abstract ID: 323

Clinical and genetic features of patients with mitochondrial neurogastrointestinal entsefalomiopaty (MNGIE)

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Abstract:
MNGIE is a generalized indigestion, referring to the rare hereditary diseases that are not diagnosed on time. Patients are concerned about chronic diarrhea, weight loss, most often they are diagnosed with: chronic pancreatitis. Extra bowel symptoms are varied, but all of them are specific to mitohondriopaty. Given the persistent functional changes in the gastrointestinal tract and nervous system, MNGIE refer to serious diseases, leading to disability in patients.
Objective: to study the clinical and genetic characteristics of patients with MNGIE for timely diagnosis, effective treatment and rehabilitation.
Materials and methods: The study included 10 patients with clinically diagnosed MNGIE from 2 to 60 years, combined similar complaints and general signs of gastrointestinal and neuro-muscular system. All patients were analyzed pedigree, abdominal ultrasound, biochemical and molecular study of blood.
Results and discussion: Analysis of the pedigrees revealed in 8 patients family history of neurologic, in 7 - on the GIS, in 6 - to cardiovascular disease. US showed the presence of all patients of various changes on the part of the pancreas and hepatobiliary tract. 4 patients have severe venous engorgement of the internal organs. In conducting molecular studies in 3 patients revealed polymorphism 677 C/T gene MTRR homozygous; in 3 - a combination 677 hmzg C/T and MTRR polymorphisms 66 A/G MTHFR gene in the heterozygous state; in 2 - compound heterozygous and 1 - homozygous compound 677 C/T MTRR and 66 A/G MTHFR. Given these results, a standard bioenergetic therapy (coenzyme Q10, L-carnitine) were added folic acid, vitamins B6, B12 (cofactors folatnogo cycle). Patients are recommended a diet with restriction of foods rich in methionine and fortified with folic acid, vitamins B6 and B12 - under the control of homocysteine level and blood amino acids.
Conclusion: 1) The main symptoms of MNGIE: chronic diarrhea, cachexia, increased weakness. 2) If you suspect that MNGIE is necessary to perform molecular studies of polymorphisms of genes of folate cycle, and biochemical studies to determine the level of lactate, and amino acid homocysteine in blood. 3) Introduction in the treatment scheme MNGIE bioenergy products and co-factors folate cycle can improve the quality of life of patients and is the prevention of acute cardiovascular complications.

Abstract ID: 435

Macrophage migration inhibitory factor variation may modify the effect of Alpinia officinarum Hance extraction on MIF gene expression in obese subjects

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Abstract:
Background: The aim of this study is to compare the resting metabolic rate in different Macrophage migration inhibitory factor (MIF) genotypes, and to identify the in vitro effects of Alpinia officinarum Hance extract (AOHE) on MIF expression in obese and non-obese subjects.
Methods: Participants included 69 obese and 103 normal weight subjects who were assessed in a fasting state for the measurement of resting energy expenditure rate (REE) by indirect calorimetry and analysis of body density with the use of the BODY COMPOSITION ANALYZER BC-418MA - Tanita. Real-time PCR was performed using specific primer pairs for MIF mRNA, and β-actin was used as the internal control.
Results: The proportions of MIF genotypes were slightly different in obese and non-obese subjects. However, the proportions of MIF genotypes were significantly different in subjects with normal and low REE and MIF gene was highly expressed in the obese group compare to the controls. Furthermore, our results demonstrated that body fat mass and the expression of MIF were higher in GG genotype compared to that of the other genotype groups. Moreover, the MIF gene expression was inversely associated with REE in both groups. After treatment of PBMCs with AOHE, MIF expression was different in MIF genotypes.
Conclusion: According to our results, we can suggest that MIF expression, which is demonstrated to be influenced by AOHE, has a role in hyper inflammatory state in obese

individuals. The obese subjects are known to have a reduced REE and this over expression of MIF might indirectly cause the low REE in these subjects. Further clinical studies to assess the relation between REE, MIF and AOHE are suggested.

Abstract ID: 762

ACRBP and ODF4, two testis restricted genes, are expressed in invasive ductal carcinoma and breast cancer cell lines

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Discipline: Genetics

Abstract:
Background: Cancer/testis (CT) genes are a group of genes with a restricted expression in germ cells of testis among normal tissues and a variety of tumors. This pattern of expression makes them appropriate for early diagnosis of cancer. In addition, because of existence of blood-testis barrier in the testis; testis is considered as an immune privileged site; so, if testis-specific genes are expressed in cancers, they can be immunogenic. Consequently, these genes are potential targets for immunotherapeutic approaches and identification of novel CT antigens is a prerequisite for the development of cancer vaccines.
Methods: We analyzed expression of ACRBP (Acrosin Binding Protein) and ODF4 (Outer Dense Fiber 4), two testis restricted genes, in 30 samples of invasive ductal carcinoma and 2 breast cancer cell lines, MCF-7 and MDA-MB-231, 5 samples of fibroadenoma and one normal breast cancer sample by means of RT-PCR.
Results: Both genes were expressed in MCF-7 and MDA-MB-231 cell lines. In addition, ACRBP and ODF4 were expressed in 76.6% and 30% of invasive ductal carcinoma samples respectively. ODF4 was not expressed in any of normal or fibroadenoma samples, whereas ACRBP was expressed in 2 of fibroadenomas and the normal breast sample.
Conclusion: Expression of ODF4 in malignant tissues and its absence from benign and normal tissues make it a putative cancer biomarker. Similar to other cancer/testis genes, it can be used for active immunotherapeutic approaches. On the other hand, despite previous studies showed that ACRBP was not expressed in normal breast tissue, we showed its expression in normal breast tissue, so its application as a cancer biomarker or in immunotherapeutic approaches is still under question.

Session: Gynecology

Abstract ID: 105

Relationship of sex steroid receptors to clinical outcome in Conservative management of well differentiated endometrial adenocarcinoma

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Abstract:
Background: Young patients with endometrial cancer who desire to preserve their fertility often decline hysterectomy in favor of conservative progestin therapy.
Methods: 16 patients diagnosed with endometrial adenocarcinoma stage Ia were reviewed. The treatment initiated with 160 mg/d of megestrol acetate. The patients underwent dilatation and curettage and hysteroscopy after 3 months, and in cases of normal pathology, the therapy continued for another 3-month period. In patients who did not respond to treatment, the dosage of the drug was doubled (320mg/d), and the therapy continued for another 3 months. At the second time, patients who did not respond to treatment were recommended for hysterectomy, and in patients who responded to treatment, an additional 3 months of treatment with megestrol acetate (320 mg/d) was administered.
Results: This study reveals a response rate of 56.3% with a mean duration of treatment of 5.85±2.00 months. The response to therapy was observed in 4 patients with a dosage of 160mg/d, and the remaining patients with 320mg/d. One of the patients was negative for estrogen receptor (ER); and all the patients were positive for progesterone receptor (PR). Seven patients failed medical treatment and were then candidate for hysterectomy. Pregnancy occurred in 25% of cases. There was no statistically significant correlation of ER and PR with clinical response in this small number of patients.
Conclusion: Conservative management of young patients with grade 1 endometrial carcinoma who wish to preserve fertility is a reasonable and appealing option.

Abstract ID: 104

Post-Hysterectomy local radiotherapy in selected patients with FIGO stage IB-IIA uterine cervical carcinoma

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Discipline: Gynaecology

Abstract:
Objective(s): The aim of this study was to evaluate the radical hysterectomy and post operative local radiotherapy in stage IB-IIA locally advanced cervical cancer by conducting a 4-year follow-up.
Methods: Between May 2004 and July 2008, 12 locally advanced, stage IB–IIA cervical cancer patients with tumor diameter greater than or equal to 4 cm were treated with radical hysterectomy and pelvic lymphadenectomy

followed by post operative local radiotherapy. Patients with high risk tumors received Cisplatin 40mg/m^2 concurrent with radiotherapy.
Results: We identified 12 patients who fulfilled our eligibility criteria for this study. The mean age at the time of surgery was 41.6 years (range, 37–60 years). The histological cell types included 10 squamous cell carcinomas and 2 adenocarcinomas. Lymphovascular space invasion was found in 6 patients; lateral parametrial invasion, in 2 patients; and vaginal invasion, in 2 patients. In addition, pelvic lymph node metastasis was found in 2 patients. The median follow up time was 36 months.
Conclusion: The findings of this study suggest that adjuvant local radiotherapy (plus chemotherapy in high risk tumors) in selected patients with stage IB-IIA locally advanced cervical cancer after radical hysterectomy and pelvic lymphadenectomy seems to be effective.

Abstract ID: 109

Prevalence and predictors of postnatal depression in mothers

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Abstract:
Introduction: Postnatal depression (PND) is a vital public health problem affecting maternal and child health. The prevalence of PND varies between 3.5% and 40%. PND normally occurs within 6–8 weeks after childbirth. This study examined the etiological role of risk factors recognized to be relevant for the onset of postpartum depression and poverty in developed societies faced by women.
Objectives: 1 Prevalence of postnatal depression in mothers. 2 Risk factors associated with postnatal depression in mothers. Materials and
Methods: This was a cross sectional study, data was collected from three different districts from December 2010 till April 2011. The study population was selected by a cluster sampling method. A sample of 150 women was selected from each cluster for the study population of 700 women. A total of 450 women were selected for participation in the study. The sample size calculation was done using the World Health Organization, Geneva software where á=5%, 1-Beta=90, Po=0.23, Pa=0.29, sample size=450. All women who gave their written consent and were more than 30 weeks pregnant were included. Women, who were transient visitors and had missing data, were excluded. General Health Questionnaire, a 12 item measure was used for psychological health. Cronbach's alpha was 0.71. At 6–8 weeks after birth, mothers were administered Edinburgh PND Scale. Cronbach's Alpha of Edinburgh PND Scale 0.80. PND was determined by binary logistic regression analysis of antenatal and early postnatal variables. Ethical review committee approved this study.
Results: Among antenatal factors mothers who had current score of five or more on twelve item General Health Questionnaire had a prevalence of 48.6% of PND(252/519; p=0.03) These mothers were 1.52 times (95% CI, 1.026-2.263) at the risk of PND. Among postnatal factors, mothers who had cesarean delivery had a prevalence of 48.4% of PND (251/519; p=0.02. These mothers were 1.57 times (95% CI, 1.057-2.33) at the risk of PND. Mothers whom infant had trouble breast feeding had a prevalence of 49.1% of PND (255/519; p=0.041). These mothers were 1.51 times (95% CI, 1.018-2.241) at the risk of PND.
Conclusion: Postnatal depression is a common mental illness in our local population; it is usually a consequence of preexisting antenatal morbidity and is a chronic disorder for one half of the women who suffer from this illness. Key message: Cognitive behavioral therapy and antidepressants help for postnatal depression.

Abstract ID: 221

The Use Of Contraception Among Girls Aged Between 17-19

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Abstract:
Background: Reproductive health of young people is one of the most important factors of community health, in order to achieve successful prevention of negative consequences of adolescent sexuality it is necessary to act on several plans but previously perceive and analyze current situation. Aim of our study was to establish sexual knowledge, attitudes and practice among adolescents and existence of factors wich are determining contraceptive habits.
Methods: The investigation comprised 408 high school students from the fourth grade attending four high schools from Vojvodina. The method was anonymous questionnaire.
Results: 53% of female adolescents are sexually active, 76% is considered to know enough about contraception, however, their knowledge, later verified, was negligible (list only one or two methods) with the addition at the end of testing as much as 73% want to know more. Two thirds of respondents never think about unwanted pregnancy and never visited a gynecologist. Two-thirds regularly use contraception but 60% does not specify any method. Significant differences between subjects in relation to frequency of use of contraception in terms of: place of residence, smoking, school and sexarcha.
Conclusion: Sexuality is a constituent part of everyday life of adolescent population, as our results show poor knowledge of the area of contraception, among girls between aged 17-19 from Vojvodina, it is urgent to take measures to prevent any negative consequences.

Abstract ID: 756

Osteoporosis in postmenopausal women

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Abstract:
Introduction and Objective: Osteoporosis is a worldwide public health problem and has an increasing prevalence. In women rapid bone mass loss at the beginning of menopause due to estrogen deficiency is established. This is a pilot study to estimate the prevalence of osteopenia and osteoporosis in postmenopausal women.

Materials and Methods: In this observational and cross-sectional study, we studied 502 post menopausal women that admitted consecutively to only bone densitometry center of Yazd between 2002 and 2003. We excluded whom with diagnosis of osteoporosis, chrollic, metabolic and bone disease, previous oopherectomy/hysterectomy and consumption of bone metabolism affected drugs. A questionnaire containing of demographic data was completed. lumbar spine and femoral region bone density was measured using dual x-ray absorptiometry (DXA) at the Doctor Mojibian Hospital, YAZO, by only one educated technician. Statistical analysis was performed by SPSS 11.5 and wit Chi Square, Anova and Kappa tests.
Results: We studied 502 post menopausal women between 50 to 85 years old and with mean age of 60.78± 7.05 year. The results of the bone mineral density (BMD) in gm/cm2 were compared to the peak bone density (P6D) in healthy young women (T-score). Based on the definition of World Health Organization (WHO), the T-score value was considered for analysis. Accordingly, 138 (27.5%) subjects showed normal result, while 261 (52%) subjects showed osteopenia, 103 (20.5%) subject showed osteoporosis due to L2-L4 spine BMD. On the other hand, 70 (13.94%) subjects showed normal result, while 216 (43.03%) subjects showed osteopenia, 216 (43.03%) subject showed osteoporosis due to femoral region BMD. Only 261 (52%) of cases showed one diagnosis in both regions and others (241 cases, 48%) had different diagnosis based on measured region.
Conclusion: Osteopenia and osteoporosis are common among postmenopausal women in YAZD and in extent, similar to Saudi Arabia and should be considered as a matter of public hearth. Bone densitometry should be used to assess the severity of bone loss, identify those who need therapy and for follow up and early diagnosis of those with osteopenla in order to institute proper therapy and avoid future osteoporosis.

Session: Haematology

Abstract ID: 370

Calcium and Magnesium Infusions for the Prevention of Oxaliplatin-Related Neuropathy in Colorectal Cancer Patients Treated with Capecitabine comibined with Oxaliplatin (CapOx)

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Abstract:
Background: Evidence suggests infusions of calcium and magnesium may alleviate acute peripheral neuropathy that occurs with capecitabine and oxaliplatin (CapOx), an effective chemotherapy treatment for colorectal cancer. The aim was to determine the incidence and associations of clinically relevant peripheral neuropathy in patients who received calcium and magnesium infusions with CapOx.
Methods: This was a retrospective medical note audit of 151 oxaliplatin-naive colorectal cancer patients who received 1 cycle of CapOx treatment with calcium gluconate and magnesium sulphate infusions between March 2008 and September 2009. Peripheral neuropathy was graded using a modified Patient Neurotoxicity Questionnaire (PNQ) and PNQ grade B or more was defined as clinically relevant. Data were also collected regarding pseudolaryngospasm, myotonia, oxaliplatin dose and infusion times. Mann-Whitney and Chi-squared tests were applied as appropriate and a P-value <0.05 was considered to be statistically significant.
Results: 48% of patients experienced clinically relevant neuropathy, 3% experienced pseudolaryngospasm and 8% experienced myotonia which impaired the ability to walk ('jelly legs'). 19% of patients required infusion time to be prolonged.
Conclusion: There was a reduced incidence of pseudolaryngospasm, and less prolonged infusion times when calcium and magnesium infusions were administered, compared to previous published data regarding CapOx alone. There appeared to be no substantial alleviation of acute peripheral neuropathy when calcium and magnesium infusions were used but randomised controlled trials are needed to rule out their possible neuroprotective affect.

Abstract ID: 713

Human adipose-derived stem cell conditioned medium causes growth arrest in an aggresive U87 malignant glioma cell culture

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Abstract:
Background: Human adipose-derived stem cells (hASCs) have been shown to secrete various factors which influence the growth and survival of multiple cell types and tissues [1]. However, the effects of hASC-conditioned medium (hASC-CM) on cancerous cell types have been sparsely investigated. Glioblastoma is the most prevalent and aggressive type of brain cancer accounting for approximately 2 % of all diagnosed malignant tumours in the USA [2]. In this experiment our aim was to investigate the effect of hASC-CM on a U87MG cell culture.
Methods: Production of hASC-CM: hASCs were seeded and cultured for 3 days before adding α-MEM containing 0.5 % FCS. Each 24 h the hASC-CM was harvested and new medium administrated. Preparation of the U87MG cells: The cells were seeded at a density of 20,000 cells pr. well in a 12 well plate. Each well contained a flat circular glass disc on which the U87 MG cells were allowed to adhere. Before adding the conditioned medium the glass discs were transferred to a new 12 well plate creating a free perimeter around the discs for the cells to grow onto. Method of quantification: To quantify the growth of the U87MG cells we measured the outgrowth of cells from the edge of the glass disc onto the well bottom using an eyepiece with a build-in micrometer. To substantiate these observable results we examined the effect of the hASC-CM on the proliferative abilities of U87 MG cells we investigated the expression of cyclin D using RT-PCR.
Results: A significant decrease in growth was observed in the U87MG cells which were applied the hASC-CM when compared to the controls grown in non-conditioned α-MEM containing 0.5 % FCS ($p < 0.01$). In accordance to

this result the RT-PCR showed an 89.5 % decrease in the expression of cyclin D compared to controls.
Conclusion: We for the first time provide evidence suggesting that hASC-CM has a growth suppressing effect on a cancerous cell type. The lowered expression of cyclin D indicates that the conditioned medium causes a cell cycle arrest in the G0/G1 phase. To ultimately utilize these results in a clinical perspective, cooperative research on the composition of hASC-CM and the factors which influence cancerous growth is necessary. We are currently conducting a series of new experiments to further confirm these interesting findings. We expect these experiments to be finished mid-august.
[1] http://www.ncbi.nlm.nih.gov/pubmed/19023032
[2] http://neurosurgery.mgh.harvard.ed

Abstract ID: 786

Is beta-thalassemia trait a protective factor against hypertension in young adults?

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Abstract:
Beta-thalassemia trait (BTT) is a common genetic disorder in Mediterranean countries including Iran. Previous studies have shown the protective effect of BTT on myocardial infarction that may be due to lower cholesterol levels or lower arterial blood pressure in BTT subjects. This study was designed to analyze the effect of BTT on arterial blood pressure in young adults. Four-hundred and eight subjects who were referred to our clinic for premarriage screening of BTT (208 BTT as the case group and 200 normal subjects as the control group) were recruited. BTT was diagnosed by complete blood count, hemoglobin electrophoresis, and column chromatography. Blood pressure was measured twice with 20-min intervals by a medical barometer in the sitting position from left arm, and the average blood pressure was recorded as subject's blood pressure level. Mean systolic blood pressure in the control group was 122.8 mmHg as compared to 117.0 mmHg in the case group (P value = 0.249). Mean diastolic pressure was the same in both groups (76.7 mmHg in control group as compared with 77.5 mmHg in the case group) (P value = 0.433). Analysis of blood pressure by gender showed that male BTT subjects had a 10-mmHg lower systolic blood pressure than normal subjects (120.8 mmHg in the case group as compared with 130.7 mmHg in the control group). BTT has a protective effect on the development of hypertension in young male adults.this article was published in Ann Hematol. 2006 Jan;85(1):29-31. Epub 2005 Aug 25.

Session: Infectious Diseases

Abstract ID: 148

Modulation of B cell function by CD1d-restricted invariant NKT cells during primary infection with HSV-1 in mice

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Abstract:
Background: We are investigating the effect of invariant NKT cells on B cell function with a focus on the adaptive immune response upon primary infection with Herpes Virus type 1 (HSV-1). HSV-1 is a DNA virus which initially infects epithelial cells. Productive infection causes mucocutaneous lesions in the orolabial region and in rare cases life-threatening encephalitis in otherwise healthy individuals. There is no vaccine existent.
Objective: Aim of this study is to further specify the mode of interaction between iNKT cells and B cells upon infection with HSV-1 regarding a possible role in the maintenance of the humoral immune response. An essential prerequisite for proving any causal connection between an adaptive immune response to HSV-1 and invariant NKT cells is the analysis of parameters such as antibody levels in invariant NKT cell-deficient mice in comparison to a control group expressing these cells.
Methods: Thus we infect TCR Jalpha18 -/- mice, C57BL/6 mice and 2 cohorts of animals that received iNKT cells via adoptive transfer. Accordingly we will apply the same procedure to 4 cohorts of animals that will remain uninfected. Blood samples will be taken over a period of time (41 weeks) to monitor the development of antibody levels and to perform cytokine secretion patterns by means of ELISA. We treated 12 TCR Jalpha18 -/- mice with an adoptive transfer of CD4+ invariant NKT cells. The cells were harvested from livers of C57BL/6 donor mice. The lymphocyte fraction was stained with CD3 - and CD4 antibodies plus ligand-loaded mCD1d tetramers which are fluorophore-conjugated. Using FACS and by gating of the CD3+, CD4+, tetramer-positive population and subsequent cell sorting the desired iNKT cell population was collected.
Results: So far we were able to show successful repopulation of CD4+ iNKT cells in the livers of TCR Jalpha18 -/- mice but not in spleens and the peripheral blood.

Abstract ID: 327

Cholestasia syndrome in infectious and surgical diseases of children during their first year of life

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Abstract:
One of the most frequent metabolic disturbances, found during the neonatal period, is an increase in bilirubin concentration in blood serum. The hyperbilirubinemia in the first

days of life can be caused by both physiological, and pathological reasons and that is why it always demands special attention. Even at this age the first clinical signs testifying such serious diseases as biliary atresia and infectious pathology of a liver can be already revealed. The etiology analysis is one of the key moments in the choice of tactics and terms of patients treatment because long cholestasia accompanied by inflammation leads to irreversible changes of structure and functioning of a liver.
The purposes and problems: 1) To define time frameworks of diagnostics of the lesion of a liver with cholestasia syndrome of children during the first year of life; 2) To compare indicators of the biochemical analysis of blood of children exposed to cholestasia syndrome as a result of infectious and surgical lesion of a liver; 3) To study the dynamics of changes in cholestasia markers depending on its duration during the experiment; 4) To study the morphological changes in hepatobiliary systems during the blocking of bile outflow.
Data and methods: The retrospective analysis of the medical cards of the in-patient with such clinical diagnoses as biliary atresia was carried out from 1997 for 2007 on the basis of The children's surgical center and those clinical diagnoses fell into the I clinical group; and with such clinical diagnoses as was hepatitis and-or cirrhosis of an infectious etiology was carried out from 2000 for 2009 on the basis of Children's municipal infectious hospital and those clinical diagnoses fell into the II clinical group. The research consisted in the analysis of the anamnesis of diseases and the laboratory data. Experiment was carried out on the basis of the central research laboratory of pharmacology and toxicology of The Belorussian state medical university. 24 not purebred rats weighing 250 ¡À 30g each divided into 5 groups depending on the decapitation term were used during the research. The technique of obstructive cholestasia creation: the narcosis was carried out by Ketaminum using the dose of 0,2ml/100 g, then the laparotomy, allocation of hepatoduodenal ligam, ligation of the general cholic duct in portal fissures by two threads, crossing between ligatures, sewing up wounds were carried out.

Abstract ID: 363

Effects of Toxoplasa Gondii infection on plasma testosterone and cortisol levels and stress index in the clients of Bagiyatallah hospital, Tehran

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Introduction: Toxoplasma gondii is an intra cellular protozoan parasite which infects 30 to 60% of the world population. A wide range of toxoplasmosis conditions has been studied, but there are still unknown damages which must be explored.
Objective: In the present research, the effect of this parasite on testosterone and cortisol changes in the infected men and women was examined.
Design: A total of 180 patients (73 females and 107 males), were examined for lgG anti-Toxoplasma antibody, cortisol and testosterone in their plasma. In addition, the patients also filled in personality questionnaire DASS21 (depression, anxiety, and stress).
Results: Results showed that 24(%13/33) females and 39(%20) males were positive with lgG anti-Toxoplasma antibody, respectively. A statistically significant correlation between Toxoplasma infection and testosterone and cortisol increase in women and men were observed. Stress and anxiety index also increased in men and women whereas depression index increased only in men.
Conclusion: The results show a direct relation between raise Toxoplasma infection and cortisol, and testosterone increase in bout men and women and high DASS21 test score in Toxoplasma infected group. our results may indicate that following Toxoplasma infection, the probability of stressful condition is high.
Keywords: Toxoplasma; Toxoplasma gondii; Testosterone; Cortisol; Stress

Abstract ID: 411

Computational modeling of H275Y and N295S mutations reveals novel interactions between influenza neuraminidase and oseltamivir

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Abstract:
Background: Despite its clinical effectiveness, evidence of drug-resistant mutant selection of the anti-viral drug, oseltamivir, has surfaced over the years. In this study, we aimed to analyze the molecular interactions associated with oseltamivir in modeled A(H1N1) neuraminidase (NA) mutant sequences, particularly those with documented H275Y and N295S mutations, through in silico modeling. An understanding of the molecular mechanisms that give resistance to oseltamivir could aid in the development of other promising drug analogues.
Methods: Molecular docking was performed between oseltamivir and the two mutated protein (H275Y and N295S) models using Hex 6.0. We directed the path towards the Glu-277 residue of the neuraminidase active site. Changes in oseltamivir interaction with the neuraminidase protein models were estimated by measuring the distances between the drug and Glu-277.
Results: Computational modeling using the mutated sequences reveals an increase in the distance between oseltamivir and Glu-277 as compared to the distance obtained using the wild type sequence. This suggests that the required rotation of the carboxyl group of Glu-277 may have been inhibited. In fact, these models show the absence of interaction between the drug and NA in the case of N295S mutation. As for the H275Y, there was only a slight change in distance. While our in silico analysis is not exhaustive, our results show that (1) key mutations in influenza neuraminidase amino acid sequences cause a subsequent conformational change particularly in the enzyme's catalytic site, and (2) mutation at position 295 may be more potent than the more common H275Y mutation because it causes a much more significant decrease in oseltamivir-neuraminidase interaction.
Conclusion: Further in silico analyses must be performed to evaluate changes in oseltamivir-neuraminidase interaction. These analyses should measure other parameters, including the volume of the binding cleft and the binding

free energy, specifically at the active site. Verification must be done by using other docking software. Results from these studies, including ours, may be used to create oseltamivir analogs that could potentially overcome the effects of mutations.

Abstract ID: 451

Role of Angiopoietins Ang-1 and Ang-2 for the Development of Acute Lung Injury in Pneumococcal Pneumonia

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Discipline: Infectious diseases

Abstract:
Background: In pneumonia, pathogen-host interaction may evoke pulmonary endothelial hyperpermeability despite efficient antimicrobial therapy, resulting in life-threatening lung failure. Angiopoietin- (Ang-)1 mediated Tie2-activation reduces and the Ang-1 antagonist Ang-2 increases inflammation and endothelial permeability in sepsis, but the role of the Ang-/Tie2-system in pneumonia has not been examined.
Methods: Serum samples of pneumonia patients (CAPNETZ), human lung tissue (post mortem), lungs of S. pneumoniae infected mice, pneumolysin-stimulated isolated perfused and ventilated mouse lungs and human microvascular endothelial cells (HMVEC) were investigated. All procedures were approved by the relevant ethics committees.
Results: We observed significant decreased Ang-1 and increased Ang-2 protein serum levels in pneumonia patients as compared to healthy control subjects. Immunhistochemistry staining of human lung tissue revealed that Ang-2 was exclusively expressed in endothelial cells, whereas Ang-1 was expressed in different cell types. In HMVEC, mRNA expression of Ang-1 and Tie2 was decreased after pneumolysin stimulation, and Ang-2 expression was increased. Further, we detected reduced pulmonary mRNA expression of Ang-1 and Tie2 and increased Ang-2 expression in murine lung tissue following in vivo infection with S. pneumoniae. Therapeutic treatment with Ang-1 (starting when pneumonia was already established) reduced neutrophil recruitment, inflammatory cytokines in bronchoalveolar lavage fluid and lung permeability in pneumonic mice. When mice were pretreated intravenously with siRNAAng-2 (Atuplex), pneumolysin-evoked permeability in isolated perfused lungs of these mice was reduced as compared to lungs of mice pretreated with control siRNA.
Conlusion: These results suggest a central role of the Angiopoietin (Ang-)/Tie2-system in pneumonia-evoked inflammation and permeability, and provide a new therapeutic perspective for severe pneumonia.

Abstract ID: 508

Indicators of the prediction of shigellosis among children

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Abstract:
Such different biologically active substances as mediators of inflammation, called cytokines, have a great importance in the pathogenesis of the infectious diseases. There are two types of cytokines: proinflammatory and anti-inflammatory interleukins. Under normal living of the organism both of them are present in the physiological concentrations and, moreover, they are responsible for the regulation of functions on the cellular and tissue levels. In conditions of infectious pathology, these substances regulate immune and inflammatory responses. The induction of the cytokine synthesis begins on the first stage of the pathological process. At this time, due to such proinflammatory cytokines as the factor of the necrosis of the tumor-α and interleukin-1β, the development and regulation of the inflammatory reaction take place. Despite the fact, that these substances have a special importance, there are not very many scientifical works dedicated to the study of their meaning in the whole process. The objective is to define the value of the proinflammatory cytokines in the formation of clinical variants of shigellosis among children. During the research the observation method was used. 126 children from one month to three years old with shigellosis were observed. Patients were divided into three groups according to the course of the disease. The first group, which consisted of 65 patients, had a smooth course of the disease. The second group of 31 patients had a wavy course and the last group of 20 healthy children was a similar age control group. At the admission and during the early convalescence stage the quantitative content of the TNF and IL was determined. For this purpose immunosorbent test was used. During the acute period the level of proinflammatory cytokines in serum significantly increased in the first two groups in comparison to the third control group. The blood level of interleukin-1β in the first group was 74.2+2.3 pkg / ml and 39.87+4.48 pkg / ml in the second. High level of the proinflammatory cytokines in the first group showed an adequate response on the microbial antigens penetration. In the first group blood level of factor of the necrosis of the tumor-α was 94.83+1.9 pkg / ml and in the second it was 61.39+3.48 pkg/ml Significantly increased levels of proinflammatory cytokines were registered during the early convalescent stage, which indicated unfinished inflammatory reaction in the body.

Abstract ID: 512

Clinical and Epidemiological Features of Imported Malaria cases in the Republic of Belarus

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Abstract:
Malaria is one of the most common parasitic diseases. If somewhere in the world malaria is widespread and is not eliminated, so it can be imported to any country. The doctors who meet this nosological form in non-endemic areas should maintain a high level of knowledge on diagnostics and treatment of malaria. The aim of this research is to define the features of the clinical presentation, diagnosis and epidemiology of various forms of imported malaria in the territory of Belarus for 2005-20010 years. To achieve the objectives, we performed a retrospective statistical analysis of medical cards of 36 inpatients treated at the "Infectious Hospital" in the period 2005-2010. It was revealed that in the period 2005-2010, 36 adult patients were diagnosed with different types of imported malaria. Relapses were revealed in 58.3%. The analysis of malaria types showed that in 46.2% patients suffered malaria caused by Plasmodium falciparum, 17.3%-Pl.vivax, 25.0%-Pl.malariae and 11.5%-Pl.ovale. Moreover it is revealed that 75.5% of patients are residents of Belarus. At the moment of acceptance to the hospital patients mostly complained of asthenia, febrile chills, headache, sweating and myalgia with arthralgia. Comparison of clinical features depending on the determined groups showed that severe forms occur significantly more often (46.7%; $p<0.05$) in the group of primary malaria (n=15) than in the group of relapsing malaria (n=21). Patients from primary malaria group have much more early clinical manifestations (86.7%; $p<0.05$). They naturally have anemia (33.3%), thrombocytopenia (66.7%) and vomiting (26.7%), as well as asthenia (86.7%) and chills (80.0%). A higher Pl.falciparum rate (93%; $p< 0.005$) was also revealed in this group. On the contrary, in the group of relapsing malaria were often late clinical manifestations (38.1%; $p<0.1$), and all the clinical features were not so evident. 1.Clinical presentation of imported malaria cases in the Republic of Belarus is characterized by the absence of typical malarial paroxysms, particularly in the primary variant in non-immune patients; 2. Primary Falciparum-malaria and mixed-malaria require prompt prescription of antimalarial drugs due to demonstrated severity in comparison with falciparum-malaria relapses 3. The largest number of malaria severe cases occur due to infection of P.falciparum, especially in mixed-cases with P.vivax and P.malariae

Session: Immunology

Abstract ID: 596

Distribution of total IgE and specific IgE for Dermatophagoides pteronyssinus (d1) in Republic of Macedonia

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Discipline: Immunology

Abstract:
Background: The aim of this study was to analyze the distribution of total IgE and specific IgE for Dermatophagoides pteronyssinus (d1) in Macedonian population.
Methods: We examined retrospectively 2213 respondents from different geographical regions of Republic of Macedonia which were directed to the Institute of Immunobiology and Human genetics for analyzing total IgE and specific IgE for d1. Total IgE and specific IgE for d1 were measured by the method Fluorescence immuno assay of ImmunoCap 100. The specific IgE for d1 was expressed as grades from 0 to 6.
Results: In Republic of Macedonia distribution of the specific IgE for d1 was 86.8% grade 0, 2.6% grade 1, 3.6% grade 2, 2.8% grade 3, 2.5% grade 4, 0.9% grade 5 and 0.9% grade 6. Total IgE in females (n=923) was 125.6 ± 17.6 kU IgE/L, and in males (n=1290) was 158.5 ± 10.9 kU IgE/L. There is a statistically significant positive correlation between total IgE and specific IgE for d1 ($r=0.183$, $p<0.001$).
Conclusion: We can conclude that the major part of the respondents from the Republic of Macedonia has normal values of specific IgE for d1 (86.8%), middle reactivity (grade 2, 3 i 4) has 15.0% of the respondents, and high reactivity (grade 5 i 6) has 1.8% of the respondents. According to this results the sensitisation to an allergen of the respondents from the Republic of Macedonia correspont in low level.

Session: Microbiology and Hygiene

Abstract ID: 20

Influence of growth phase on the essential oil composition and antimicrobial activities of Satureia hortensis L

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Abstract:
Background: The variations in quantity and quality of essential oils (EOs) from the aerial parts of cultivated

Satureia hortensis were determined at different harvest stages.
Methods: The EOs of air-dried samples were obtained by hydrodistillation and analysed by gas chromatography-mass spectrometry (GC/MS). The antimicrobial activity of the EOs was investigated by both dilution methods.
Results: The amount of EOs (w/w %) were 2.3, 2.5, 2, and 1.8 % at floral budding, full flowering, immature fruit, and ripened fruit stages, respectively. γ-terpinen was the major compound of the EO at all developmental stages, except the ripened fruit stage in which replaced by carvacrole (46.3%). The EOs exhibited strong antibacterial activities against the tested bacteria. Moreover, EOs inhibited the growth and killed the examined yeasts at concentration ranging from 0.03-8.0 μl/ml.
Conclusion: Considering the wide range of antimicrobial activities of the examined EOs, they might have potential to be used in the management of infective agents.

Abstract ID: 290

Using Centre for Disease Control (CDC) definitions of infection to calculate Peripherally Inserted Central Catheter (PICC) line infection rates.

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Abstract:
Background: An initial study to examine the feasibility of a nurse-led Peripherally Inserted Central Catheter (PICC) insertion service at Galway University Hospitals (GUHs) suggested that infection rates may have been higher than expected. A subsequent 20 day in-patient prospective study which reviewed all Central Venous Catheters in use, also indicated a high PICC infection rate of 7.09/1000 catheter days. As many of the patients with PICCs are in the community for long time periods, this may overestimate the true incidence of infection as the denominator data may be spuriously low if only in-patient days are counted. The aim of this study was to retrospectively assess PICC line infection rates using CDC definitions of infection and line day denominator data.
Methods: Over a 19 month period, all PICC insertions performed by the Clinical Nurse Specialist were recorded and the total line days calculated. The indications for insertion, length of insertion and reasons for removal of the line were all documented. Retrospectively, blood culture and line tip data were analyzed using CDC definitions to calculate numerator data.
Results: This yielded 5354 line days from 194 lines in 170 patients, with the average patency being 38.6 days. Using CDC definitions of infection, a Catheter Related Bloodstream Infection (CRBSI) rate of 1.2/1000 catheter days and a Catheter Associated Bloodstream Infection (CABSI) rate of 1.7/1000 catheter days were found.
Conclusion: There is little published on PICC line infection rates but rates following nurse-led PICC insertion at GUH appear to be comparable with the few available publications*. This study is worthwhile as short-term audits/surveillance may over-estimate the true rate of line infection if all line denominator data is not available. There is a need for further development of suitable surveillance for PICC and other long term lines in use.
*Reference: Royer et al, 2005

Abstract ID: 353

Antibiotic resistance of Bacteria Isolated from surgical wound infection of hospitalized patients at Ilam Imam Khomeini hospital

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Abstract:
Background: Infection of surgical wound is the second most common cause of nosocomial infection in hospitalized patients which, impose various effect on quality of life and increase patient care, and have increase pain experience and in advanced cases death could be happen. This study aimed to evaluate bacterial antibiotic-resistance isolated from infectious surgical wound in ilam imam Khomeini hospital. method: Samples collected from 43 patients with surgical wound infection. Standard laboratory method were exploited for determination of bacterial type and anti-biotic sensitivity were demonstrated with disk-diffusion method and obtained data were analyzed with SPSS16 software.
Results: Out of whole samples, ten cases (23.3%) had negative culture result and 33 cases had positive result (76.7%). More than one bacterial type were isolated from sample in two cases (4.7%) klebsiella (27.9%), E.coli (16.3%) and staphylococos aureus (14%) were most common organism, respectively Klebsiella had the most powerful resistance to cephalosin and its sensitivity strongly was observed with choloramphenichole and nofloxazine. The most resistance of E.coli was observed with amicasion and tetracycline.
Conclusion: The high rate of surgical wound infectious indicate the appropriated intense control to decrease hospital pollutions level and pro-infectious factors decline.
keywords: Antibiotic resistance, Bacteria, surgical wound infection

Abstract ID: 414

Some hydrotherapeutical waters in South Serbia

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Abstract:
Background: Serbia is, especially in its southern part, very rich in "Natural waters". Under the term "Natural waters" we understand mineral, trace mineral water and thermal waters. The majority of these waters have multiple uses: for drinking, hydrotherapy, inhalation, mineral mud etc. They are, also, mostly radioactive.
Objectives: As the Book of rules for this kind of waters in Serbia does not exist, we set as our goal: the presentation of results of the examination of some hydrotherapeutic

waters and the insight in the methods of their treatment. We want to answer two questions: are these waters for hydrotherapy, and: are they hygienically treated in adequate way?
Methods: As examination materials were used samples of water from five rehabilitation pools. The samples were examined through standard methods, to the extent of an elementary „A"-examination. The only method of treatment was using of chlorine.
Results: In most of the samples were proved coliform kinds of bacteria (?); the majority of samples is continously radioactive; some samples show signs of fresh fecal contamination – ammonia. The answers on our questions were: fecally contaminated waters are not appropriate for hydrotherapy! The using of chlorine, obviously, isn't the adequate method of the hygienic treatment of these waters.
Conclusions: We should, using the global legislative for this kind of waters, as soon as possible, make our Book of rules and, especially, determine adequate methods of hygienic treatment.

Session: Nephrology and Urology

Abstract ID: 90

The possibility of preventive action is extremely high frequency therapy in experiment

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Abstract:
O*bjective:* Working out of an effective way of treatment and an estimation of preventive action of extremely high frequency therapy (EHF–therapy) at modeling hemodynamic model of an experimental chronic prostatitis.
Methods: The research was carried out on 20 impure bred mice. The animals were divided into 4 groups: 1st (5) - the intact, 2nd (5) - the mice with experimental chronic prostatitis, 3rd (5) and 4th (5) - the mice affected by 10 sessions of EHF-therapy on 10 and 30 minutes accordingly against the background of modeling a chronic prostatitis. The chronic prostatitis was modeled by means of the hemodynamic model offered by Knjazkin I.: the introduction of a rectal stimulus in the form of admixture on the basis of 10 %-s' solutions of Dimexidum in water and turpentine in a parity 4:1 in number of 0,25 ml at the top department of a rectum. The model is used in 28 days after admixture introduction. Since the 18th day of modeling the 3d and 4th groups of animals were affected by EHF on the reflexogenic zone of a perineum within 10 days for 10 and 30 minutes accordingly every day. The prostate was taken out in 7 days after the termination of modeling. The sections were painted with hematoxylin-eosine.
Results: At studying the sections of the prostate of the 2nd group of animals the prevalence of proliferation processes was revealed: a metaplasia of macrophages in fibroblasts and fibrocytes, a dystrophia of muscle fibers. In the 3rd group the sections are characterized by the isolated lesion of an epithelium of lead-out ducts and of glandular cells. The infiltration of lymphocytes, monocytes, and plasmocytes becomes perceptible periglandular. In the 4th group of mice the characteristic picture for the organ is taped: the lead-out ducts of alveolar-tubular glands are lined with multiserial prismatic epithelium. The epithelium lesion of lead-out ducts occurs in 20 % of cases.
Conclusion: The above-stated allows recommending EHF therapy in the dose of 30 minutes as a preventive maintenance of a chronic prostatitis. EHF-therapy of a chronic prostatitis allows improving the quality of life and prophylaxis of an impotency with patients.

Abstract ID: 175

Evaluation for efficacy of Epolyrec on health-related quality of life in dialysis chronic renal disease patients with anemia

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Abstract:
Background: Anemia affects almost all patients with chronic kidney disease (CKD), reduces quality of life, and is a risk factor for early death. Several studies have demonstrated a significant improvement in hemoglobin and hematocrit after initiation of erythropoietin treatment in dialysis patients. Present study was designed for evaluating the impact of recombinant human erythropoietin (Epolyrec) therapy on health-related quality of life in dialysis chronic renal disease patients with anemia.
Material and Methods: Seventy five patients with ESRD were included into the randomized clinical trial study. Patients received IFN-Î³ 80-120 IU/kg/w subcutaneous in 2-3 doses. Quality of life before and 3 months after receiving of EPO as main variable was evaluated in this study with SF36 questionnaire.
Results: We observed patients for 3 months. Quality of life of patients before receiving of EPO, were significantly improved after 3 months. Quality of life improvement had no significant difference between two genders, age and educational groups.
Conclusion: Early and effective treatment of anemia in ESRD patients is essential in maintaining quality of life both before and after initiation of dialysis and improves subscales of quality of life in these patients.

Abstract ID: 751

Comparative study of color Doppler voiding urosonography without contrast enhancement and direct radionuclide voiding cystography for the diagnosis of vesicoureteric reflux in children

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Discipline: Nephrology/Urology

Abstract:
Background: The majority of available studies investigating the diagnostic accuracy of color Doppler voiding

urosonography (DUS) for the detection of vesicoureteric reflux (VUR) utilized an echo contrast agent for the investigation. It is not known if echo contrast agents are necessary for diagnosis or follow-up of VUR. We compared color DUS without contrast enhancement and direct radionuclide voiding cystography (DRC) in the detection and grading of VUR with respect to the sex and age of patients, as well as the severity of VUR.
Methods: In the 66 patients enrolled (56 girls, 10 boys), 132 reno-ureteral units were investigated. All patients underwent DUS and DRC within 3 hours. DRC was used as the reference standard.
Results: Our results indicate a good overall sensitivity (83%) and specificity (77%) of color DUS without contrast enhancement in comparison with DRC. As the age of the patients decreased, the sensitivity of DUS increased, reaching 100% among patients below one year of age. Upon the comparison of different grades of VUR severity, we found that sensitivity and specificity elevated as the grade increased (both parameters reaching 100% in the most severe cases).
Conclusion: We have demonstrated that DUS without contrast is a comparably reliable method to DRC in the detection and grading of VUR especially at higher grades of VUR.

Abstract ID: 587

Comparison of long time Survival and its risk factors in patient with and without chronic renal failure who gone coronary artery bypass graft.

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Abstract:
Aim: It suggested that the different treatment strategies available for stable coronary artery disease may have differential beneficial effects according to chronic kidney disease and it need more evidence; so we decide to asses of chronic kidney disease (CKD) on coronary artery bypass graft (CABG) survival.
Methods: We analyzed the data of 1014 consecutive patients, with or without a chronic kidney disease (creatinine less 1.4 for women and creatinine less 1.6) that underwent isolated coronary artery bypass grafting performed in Baqyatallah hospital, with following patient during a 5-year period. Kaplan-miere and Cox regression analysis was done by PASW ver. 17.
Results: From patient who underwent a CABG surgery throughout the study time, the mean age was 60± 9 years (mean ± SD); there was 813 men (80.2%) and 201 women (19.8%). The hospital mortality rate was 1.4%. 946 patients (92.4%) with and 78 patients (7.6%) without CKD. The 5 years survival in two groups was significantly different (p=0.00).
Conclusion: CKD is associated with high long term mortality in patients undergone CABG. Assessing renal function is essential to recognize higher-risk patients need more intensive care, and in whom new interventions can be performed to improve consequences.

Abstract ID: 801

Association of zinc deficiency and depression in the patients with end-stage renal disease on hemodialysis

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Discipline: Nephrology/Urology

Abstract:
Background: Depression is a common psychological symptom in patients undergoing chronic hemodialysis. In the general population, low serum zinc level is associated with major depression. The current study surveys the possible relationship between the prevalence of depression and plasma level of zinc in patients on hemodialysis (HD).
Methods: A total of 135 patients with end-stage renal disease (ESRD) on HD were enrolled in the study. The severity of depression was assessed using Beck Depression Inventory (BDI). Plasma zinc level was measured from fasting samples.
Results: Mean age of the patients was 52.45 (standard deviation: 15.33) years. In all, 76% of the patients had some degree of depression according to BDI scoring system (BDI >14). The mean level of plasma zinc in the depressed patients was significantly lower than the rest of the patients (67.46 ± 29.7 vs. 85.26 + 40.05).
Discussion: Zinc deficiency may be a reversible cause which might contribute to the increased rate of depression in HD patients. This is the first study reporting the association of zinc deficiency with the presence of depression in HD patients; therefore, these findings need further investigations. This article was published in J Ren Nutr. 2011 Mar;21(2):184-7. Epub 2010 Nov 18.

Session: Neurology

Abstract ID: 35

Relationship between exercise (gymnastic) and cognitive function in elderly living with hypertension

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Abstract:
Background: The increasing of life expectancy will increase the number of elderly people. The elderly people having uncontrolled hypertension will suffer cognitive function decline because the hypertension will damage the vascular, micro circulation, endothelial function. This damage can disturb the normal cerebral function and the cognitive ability. Gymnastics and other aerobic training could prevent dementia for elderly people. This research aimed to know about the relationship between regular gymnastics and the cognitive function among elderly people living with hypertension.

Methods: This research was a cross sectional study with an analytic descriptive method. This research was conducted by measuring the cognitive function of elderly people using the Mini Mental Status Examination (MMSE). The data was analyzed using Kolmogorov Smirnov as a tool for knowing the normality of data and Chi-Square as a tool for examining the significance of the results.
Results: This research showed that the variable distribution was not homogeneous when the data were analyzed using Kolmogorov Smirnov. The result of the study also revealed that there was a significant relationship between gymnastics and cognitive function in elderly people living with hypertension (p=0,00) when it was analyzed using chi-square.
Conclusion: There is a significant relationship between gymnastics and coginitive function in elderly people living with hypertension.

Abstract ID: 100

Toxicity effects of methamphetamine on stem cell-derived neuron

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Abstract:
Introduction: Methamphetamine is one of the most potent sympathomimetic drugs in stimulating central and peripheral nervous system. This drug has even higher ratio of entering to nervous system in comparison to other amphetamines. It is well established that these compound are neurotoxic both in vivo and in vitro. If methamphetamine has been used during the child bearing period, it can cause significant abnormality in neural differentiation of embryo or fetus. In our previous study we reported the neurotoxic effect of MDMA (methylenedioxymethamphetamine) on embryonic stem cell (ESC)-derived neural cells during EB formation and differentiation. Here we again used ECS as a model to evaluate the toxicity of methamphetamine on the neural differentiation.
Method: ESC line Royan B1were differentiated into neural cells. For this purpose, we used 2 -/2 +/2 + protocol with retinoic acid (RA) and to assess the effect of methamphetamine on this process we administrated it in two ways: one group drug was added during EB formation until 10 days and another group drug was added from day 6, after RA induction or the generation of neural precursors until day 10. Inhibition of neuronal differentiation was determined to be the 50% reduction of EBs with neural morphology in outgrowth when compared to the control (ID50). In addition, Four days after EB plating, the cells were prepared for evaluating MAP2 and nestin expression (a mature and an immature neuron marker, respectively) with immunochemistry.
Results: By using immunocytochemistry, we proved that neural markers are presented during neural differentiation and also we determined the inhibition of neuronal differentiation to be the 50% reduction of EBs with neural morphology in outgrowth when compared to the control for both groups.
Conclusion: According to this current experiment and our previous study, we conclude that ESCs can be used as a model to assess the toxicity of drugs.

Abstract ID: 210

Ophthalmologic disorders in patients with myotonic dystrophy type 1

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Abstract:
Background: Myotonic dystrophy type 1 (DM1) is an autosomal-dominant, multisystemic disease. It is manifested clinically by a high variability of symptoms and signs. Patients with DM1 very often have ophthalmologic disorders. The most common is cataract. The aim of this study was to determine the type and prevalence of the ophthalmologic disorders in patients with DM1 and to examine their correlation with sociodemographic and clinical characteristics of the patients.
Methods: The research included 255 patients with DM1. All patients were examined during hospitalization by neurologist and ophthalmologist. The ophthalmologic examination included the examination of the lens suspected of cataract, the examination of the eye fundus by ophthalmoscope, the measurement of intraocular pressure (IOP) and the assessment of visual evoked potentials (VEP). Oral glucose tolerance test (OGTT) and HOMA (Homeostasis model assessment) index were done to all patients, as well as the levels' determination of cholesterol and triglycerides and blood pressure measurement.
Results: The most frequent disorder was semiptosis, which was seen in 96,9% patients. This research showed statistically significant correlation between semiptosis degree and disease severity (p<0,05) and highly significant correlation between semiptosis degree and disease duration (p<0,01). Cataract was present in 77,6% patients. The study showed a highly statistically significant correlation between the presence of cataract and the disease severity (p<0,01) and a significant correlation between the presence of cataract and the disease duration (p<0,05). However, there was no correlation between the presence of cataract and OGTT as HOMA index. VEP pathology was present in 42,1% patients. There was a highly statistically significant correlation between pathological findings of VEP and the disease duration (p<0,01). Also, there was a highly statistically significant correlation between the age of the patients and the condition of the fundus blood vessels (p<0,01). A correlation between changes in the blood vessels and risk factors (OGTT, HOMA, blood pressure, triglycerides, cholesterol) was not found. Abnormalities of the extra ocular muscles (EOMs) were present in 6,3% patients. The disease lasted longer in patients with a dysfunction of EOMs. The mean IOP was at the lower limit, 12,2±2,0 mmHg for the right and 12,1±1,5 mmHg for the left eye.
Conclusion: The prevalence and type of ophthalmologic disorders in patients with DM1 correlate with severity and duration of the disease.

Abstract ID: 199

Antibiogram test results based on FDA clinical indications and main urinary tract infection pathogens.

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Abstract:
Background: Urinary tract infection is a common bacterial disease which may cause chronic renal failure and hypertension. Many reports suggest that the rate of antibiotic resistance to infectious organisms is increasing. Therefore periodic surveillance of resistance rates is needed to ensure that appropriate recommendations can be made for better management & preventing of late sequel.
Methods: In this cross sectional study we investigated the results of urinalysis, urine culture and antibiotic sensitivity of the isolated organisms in the urine of 432 samples taken from patients in Central Laboratory of Shariaty Medical Center, Isfahan between March 2010 – December 2010. Described parameters are age, sex, incidence of significant bacteriuria, leucocyturia, causative bacterial agents, and antibiotic sensitivity pattern based on Food and Drug Administration (FDA) clinical indications.
Results: The following uropathogenesis were isolated: E. Coli (289 ,66.9%) ,Pseudomonas aeroginosa (29,6.7%),Klebsiella spp. (39,9%) , Enterococcus spp. (19 ,4.4%), Staphylococcus spp. (25,5.8%) and others (31,7.2%). Sixty seven percent, 4.8% , 71/3% , 82.4% , 33.9% , 44.3% , 62.6 and 64% out of E. coli isolates, showed susceptibility to ciprofloxacin, Ampicilin, nitrofurantoin, amikacin, co-trimoxazole, cefazolin, gentamycin and ceftizoxim, respectively. 100% , 100% and 77% out of Staphylococcus spp. showed susceptibility to ciprofloxacin,vancomycine and nitrofurantoin, respectively.20.7% and 27.6% Out of Pseudomonas aeroginosa isolates, showed susceptibility to ciprofloxcine and amikacin.47.4%, 47.4, 0%, 63.2% and 42.1% out of Enterococcus spp. Vancomycine , Ampicilin , Gentamycin, Ciprofloxacin and Nitrofurantoin respectively.
Conclusion: Escherichia coli were the most prevalent causative organisms showing multi drug resistance patterns. We recommend, with regard to continuous changes in causative microorganisms isolated from patients with urinary tract Infection and antibiotic sensitivity patterns, as a guideline for physicians, to determine bacterial sensitivity in populations yearly. Key words: Urinary tract infection, antibiogram test, susceptibility, resistance, treatment

Abstract ID: 253

Quality of life and mental health in children and adolescents with epilepsy as compared to those with diabetes in Serbia

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Abstract:
Introduction: The assessment of quality of life gains increasing importance in pediatric practice. Diabetes is one of the most common chronic diseases of childhood that has significant impact on quality of life (QOL) of the individuals. Epilepsy also impedes the development and psychosocial function. For children and adolescents these issues can be particulary challenging. They have an increased risk of emotional and behavioral problems.
Aim: To compare quality of life and levels of anxiety and depression symptoms between children with diabetes and epilepsy.
Methods: The study included 29 children and adolescents with epilepsy and 25 children and adolescents with type 1 diabetes mellitus, all 8-18 years of age. Quality of life was assessed with the Pediatric Quality of Life Inventory (PedsQL), depressive symptoms were identified using the Mood and Feeling Questionnaire (MQF), anxiety, using the Screen for Child Anxiety Related Emotional Disorders Questionnaire (SCARED).
Results: Children and adolescents with diabetes had lower scores of QOL compared to those with epilepsy, special in social and school functioning ($p < 0.05$). On the contrary, levels of depression and anxiety disorders symptoms were not statistically different between the groups.
Conclusion: Children and adolescents with diabetes had lower overall QOL, social and school functioning than children with epilepsy. Both groups have similar levels of depression and anxiety disorders symptoms. Key words: children, adolescents, epilepsy, diabetes, quality of life.

Abstract ID: 362

Investigation of physical and biological properties of golgi silver impregnation

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Abstract:
Background: Introduction of silver impregnation method for the analysis of nervous tissue opens a new point in the understanding of 3-dimensional appearance of neuron. This method allows identification of incredible variations in the appearance and diversity in mutal cell connection along the whole nervous system. However, the method itself is not stable and does not give the results of the uniform quality.The aim was to examine physical and chemical characteristics of silver impregnation method for the brain tissue and nature and possible cause for nerve cell staining.
Methods: In the first part of experiment, fixed samples of spinal cord, cerebrum, and cerebellum of swine dia. 1 x 1 x 0.5cm were impregnated by silver using Kopsch-

Bubenaite method, cut serially along the entire surface and analyzed. In the second part of the experiment, the brain of 24 mice that were divided in 8 groups was postmortally fixed after 10', 30', 45', 1.5h, 3h, 6h, 12, and 24h using three mice for each period. All brain samples were histologically treated and were stained using Kopsch-Bubenaite method and cresyl violet.
Results: The analysis of impregnated tissue samples serially cut showed three zones of impregnation: zone artifical silver-chromate precipitate, zone of successful inpregnation, and central zone of chromate tissue only. Ischemically degenerated dark neurons manifested better argyrophilia compared to surrounding cells. Astrocytes showed better susceptibility for silver ions and the best quality of impregnation.
Conclusion: Standardization of brain tissue samples and the analysis of serial cuttings resulted in the establishment of the successful impregnation zone where an ideal silver concentracion was reached. The application of silver impregnation method in ischemically degenerated brain tissue showed better silver susceptibility in ischemically degenerated dark neurons compared to the rest of preserved neurons.

Abstract ID: 564

Hemodynamic changes in static, dynamic and treadmill stress test; different patterns in patients with primary exertional headache?

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Abstract:
Background: The pathophysiology of primary benign exertional headache (EH) is not still clearly defined. Some authors have suggested an impaired vascular response as the etiology of this disorder. Considering the rise of blood pressure (BP) and heart rate in course of exertions, in this study we investigated whether there are any differences in BP and heart rate of the subjects in course of static, dynamic and treadmill stress test between those with and without EH.
Methods: For participation in the study, from university students, 22 patients with EH (mean age: 19.8 ±2.10, Female to Male: 7:15) and 20 normal subjects (mean age: 19.3 ±1.97, Female: Male: 8:12) were recruited. All the subjects performed the static and dynamic exercises at 30 and 20 percent of Maximal Voluntary Contraction (MVC) respectively. Bruce treadmill test was also carried out by the subjects according to standard protocols. Heart rate and BP of all the cases at the baseline and during and immediately after each test were measured.
Results: No significant difference was found between the mean rise of not only hear rate but also systolic and diastolic BP of the subjects with and without EH in all three tests.
Conclusion: It seems that between those with and without EH, there is no significant difference in rise of heart rate and BP in static, dynamic and treadmill stress test. Further studies are required to find the pathophysiology and risk factors of EH.

Abstract ID: 590

The effects of orexin A receptors blockade into the medial preoptic area on food intake in rats

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Abstract:
Introduction: It has been shown that activation of type 1 orexinergic receptors (ORX1) in several parts of the hypothalamus stimulate food intake . Orexin A receptive sites for food intake exist primarily in a narrow band of the hypothalamus that is known to be involved in control of energy homeostasis. The aim of present study was to investigate the role of orexin receptor in the preoptic area (MPOA) on the food intake in rats.
Material and methods: Thirty two male rats weighing 250-300 g were divided into four groups (n=8 in each group).Three groups of rats were cannulated using stereotaxic coordinates above the MPOA. The fourth group was the naïve rat without stereotaxic surgery. Normal saline was microinjected into the MPOA in the control group. Another group received intra preoptic microinjection of as a selective antagonist for ORX1 receptors, SB334867. In the other group Orexin A was microinjected (0.5 μl of 1 μmol) into the MPOA. Food intake was measured in metabolic cages. The statistical significance of differences between groups was detected by one way ANOVA. $P< 0.05$ were considered as significant.
Results: There was no significant differences in body weight and food consumption between naive, saline, orexine and SB334867 treated group animals for food intake parameters.
Conclusion: Our results showed that with normal access to food neither activation nor blocking of ORX1 expressed into the MPOA has a role in metabolic regulation. The role of these receptors in hunger and appetite stimulation requires more research.

Abstract ID: 676

Analysis of mitochondrial function in rat heart permeabilized fibers by high-resolution respirometry

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Abstract:
High-resolution respirometry in combination with the permeabilized fibers technique offers the possibility to study mitochondrial function routinely in small amounts of tissue samples. The purpose of the present study was to standardize the technique for isolating 4 heart muscle fibers view subsequent studies by high-resolution respirometry (Oxygraph-2k Oroboros Ltd.).
Methods: For the preparation of cardiac fibers, 12 months male mice hearts (n = 6) were excised, dissected to thin

bundles that were further permeabilized with saponin (50 Î¼g/ml) and then transferred in ice-cold BIOPS buffer (10 mM Ca-EGTA buffer, 0.1 Î¼M free calcium, 20 mM imidazole, 20 mM taurine, 50 mM K-MES, 0.5 mM DTT, 6.56 mM MgCl2, 5.77 mM ATP, 15 mM phosphocreatine, pH 7.1 at 0Â°C). All procedures were carried out under gentle shaking for 30 min and samples of 0.5-2 mg wet weight were used in each Oxygraph chamber. The Substrate-Uncoupler-Inhibitor Titration (SUIT) Protocol used was as follows: complex I (CI) dependent respiration was stimulated by glutamate + malate (CI_LEAK, CI_L) and subsequent ADP (CI_OXPHOS state, CI_P) addition; cytochrome c addition evaluated the intactness of the outer mitochondrial membrane (CI_Pc); succinate (CII substrate) addition stimulated further the respiration by activating convergent electron flow from CI+II into the Q-cycle (maximum CI+II OXPHOS capacity, CI+II_P); rotenone (CI inhibitor) was added in order to measure OXPHOS state with entry of electrons from CII only into the Q-cycle (CII_P); ATP synthase was inhibited by oligomycin; non-coupled respiration was obtained by FCCP titration (ETS capacity); respiration was inhibited with antimycin A.

Results: The following values (expressed in pmol O2/s/mg wet weight) were obtained: CI_LEAK 67.18Â ± 5.12, CI_P 247.37Â ± 49.90, CI_Pc 252.036Â ± 53.13, CI+II_P 342.90Â ± 62.48, CII_P 302.26Â±50.16, ETS 331.11Â±62.39 and RCR (the ratio between OXPHOS and LEAK states) 3.65Â ± 0.51.

Conclusion: Investigation of mitochondrial function in saponin skinned cardiac fibers using high-resolution respirometry in combination with multiple substrate titration offers a valuable tool that will be further used for assessing mitochondrial alterations in the setting of ischemia/reperfusion injury.

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Abstract ID: 778

Demographic and Clinical Features of Cerebral Vein and Sinus Thrombosis: A 5 Year Study In a Tertiary Care Referral Hospital

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Abstract:

Background: Cerebral venous and sinus thrombosis (CVST) as a potentially life threatening disorder, usually affects children and middle aged adults. Outcomes of CVST may vary from complete recovery to serious neurological defects. Wide range of clinical symptoms of CVST in one hand; and low incidence rates of the disorder on the other hand, might lead to misdiagnosing the disorder by physicians. In addition, prompt diagnosis and treatment of patients with CVST significantly improves the outcome of the disorder especially in severe cases. Therefore the current study was performed to find the demographic and clinical features and predisposing factors of patients with CVST in a tertiary care referral university hospital.

Methods: Retrospectively and prospectively, data on clinical features, symptoms and outcome of the patients along with their demographic characteristics and laboratory findings were collected. Diagnosis of CVST for all the included patients was confirmed by whether magnetic resonance imaging/venography and/or conventional angiography.

Results: Fifty three patients were included in the study with mean age of 33.7±11.7 years old. Of the registered patients, 40 were female (30.5±11.1) and 13 were male (34.7±11.8). Headache was found as the most prevalent clinical feature of CVST among the patients (83%) followed by papilledema and vomiting (67.9% and 54.71%, respectively). It was found that 15 female had the history of using oral contraceptives (OCPs). Results obtained regarding the blood chemical and pro-coagulatory factors of the patients are showed that Protein S deficiency was the most common abnormal findings between the patients (28%) followed by hyperhemocysteinemia and antithrombin III deficiency. Using neuroimaging studies, the involvement of different cerebral sinuses of the patients was diagnoses; and lateral and sigmoid sinuses were the most common sites of involvement by 74%. There was no significant association between the outcome of the patients and involvement of different sinuses

Conclusion: This study supports accumulating evidence that CVST may not be uncommon as it was previously supposed. Clinical presentations of CVST among patients referred to our hospital are similar to those reported in other studies, although our patients represented variable list of causes which OCPs was the most frequent drug and infection and pregnancy/related complications were the most precipitating conditions.

Abstract ID: 807

The effect of psychological factors and vestibular stimulation on learning in patients with peripheral vestibular disorders

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Abstract:

Background: Evidence suggests that anxiety, panic attack and depression can affect a patient's experience of dizziness and long term recovery of balance function. However less is known about the role of psychological factors in the acute response to a vestibular stimulus. This study looked at the interaction between psychological factors and balance control before and after vestibular stimulation using the caloric test.

Methods: Thirteen patients, aged 26-70 years with a confirmed diagnosis of peripheral vestibular disorder (PVD), characterized by dizziness were assessed for balance control using computerized dynamic posturography. Change in posturographic score was correlated with the patients' psychological profile, as determined by clinically validated questionnaires (Beck Depression Inventory [BDI], Clinical Anxiety Scale [CAS], Panic Attack Symptoms Questionnaire [PASQ], Vertigo Symptom Scale [VSS]) and the Dizziness Handicap Inventory [DHI].

Results: Repeated posturography showed a mean increase in posturography score of 4.46 (3 sf, $p<0.05$). Data also shows a trend suggesting that heightened anxiety levels increase the magnitude of change in posturography score.

Conclusion: This is the first study to consider the effect of a vestibular stimulus on balance control and psychological profile in patients with PVD. The predominant effect was a learning effect, which is substantial when compared to a previous study, in a smaller sample of normal healthy young adults. Ongoing data collection will allow for more detailed presentation of results and the possible effects of psychological profile on balance after vestibular stimulation will be discussed.

Abstract ID: 810

Mapping the Effects of Theta Burst Stimulation on the Motor Cortical Representations of Multiple Arm Muscles

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Abstract:
Background: Repetitive Transcranial Magnetic Stimulation (rTMS) is a non-invasive and relatively safe method of modulating the excitability of cortical connections and inducing temporary plastic changes. Theta Burst Stimulation (TBS) is a novel rTMS protocol capable of producing after-effects of up to one hour at low stimulation intensities making it suitable for clinical use. Using a detailed TMS mapping technique aided by neuronavigation we are investigating the effects of TBS delivered to the optimum site of one small hand muscle on the excitability of four muscles key to arm function. Comparing mapping parameters before and after TBS should allow us to detect acute changes in the cortical representations of these muscles induced by TBS. This is important information for designing targeted therapeutic applications for TBS.
Methods: Using 9 healthy individuals, the abductor pollicis brevis, first dorsal interosseous, extensor carpi radialis and flexor carpi radialis muscles were mapped before and after a session of intermittent TBS (iTBS). Mapping parameters compared for each muscle included the center of gravity, volume of the map and the number of active sites. We employed a visual task to control for attention during iTBS.
Results: We were able to complete the mapping process within 30 minutes during which the after-effects of TBS are expected to remain robust in all subjects. The mapping parameters calculated through this short mapping procedure were comparable with previous reports. However, iTBS unexpectedly failed to show consistent changes in the excitability of the target muscles and thus we were unable to draw any conclusions on its effects on the motor maps.
Conclusion: We hypothesise that the visual task abolished the expected effect of TBS. This is an important finding as it highlights a potentially unrecognised interaction between attention and the ability of TBS to induce plastic changes. The consideration of the patient's attention could be crucial when designing further trials and we now plan to repeat these experiments without any concurrent visual stimuli. It is hoped that rTMS has the potential to improve function following injury or chronic central nervous system disease by augmenting or speeding up the natural process of neural reorganisation, we hope our findings will contribute to future study design in this area.

Session: Neurosurgery

Abstract ID: 462

Impact of demographic parameters to grade and clinical presentation of brain arterio-venous malformations

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Abstract:
Background: Brain arterio-venous malformations (AVM) are structures which are consisted of pathological blood vessel convolutes, most common localization is supratentorial part of the brain. Most frequent clinical presentation is intracranial hemorrhage. The aim of the study is to determine impact of demographic parameters (sex, age) to grade and clinical manifestations (acute hemorrhage, headache, seizures, neurological deficit) of brain AVM.
Methods: In this study 79 persons were included, surgically treated in Institute for neurosurgery KCS, in period 2005-2010. Mean age was 42,94±1,91 years. Parameters (age, sex, clinical manifestations and grade) were gained in retrospective analysis. The patients were counted and divided into groups based on AVM grade and clinical manifestations. Statistical analysis was made using chi square test. A value of $p<0.05$ was considered statistically significant and $p<0,01$ high statistically significant.
Results: Most common AVM grade was grade II (40,51%), and most common clinical presentation was acute intracranial hemorrhage (56,96%). There was statistically highly significant difference between patient younger and older than 40 years in existence of chronic headaches ($X2e(P) = 6,7$) and epilepsy ($X2e(P) =12,51$). Comparing younger and older than 40, it was found statistically significant difference in occurrence of neurological deficit ($X2e(P) = 5,14$, $p<0,05$).
Conclusion: Age and sex have no impact on AVM grade nor on hemorrhage. Older than 40 years suffer more from chronic headaches and neurological deficit, but younger than 40 have, more often, epilepsy.

Abstract ID: 500

Analysis of factors that influence recovery from reconstructive surgery of the upper limbs peripheral nerves

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Abstract:
Reconstructive surgery of the peripheral nerves is the method of choice in cases when the axone can not compensate the nerve defect and make contact with the target cell. Research has shown that there are the cerftain factors that effect the quality of post-operative recovery.
Background: Point out how and what measure factors such as: age, gender, lenght of the nerv deffecte, level of the lesion, combinement with vascular and bone-tendone, lesions and the applied surgical method effect the post operative recovery.

Methods: Our study was of a retrospective character in which 203 persons have been included, out of that 163 (80.3%) males and 40 (19.7%) women, which have been operated on at the Institute of Neurosurgery, Clinical Center of Serbia, in the period of 1992-2009. Patients have been grouped and placed in subgroups and counted by the basis of their age and the time of operation, length of the nerve defect, combined with vascular and bone-tendon lesions, time passed since the operation and the surgical method which has been applied. After the clinical assesment of motor and sensory functions, the results were grated into three groups: good, mediocre, bad recovery. Good and mediocre recovery have been deemed as useful, functional recovery.
Results: Out of 203 patients 168 have shown functional recovery which makes 85.16%. As predictors of the good prognosis the following have been found: Lesions less than 5cm, operations executed up to 6 months after the ingury and the surgical threatment of the lesions in continuity (neurolysis and suture). As predictors of bad prognosis the following have been found :lesions of the ulner nerve, patients who have had over 32 years of age and nerve grafts. We have not proved that there is a statistical important difference in dependence of the gender, level of the lesion or combined with vascular and bone- tendon lesions.
Conclusion: Our study has shown that the following factors effect the post operative recovery of the peripheral extremities after reconstructive surgery: length of the nerve defect, time passed since the surgery, surgical method, the nerve which is reconstructed and the age of the patient

Abstract ID: 775

Endoscopic Third Ventriculostomy - an Alternative to Ventricular Shunts for Infants with Non-communicating Hydrocephalus

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Abstract:
Background: Hydrocephalus is the most common condition in pediatric neurosurgery (0,3-2,5/1000 live births). It may occur as an isolated disorder or as a result of a wide range of congenital or acquired pathological processes. Shunts are the mainstay of hydrocephalus treatment. Although CSF-drainage systems has undergone a great development for the last 50 years, numerous complications are still common - infection, obstruction, intracranial bleeding, over-drainage of CSF, shunt migration. Therefore it is necessary that an alternative technique should be proposed. The aim of this study is to compare together the two surgical approaches, to analyze their advantages and disadvantages and to present the early post-operative outcome.
Methods: During the period 2006-2010 in our clinic were operated on 29 patients, less than one year old, diagnosed with non-communicating hydrocephalus. The mean age was 4 months and 5 days and male to female ratio was 23 to 6. Endoscopic third ventriculostomy (ETV) was chosen in 11 cases, ventriculoperitoneal shunting (VPS) was used in the rest 18 cases. Retrospective analysis was done.
Results: The most common signs and symptoms were: severe intracranial hypertension - observed in 21 patients (pts), increased head circumference - in 18 pts, bulging anterior fontanelle - in 17 pts, separation of the cranial sutures - in 7 pts, axial hypotonia - in 5 pts, "setting sun sign" - in 4 pts. The main diagnostic methods were MRI and CT. An initial operation was performed in 18 patients. The rest 11 patients had undergone several operations in the past. Early postoperative improvement was observed in 24 patients (82% of the studied group). Two of the cases (18%) with ETV and three (17%) with VPS had no significant improvement.
Conclusion: Endoscopic third ventriculostomy (ETV) has become an important alternative to CSF shunting for children with hydrocephalus. Our study shows that there is no significant difference in the early postoperative improvement between the patients, who underwent ETV and those who underwent VPS. The long-term complications associated with ETV (cognitive impairments) are mainly result of damaging important structures (infundibulum, mammillary bodies) during the operation. But well-performed ETV can help neurosurgeons to avoid the long-term complications seen with CSF-shunting such as obstruction and infection, which are far more common. It provides simple, durable and less expensive treatment for hydrocephalus.

Session: Obsterics

Abstract ID: 225

Cervicovaginal infections during third trimester of pregnancy

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Abstract:
Background: This study conducted to assess prevalence of different cervicovaginal infections during pregnancy.
Methods: 110 healthy, pregnant women with complaints of vaginal symptoms in their third trimester of pregnancy were checked for vaginal candidiasis, bacterial vaginosis, vaginal trichomoniasis, Streptococcus β hemoliticus, Gonorrhea, syphilis, and infection by Chlamydia trachomatis and HIV(by suitable tests for each).
Results: 110 women were mostly nullipara, educated mean age 25.2 years. All of them had at least one of the symptoms include discharge, itching and burning of vagina. 39(35.5%) had vaginal and endocervical infection identified by laboratory tests include: Candidiasis 26.4%, bacterial vaginosis 8% and streptococcus β hemoliticus 5.3 %. Gonorrhea and Trichomonase were not seen. Three of the patients had positive IgG antibody for Chlamydia trachomatis. None of them had serological positive test for syphilis and HIV.
Conclusion: Symptomatic pregnant women need to be actively searched for infections. Besides speculum examination easy to carry out clinical tests and laboratory exams can be used to choose the best treatment.

Abstract ID: 709

The relationship of premenstrual syndrome and academic activity among medical students Indonesian Islamic University 2008

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Abstract:
Background: The premenstrual syndrome is a group of physical, emotional, and psychology symptoms that occurred 5 to 11 days before women menstruate every month. At least 85% of women experience at least one of the symptoms from premenstrual syndrome. There are many theories about the cause of this syndrome, one associated with decreased levels of endorphins during the luteal phase. These symptoms affect the social life and work of women. In medical school it is still little, if any, studies that address the prevalence and association of premenstrual symptoms on academic activities.
Objective: To determine the relationship between premenstrual symptoms and academic activities of medical faculty's students of Islamic University of Indonesia 2008.
Methods: A survey analytic studies with cross sectional research design. Subjects randomized study included 111 female students of Islamic University of Indonesia in Faculty of Medicine, who is still registered as a student of FK UII 2008. The study was conducted in February 2011. The data was collected by distributing questionnaires which filled directly by the student. The instrument was the Shortened Premenstrual Assessment Form (SPAF), which has been adapted and tested for its validity to be used in Indonesia.
Results: From 111 students of the Faculty of Medicine, University of Islam Indonesia 2008 who experienced premenstrual syndrome, and study subjects aged 19-22 years. There was no significant relationship between symptoms of premenstrual syndrome with students' academic activities FK UII 2008. This research also tests the analysis to assess multiple variables with other variables, such as: There is no relationship between age of menarche with PMS symptoms, $p = 0.631$ ($p > 0.05$). There was no relationship between age with symptoms of PMS, $p = 1.000$ ($p > 0.05$. There is a relationship between symptoms of PMS with the actions taken, $p = 0.0$ ($p < 0.05$). There is no relationship between age of menarche with pain when premenstrual, $p = 1.000$ ($p > 0.05$)
Conclusion: There was no significant association between premenstrual symptoms with academic activities of Medical Faculty students of Islamic University of Indonesia 2008.

Session: Ophthalmology

Abstract ID: 687

Does matrix metalloproteinase-3 gene polymorphism play a role in age-related macular degeneration development?

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Abstract:
Background: The matrix metalloproteinases (MMP) are a family of proteolytic zinc-containing enzymes. The optimal balance between proteolysis and matrix accumulation and deposition is important in the physiological and pathological remodeling of tissues. MMP-3 gene polymorphism might be an important factor for vascular remodeling and age-related arterial stiffening. It was shown that increased number of 5A alleles leads to increased expression of MMP-3.
Aim: We investigated whether the 5A/6A polymorphism in the promoter region of MMP-3 gene is associated with development of early age-related macular degeneration (eARMD). Methodology. The study enrolled n=154 patients with eARMD and a random sample of the population n=1128 (reference group). DNA was analyzed by using real-time PCR to genotype polymorphism 5A/6A at a position – 1171 of the MMP-3 gene promoter.
Results: Analysis of MMP-3 gene polymorphism has not revealed any differences in the genotype (5A/5A, 5A/6A and 6A/6A) distribution between patients with eARMD, and in the reference group patients (as follows, 26.34%, 48.96%, and 24.71% in eARMD patients; and 24.2%, 51.5% and 24.29%, in the reference group patients; $p=0.3$).
Conclusion: MMP-3 gene polymorphism does not play any predominant role on the development of eARMD. Key words: age–related macular degeneration, matrix metalloproteinase-3 gene polymorphism.

Abstract ID: 688

Age-related macular degeneration in patients with myocardial infarction

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Discipline: Ophthalmology

Background: The pathogenesis of age-related macular degeneration (AMD) is complex and fairly understood. Several studies indicate that AMD and atherosclerosis may share common pathogenetic pathways. The role of coronary heart disease and its risk factors in the development of AMD is discussed. Increase of blood pressure and atherosclerosis, by virtue of their effects on the choroidal circulation and lipids deposition in Bruch's membrane, with a reduction of permeability, have been hypothesized as increasing the risk of developing AMD.
Methods: Enrolled in the study were 262 acute MI patients

(MI group), aged 40–64 yrs, as well as 1,155 non-MI persons, aged 40–64 yrs, from a random sample (reference group) of the Kaunas population.
Results: The prevalence of early AMD in the random sample was 7.3 %, while in MI patients, the prevalence was 54.5 % ($p<0.001$). For all age groups, the prevalence of early AMD was significantly ($p<0.005$) higher in MI patients than in reference-group persons. In the reference group, the prevalence of early AMD increased significantly with age, whereas no such trend was observed in the MI group. In the reference group, the prevalence of early AMD in 45–54-year-old persons was significantly higher in males than in females (9.9 versus 3.7%, $p<0.05$), with similar findings for the reference group (8.6 versus 6.2%, $p>0.05$). The likelihood of early AMD occurring as a function of increasing age was higher for females (3.7 and 10.8% in age groups 45-54 and 55-64 yrs, respectively, $p<0.05$) than for males, in whom the frequency of AMD did not differ significantly between these same age groups (9.9 versus 11.6%, $p>0.05$).
Conclusion: We conclude that the prevalence of early AMD is significantly higher in patients with MI than in a random sample of population.

Abstract ID: 694

Functional acuity contrast sensitivity test dependence on early mild and early intermediate age-related macular degeneration

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Discipline: Ophthalmology

Abstract:
Background: Age-related macular degeneration affects the macula and is a leading cause of significant and irreversible loss of central visual acuity. ARMD is the most common cause of visual loss in persons over age 60 in the developed countries. Studies have shown that the assessment of the visual acuity testing by the typical Snellen chart using the Landolt rings (C optotypes) alone is insufficient for the visual function testing, because it provides limited information about the central vision, and it is necessary to determine not only the visual acuity, but also the contrast sensitivity. The purpose is to determine functional acuity contrast sensitivity test result dependence on early mild and early intermediate age-related macular degeneration.
Methods: We examined 109 (217 eyes) patients with diagnosis of early age-related macular degeneration. Patients, were divided into two groups: patients with early mild age-related macular degeneration n=79 patients (158 eyes) (I group), and early intermediate age-related macular degeneration n=30 patients (59 eyes) (II group). For non-corrected and the best-corrected visual acuity testing typical Snellen chart (the direction of the gap in Landolt C) was used. Digital analysis methodology was used for retina drusen localization and its diameter measurement. Functional acuity contrast sensitivity was measured employing a Ginsburg Box, VSCR- CST-6500.
Results: Results of visual acuity in I group patients compared to II group patients without correction were statistically significant better (0.53Â±0.35 vs. 0.39Â±0.32 $p=0.014$), and with correction were statistically significant better in I group too (0.83Â±0.26 vs. 0.64Â±0.31 $p=0.005$). Functional acuity contrast sensitivity was lower in II group than in I. Functional acuity contrast sensitivity test results at the night time without glare in the II group were worse at: 1.5; 3; 6; 18 cycle per degree, at the day time without glare at: 3 and 6 cycle per degree were worse, at the night time with glare were worse at: 1.5; 3; 6 and 18 cycle per degree, and at the day time with glare at: 1.5 and 3 cycle per degree were worse.
Conclusion: The facts are that contrast sensitivity is worse in patients with early intermediate ge-related macular degeneration, especially at night time with and without glare.

Abstrat ID: 755

Outcomes of secondary anterior and posterior chamber intraocular lens (IOL) implantation

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Abstract:
Purpose: To evaluate and analyse the complications and visual acuity (V.A) outcomes of secondary anterior and posterior chamber intraocular lens (IOL) implantation in previously aphakic patients. The most common reason for secondary implantation was in cases those were unsatisfied with aphakic glasses and intolerant of or reluctant to use contact lens. Setting: Yazd medical sciences university, Sadoghi Hospital , Ophthalmology department
Materials and Methods: Prospective non randomized comparative trial study was done of secondary lens implantation in 102 patients, 42 females (41.18%) and 60 males (58.82%) from the year 1995 to 2005 , the patients age range was from 48 to 72 years (mean, 62.6), mean follow up time 20.2 months, range 6 to 72 months. Posterior chamber lens inserted in 62 eyes (60.78%) and anterior chamber on 40 eyes (39.21%) respectively. Demographic and clinical data analyzed from patients medical records.
Results: Mainly intra operative and post operative complications were minor. Final V.A of 20/20 was achieved in 48 cases (47.05%), 51 patients (50%) achieved V.A of 20/40 or better, and 3 cases (2.95%) had decreased in V.A, 3 Snellen lines.
Conclusion: Optical rehabilitation of aphakia with secondary lens implantation appears to be safe and effective for correction of aphakic eye and in cases which requires binocular and stereoscopic vision. The short term and long term complications were no greater than those of primary cataract surgery with lens insertion . Visual acuity outcome was not significantly different with preoperative full glasses or contact lens correction.

Session: Orthopedics and Traumatology

Abstract ID: 177

Surgical treatment of pelvic ring fractures

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Abstract:
Background: The pelvic ring fractures present serious surgical problem accompanied by a high mortality and morbidity. The fractures can be isolated (9-10%) or in polytrauma (60-80%) when they are associated with limb fractures (80-85%), fracture of thorax (50-60%), head fracture (50-60%), abdominal injuries (30%) and injuries of urogenital organs (14-20%). Most of the patients with pelvis injuries are hemodynamicly unstable due to a great blood loss. This fact makes the conclusion that pelvic ring fractures are acute conditions in surgery and need to be treated as soon as possible. The aim is presenting the modern knowledge regarding the pelvis fracture and indicating the emergency of fiving a medical care to the injured patients.
Methods: This study included 94 patients. According to the condition of anatomic structures affected by the fracture and the stability of the ring, the patients were categorized according to Marvin Tile system in three groups: type A – stable fractures, type B – vertically stable and rotary unstable fractures and type C – vertically and rotary unstable fractures. The classification help the surgeon to make the decision regarding the medical treatment. The operated patients got the external fixation realized by the Mitkovic's fixator, and in some cases the patients got the internal fixation. Modified point system according to Karlstrom-Olerud and descriptive statistic were used for result estimate.
Results: 44 patients (40.6%) had pelvic ring fracture type A, 36 patients (38.2%) had fracture type B and 14 patients (21.2%) type C. Furthermore, 61 patients (64.7%) were registered with other injuries such as head, abdominal and thorax injuries. 41 patients (43.9%) were surgically treated. 18 patients (19.15%) had an additional internal fixation. After the surgery operation 16 patients (39%) suffered a pain in the lumbar spine area. 10 patients (24%) were limping and 11 patients (26%) suffered the reduction of hip movements.
Conclusion: The pelvic ring fracture is frequent and lethal injury and presents the acute condition in surgery. The medical treatment depends on the type of the fracture, the patient's condition and the capability of the medical institution where the treatment takes place. Early bleeding reduction, fixation and stabilization are imperatives in the medical treatment. That is how a good oxygenation of the tissue of the pelvic tissue is achieved and the complications are avoided.

Abstract ID: 528

Regulation of key mediators associated with osteoarthritis by TNFα and IL-10 in primary human synovial fibroblasts

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Abstract:
Background: The synovial membrane is an integral part of every joint in the human body and a hub in the pathogenesis of osteoarthritis. Pro-inflammatory mediators, especially tumor necrosis factor α (TNF-α), which are secreted by several cell types within the osteoarthritic joint, might induce the synthesis of additional pro-inflammatory cytokines, e.g. interleukin (IL)-6, in synovial fibroblasts (SF). Subsequently a circulus vitiosus of reciprocal induction of pro-inflammatory and catabolic mediators within the joint could accelerate cartilage degradation and chondrocytic apoptosis. The interrelation of these intraarticular cytokines on SF has not yet been completely understood. Hence, it was the aim of this study to characterize the interplay between the pro-inflammatory cytokine TNF-α and the anti-inflammatory cytokine IL-10 in synovial fibroblasts to decide whether IL-10 might modulate catabolic effects in SF.
Methods: Primary human SF were isolated from synovial membranes of the knee joints of 5 donors, characterized in culture by their typical protein expression profile (CD55+, CD44+, UDPGDH+, Tenascin+, CD14-) and stimulated with TNF-α, IL-10 or TNF-α + IL-10 (each 10 ng/mL) for 24 h. The gene expression for IL-6, IL-10 and matrix metalloproteinases (MMPs)-1 & -3 was then investigated via RTD-PCR, while the protein synthesis was determined using flow cytometry and immunofluorescence labeling.
Results: Cultured SF were activated by TNF-α alone or in combination with IL-10 and up-regulated their mRNA-expression for IL-6, MMP-1 & -3, which are generally associated with osteoarthritis. Additionally, SF increased their IL-10 expression in response to TNFα. The stimulation with IL-10 alone had nearly no effect on the expression of the analyzed genes compared to the control. On the gene expression level IL-6 was almost equally induced by TNF-α alone compared to the combined treatment, whereas IL-10, MMP-1 & MMP-3 were stronger induced by the combination of TNF-α + IL-10. Investigation of the protein synthesis via immunofluorescence showed results that were mostly consistent with the gene expression, while flow cytometry revealed some differences with regard to the synthesis of MMP-1, IL-6 and IL-10.
Conclusion: Primary human SFs are strongly activated by TNF-α alone and in combination with IL-10

Abstract ID: 575

Chondrogenic differentiation of human mesenchymal stem cells in 3D cultures and under the influence of IL-10

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Discipline: Orthopedics and Traumatology

Abstract:
Background: Chondrogenic differentiated mesenchymal stem cells (MSCs) could be an interesting approach for articular cartilage repair. However, effective, pure and permanent chondrogenic differentiation remains still a challenge. The role of particular cytokines in chondrogenic MSC differentiation is mostly unclear. The aim of the study was to determine the effectiveness of three-dimensional (3D) culture systems for chondrogenic MSC differentiation in comparison to primary chondrocytes and to gain a first insight into the role of IL-10 in MSCs.
Methods: MSCs were isolated from femur spongiosa using biocoll, expanded in monolayer culture and characterized using a set of typical MSC marker. Multipotency was shown by osteogenic and adipogenic differentiation. MSCs were introduced in scaffold-free high-density culture for chondrogenic differentiation. Some cultures were stimulated with recombinant Interleukin (IL)-10, TNFá, TNFá + IL-10 or remained untreated. Additionally, MSCs were cultured for chondrogenic differentiation on non-woven polyglycolic (PGA) scaffolds. Gene and protein expression of cartilage markers such as type II collagen, sox9 and aggrecan was examined. Freshly isolated human articular chondrocytes served as a positive control.
Results: MSCs expressed typical markers and revealed mulipotency evidenced by differentiation into the chondrogenic, osteogenic and adipogenic lineage. Chondrogenic differentiated cells expressed typical cartilage markers in high-density and PGA culture. However, gene expression of cartilage markers was inferior in chondrogenic differentiated MSCs compared with articular chondrocytes, but slightly higher in PGA compared with high-density culture. IL-10 and/or TNFá did not inhibit the chondrogenic differentiation of MSC. Moreover, in most of the investigated samples, IL-10 had a slightly stimulatory effect on the type II collagen expression when compared with the respective controls.
Conclusion: Independent of the 3D culture system used for differentiation, the expression of chondrogenic markers was lower in differentiated MSCs compared with freshly isolated chondrocytes. The influence of IL-10 on differentiation requires further investigation.

Abstract ID: 576

Investigating the interfacial strength of hydroxyapatite, titanium and a dual hydroxyapatite-titanium plasma-spray coatings on polyetheretherketone

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Abstract:
Background and Aims: Polyetheretherketone (PEEK) is a high performance engineering thermoplastic which has chemical, radiation and thermal resistance as well as excellent mechanical properties. PEEK is currently recognised in the spinal field because of its more compatible elastic modulus with cortical bone, reducing the effects of stress shielding and its radiolucent properties help improve post-operative radiographic assessments over metal implants. A major setback for being a polymer of choice for orthopaedic implants is its bio-inert surface; however it is thought that applying a bioactive plasma-spray coating to PEEK is a possible solution. This project will investigate the interfacial strength of hydroxyapatite (HA), titanium and dual hydroxyapatite-titanium plasma-spray coatings on PEEK and titanium alloy (Ti-6Al-4V) and hypothesises that these coatings on PEEK will be of sufficient interfacial strength for ceramic HA coatings applied to surgical implants.
Methods: The adhesive strength of a variety of glues was investigated on the zwick machine in order to select the most appropriate adhesive for the pull-off tests. The interfacial strength of the plasma-spray coatings HA, titanium and dual hydroxyapatite-titanium applied by Accentus Medical onto PEEK and Ti-6Al-4V specimens (25mm x 6mm) was investigated using the zwick. Surface roughness of the plasma-spray coatings was measured using a profilometer. The topographical surface and interfacial bonding of the coatings were analysed using back-scattered scanning electron microscope (SEM).
*Results:*During the pull-off tests all the plasma-spray coatings experienced cohesive failure because failure did not occur at the coating-substrate interface. Plasma-spray HA on PEEK had significantly lowest interfacial strength when compared with all the other coating-substrate combinations tested ($p<0.05$). Titanium coating on Ti-6Al-4V had the highest interfacial strength with 2.38 MPa. There was no significant difference between the interfacial strength of the dual hydroxyapatite-titanium coating on PEEK and Ti-6Al-4V.
Summary and Conclusions: Conclusions could not be made because the SEM images showed the coating-substrate interface to be intact in all specimens. Therefore the pull-off test should be replicated after design modifications have been made to the test assembly. Based on the results dual hydroxyapatite-titanium coated PEEK has the most potential in replacing the dual coating.

Abstract ID: 604

Knee pain in medial meniscus subluxation

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Abstract:
Background: Knee pain in the internal (medial) knee meniscus of the lower limb (IKMLL) region at instability/subluxation of IKMLL belongs to early signs of knee osteoarthritis.
Methods: A total of 183 patients with knee pain in the subjective visual pain scale "weak" (group-A), "moderate" (group-B) and "strong" (group-C) were examined physically and ultrasonographically in the position I (on the back in the 60° flexion without knee load) and II (in the standing position in 0° flexion at knee load) for the IKMLL subluxation.
Results: The physical sign of IKMLL subluxation was in the group-A negative to irregularly weak positive, in the B regularly weak to moderate and in the C strong positive. Ultrasonography finding of IKMLL subluxation in the position II was 0.9 mm in the group-A, 3.2 mm in the group-B and 4.2 mm in the group-C; in the position I was only in the group-C 2.1 mm.
Conclusion: Presence of the subjective sign, physical sign and ultrasonography finding are directly proportional to the IKMLL subluxation degree and are influenced by knee load. Slight up to none sign of IKMLL subluxation is present in the position I by ultrasonography. IKMLL assessment in the position II ultrasonographically is relatively simple method usable in clinical practice.

Abstract ID: 802

Diverticular intestinal disease in mature patients

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Discipline: Gastroenterology

Abstract:
Background: The evolution of intestinal diverticulosis in mature patients may be severe, with complications and difficult therapy.
Aim: To present some aspects of diverticular intestinal disease in mature patients.
Methods: The study was made on a group of 110 patients aged 55-70 years, 56 men and 54 women, diagnosed with intestinal diverticulosis by radiological investigations, endoscopy, ultrasound and computerized tomography. On observed the situation on intestinal tract, the number, complications, therapy of diverticulosis and in the same time the associated diseases.
Results: Asymptomatic intestinal diverticulosis was observed in 35 % of patients. Only functional symptoms were described in 23% of patients and complicated situations in 40% of patients. The complications were: acute or recurrent diverticulitis in 22% of patients, peridiverticular inflammation in 5% of patients, bleeding in 12% of patients, perforation of a diverticulus with peritonitis in 5% of patients and fistula formation in 2% of patients. Diverticulitis was associated with neoplasia in 7% of patients and other diseases of digestive tract in 19% of patients.
Conclusion: 1. Asymptomatic in 1/3 of patients, intestinal diverticulosis develops functional symptoms in ¼ patients and complications in 2/5 of mature patients. 2. Diverticular intestinal disease in mature patients may be difficult in investigations, evolution and therapy. 3. The presence of some risk factor like: perturbations of nutritions, irregular bowel habit, prolonged treatments (anti-inflammatory, anticoagulant, immunosupresive drugs), associated diseases, angiodysplasias and decrease of physical activity can produce symptoms and complications of diverticular intestinal disease.

Session: Pathology

Abstract ID: 99

Identification of Paneth Cells In Brunner's Glands Using Semifine Sections

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Abstract:
Aim: Although more than a century passed since cells now known as Paneth cells were described by Joseph Paneth, there is still a lot of confusion regarding their functions, localization and even the absence and presence in different organisms. The aim of this study was to investigate the histological features of the initial parts of the duodenum of a mouse and cytological characteristics of Brunner's glands.
Materials and methods: For experimental model 6 healthy mice of NMRI type were used. After perfusion fixation, the initial duodenum parts of mice were isolated and then fixated, dehydrated and embedded according to standard procedures for electron microscopy. Sections 0.5 - 1μm thick were stained by toluidine blue and analyzed by immersion.
Results: An examination of semifine sections of the duodenal mucosa showed clear cytological characteristics of all types of cells. Mucosal epithelium and lamina propria did not indicate presence of inflammation. Paneth cells, identifed in the basal part of the crypt of Lieberkühn, were characterized by a supranuclear accumulations of a number of typical acidophilic granules. In addition to usual Brunner's glands cell populations, presence of atypical Paneth cells was identifed. In certain regions of the crypt intestinal bacterial colony can be seen.
Conclusion: Application of semifine sections allows us complete overview of the fine cytological characteristics in the intestinal epithelium. Based on cytological characteristics of the duodenal Brunner's glands, atypical localization of Paneth cells was identified.

Abstract ID: 110

Expression of CD56 and WT1 in sex cord stromal tumors in the ovary

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Abstract:
Background: CD56 is a neuroendocrine marker and similar to WT1 is it expressed in various tumors. WT1 can be expressed in various tumors from different anatomic sites including some types of ovarian tumors. Sex- cord stromal tumors of the ovary are infrequent lesions including Granolusa cell tumor , Fibroma, Fibrothecoma, thecoma, sclerosing stromal tumors and many rare others. They have different microscopic and clinical findings. Immunohistochemical markers such as Inhibin, A 103, calretinin and CD99 are positive in these tumors.
Methods: In this study we used pathology reports of patients with a history of sex cord stromal tumors and their paraffin blocks. We studied the expression of WT1 and CD56 markers in ovarian tumors with a sex cord stromal origin and in non-tumoral ovarian stroma of this patient from 2 years (1384-1386) which were admitted in the 'Shariati and MirzaKouchak Khan' hospitals. We studied 14 ovarian sex cord stromal tumors and 14 non stromal ovarian tumors.
Results: In our study, the WT1 marker was positive in 50% of all cases of the granolusa cell tumors, Fibroma and Fibrothecoma and was negative in all cases of Sclerosing stromal tumors. CD56 was positive in all cases of granolusa cell tumors and Sclerosing stromal tumors. This marker was positive in 75% of Fibroma and Fibrothecoma. WT1 and CD56 were positive in all normal ovarian stroma.
Conclusion: In this study we have shown that CD56 and WT1 are almost universally expressed in all the major morphological types of ovarian sex cord stromal tumor.

Abstract ID: 231

Prevalence of Helicobacter pylori in patients with Gastric Precancerous lesions in Ilam, Iran

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Abstract:
Background: Helicobacter pylori infection is an important cause of cancerous lesions in the gastrointestinal tract . Helicobacter pylori causes chronic non atrophic gastritis lesions initially, Then the waste can progress to atrophic gastritis & intestinal metaplasia and finally is converted to dysplasia and adenocarcinoma. The aim of this study is determined the prevalence of Helicobacter pylori in lesions and gastric precancerous ulcers and the relationship between them .
Methods: In this cross - sectional study, On patients referred to health centers in Ilam (2009) with gastrointestinal symptoms such as Dyspepsia, biopsy sampling method and endoscopy was performed. Samples of 91 patients with endoscopic had Gastric precancerous lesions . The samples were sent to pathology laboratory for determine the existence of Helicobacter pylori by UBT test and determining the type of lesion (chronic non atrophic gastritis , atrophic gastritis , intestinal metaplasia) by Sydney system.
Results: The mean age of participants in this project was 42.5 and Among these, 33% female and 67% were male. 96% of people had Helicobacter pylori infection. prevalence of Normal mucosa 0% , chronic non atrophic gastritis waste 6.6% , atrophic gastritis 93.4% Was observed, In atrophic gastritis samples, 5.6% had a gastrointestinal metaplasia.
Conclusion: Considering the high prevalence of Helicobacter pylori infection among people with Gastric Precancerous lesions and High risk of exposure to waste in patients with this infection (OR=2) , Seems to be effective treatment of infections become more malignant and cancerous lesions to be avoided

Abstract ID: 491

The forensic significance of male suicide

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Discipline: Pathology

Abstract:
Introduction: Suicide represents a conscious and intentional destruction of one's own life.
Aim: Comparative analysis of the frequency of male suicide in two periods of three years with its significant characteristics related to the motive, manner and potential previous attempts. Material and
Methods: The research has included the autopsy materials of the Institute of Forensic Medicine in Belgrade from two three year periods: from 1991 to 1993 and from 2008 to 2010. The overall number of analysed cases of male suicide is 471. The data analysis has been done by proportional ratio, tables, graphic representations and $\chi 2$ test.
Results: In the period of 1991-1993, the biggest number of victims, 26 (23%), was at the age between 21-30. The most common reason for suicide was psychiatric issue, 39 (34.5%), and the most common manner of committing a suicide was hanging, 39 (34.5%). In the other observed period, most of the victims were at the age between 41-50, 70 (19.6%); while hanging remained the most common manner, and the motives included were health issues, 111 (31%). What has been noticed is the fact that in both periods employed, married men were the most frequent victims.
Conclusion: What has been shown in this study is that the number of suicides increases every year. The age of the victims varies, but most of the victims are middle – aged or old people. Hanging represents a dominant manner of committing a suicide, while psychiatric and health issues are the dominant motives.
Key Words: Suicide, motive, manner.

Abstract ID: 538

Evaluation of HER2/neu prevalence and relation with hormone receptor expression (Estrogen - Progesterone) in invasive ductal carcinoma of breast in patients of Zahedan from 2004 to 2010

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Abstract:
Background: Breast cancer is the most common site specific cancer and second cause of death due to cancer in women. Some factors such as Estrogen and Progesterone Receptors and membrane protein HER2/neu are prognostic and predictive factors. HER2/neu over expression occurs in 30% of breast tumors. These tumors are faster growing, more aggressive and less sensitive to chemotherapy and hormone therapy. Absence of ER and PR has positive relationship with poor prognosis. In this study, we evaluate HER2/neu prevalence and its relation with ER and PR expression.
Methods: This descriptive study was done on 101 cases of invasive ductal carcinoma of breast referred to Zahedan Ali-Ebne-Abitaleb hospital from 2004 to 2010. All paraffin samples were transferred from pathology laboratory. Tissue slices stained and evaluated by method of immunohistochemistery for HER2 protein, ER and PR.
Results: HER2/neu prevalence was 68.3% in our study. 42 cases (41.6%) of patients had positive ER and 35 cases (34.7%) of them had positive PR. The over expression of HER2/neu had a negative correlation with ER and PR expression.
Conclusion: Significant difference in this study with references is in HER2/neu prevalence, which it is 68.3% in our study whereas it is extreme 30% in references. Spotting of these differences should lionize in treatment of patients and in other studies.

Abstract ID: 661

Value of Fine Needle Aspiration in Diagnosis of head and neck lymphoma

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Abstract:
Background: Lymphoma is a common etiology of malignant head and neck masses. There are many differential diagnoses for these masses such as inflammatory lesions and other malignant and benign neoplasms. Fine Needle Aspiration's (FNA) role in the evaluation of primary lymphoproliferative disorders is not definitely determined. This study is designed for determination of diagnostic value of FNA for head and neck lymphoma. The early diagnosis of head and neck lymphomas may result in early intervention and better treatment outcomes.
Methods: The cases are all of the patients who are admitted in Imam Khomeini Hospital, due to neck mass from the year 1385 to 1389. These patients have undergone FNA and then excisional biopsy, open biopsy or surgery.
Results: After data analysis, the diagnostic value of FNA in the diagnosis of head and neck lymphoma is calculated that is as follows: sensitivity: 88%, specificity: 81.2%, positive predictive value: 84.6%, negative predictive value: 85.7% and reliability: 85.1%.
Conclusion: With regard to the obtained results, FNA has a considerable value in differentiation of head and neck lymphoma from non-lymphoma etiologies. Thus, it could be suggested that FNA could be used as a screening test for the diagnosis of head and neck lymphoma.

Session: Pediatrics

Abstract ID: 321

Hematologic characteristics of people with β heterozygous thalassemia in Serbia

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Abstract:
Background: Our aim is to find out the pathognomonic combination of the hematological parameters for the efficient recognition of the existence of β thalassemia minor or hemoglobinopathy Lepore.
Material and methods: This retrospective study included 98 subjects sent for the elucidation of their microcytosis, during the period from October 2007 to December 2010. The values of the red blood cells (RBC), mean corpuscular volume (MCV), red distribution width (RDW) and Mentzer's index (MCV/RBC) were analyzed. The diagnosis of β thalassemia minor or hemoglobinopathy Lepore was confirmed by hemoglobin electrophoresis. The differences in analyzed values were tested with parametric and nonparametric statistic tests (Student`s T test, $\chi 2$ tests, Mann-Whitney).
Results: 59 subjects were diagnosed as having heterozygous thalassemia, of which 21 subjects had hemoglobinopathy Lepore, and 38 had β thalassemia minor. More than a half of the subjects (34 out of 59) were found to have hemoglobin values within physiological ranges for the age. Hemoglobin values in subjects with hemoglobinopathy Lepore were significantly higher ($p<0.01$). All of our subjects had elevated red blood cells (erythrocytosis), but the difference was not significant. Microcytosis, the crucial laboratory parameter of thalassemia was more pronounced in subjects with β thalassemia minor ($p<0.01$). Mentzer's index was typically low (normal values 12-14) in both groups but, the difference was not significant. RDW values were increased (normal values <14%) as in iron deficiency anemia in both groups, but the difference was not significant.
Conclusion: Screening and diagnosis of hetereozygous β thalassemia minor and hemoglobinopathy Lepore is based on the routine complete blood count examination. It is important to note that normal hemoglobin value does not rule out heterozygous thalassemia disorder. If micro-

cytosis is accompanied with erythrocytosis (we would designate this as "microcytic erythrocytosis") and Mentzer's index values below 12, diagnostic hemoglobin electrophoresis is required, which in the case of β thalassemia minor, discovers elevated values of hemoglobin A2, while in cases of hemoglobinopathy Lepore, hemoglobin Lepore is detected (δβ fusion). By detecting the persons with heterozygous β thalassemia minor or hemoglobinopathy Lepore it could be possible to prevent getting homozygous offspring.

Abstract ID: 463

Does maternal smoking during pregnancy influence fetal-maternal cell trafficking?

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Abstract:
Background: Cigarette smoke (CS)-exposure causes oxidative damage to the lung leading to chronic injury and inflammation. Effect of pregnancy on CS-induced lung injury is not known. During pregnancy, fetal cells traffic to the mother. New data emerge that fetal cells are attracted to the site of injury. Their presence might be beneficial for the repair of damaged tissue due to their stem cell-like properties. The majority of fetal cells are cleared after pregnancy, but small numbers might persist for years. Their exact role and function during acute and chronic injury is not clear. Our hypothesis states that CS-exposure during pregnancy influences the fetal-maternal cell trafficking into maternal lungs.
Methods: A GFP mouse model was used to study the effect of CS on fetal-maternal cell trafficking in pregnancy and their persistence postpartum. Wild-type females were exposed to CS prior to breeding, during, and after pregnancy. To produce GFP-positive fetuses, females were bred with GFP-homozygous males. Fetal cells and their persistence were assessed by the presence of GFP-positive cells in maternal lungs. Lungs were collected and analyzed (FACS, IHC, PCR) for the presence of GFP-positive cells at gestational day 18 (d18; the peak of fetal cell trafficking), at postpartum day 4-6 (pd4-6; where the majority of fetal cells are cleared) and 6 month after pregnancy. Macrophage staining was used as a marker of CS-induced inflammation.
Results: We found that the number of macrophages per mm of alveolar wall was increased in smokers (15) versus non-smokers (10). In our preliminary results, we also found that pregnancy had no effect on the accumulation of macrophages in the smoker lungs (15 versus 16). 400-850 GFP-positive cells were detected in the whole lung at d18 and only 1-15 cells were detected at pd4-6 using FACS. 6 month after pregnancy cells were undetectable. GFP-positive cells were detectable in lung sections at d18 and p5 by IHC. Their morphological characteristics are under investigation.
Conclusion: Our preliminary data validated our smoke exposure model and showed that pregnancy has no major effect on CS-induced macrophage accumulation. We demonstrated that the cell trafficking is significant at d18 and the majority of fetal cells are cleared after pregnancy independent of treatment. Further studies are in progress to evaluate CS-induced changes in fetal cell trafficking and their function in the maternal lung.

Abstract ID: 571

Permanent neonatal diabetes mellitus - sulphonylureas treatment

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Abstract:
Aim: The authors are presenting a particular case of diabetes mellitus with onset in early infancy. Based on clinical signs, positive glibenclamide therapeutical test, with the impossibility of determining the genotype, the diagnose of permanent neonatal diabetes mellitus (PNDM) was established.
Case description: 1 year and 10 months old B.S. was diagnosed with diabetes mellitus at the age of 3 months. The HbA1c at onset was 15.2%. The patient received insulin therapy in a multiple injection regimen. Insulin therapy was then switched to a regimen of 2 injection, using analogue of intermediate insulin. However, glycemic variations are high due to alimentation difficulties (entirely lactate, appropriate for the age of 3 months). Insulin treatment lasted 7 months and the HbA1c was 7.8%. At 10 months old the child was successfully switched to sulphonylureas oral treatment (1.8 mg/kg/d in two prises). The dose was optimized according to glycemic control up to a maximum of 2.5 mg/kg/d. The insulin injections were progressively reduced in about 3 days since the beginning of the oral therapy. The clinical and metabolic improvement was excellent('a jeun' glycaemia of 122 ±32 mg%, postprandial values 85 ±36 mg%). Currently the diabetes control is obtained with glibenclamide (0.16 mg/kg/d - 3 doses). After six months of sulphonylureas HbA1c is 6,6% with small glycemic variations.
Comments: Diabetes mellitus with onset in infants younger than 6 months is caused by a mutation of the KCNJ11 gene, which makes the K-ATP channels loose their sensitivity to ATP and becoming sensitive to sulphonylureas. This type of diabetes mellitus is a permanent neonatal one and can receive sulphonylureas treatment, which block the K-ATP channels and stimulate release of insulin. Conclusions: The aetiology of diabetes mellitus with onset before 6 months of age is genetic (47% a mutation of the KCNJ11 gene). The metabolic balance obtained, pre- and postprandial glycemic variations in infants with PNDM is superior under sulphonylurea therapy. It is the first case of PNDM treated with oral antidiabetes in Romania.

Abstract ID: 731

Velo-Cardio-Facial Syndrome - a puzzle worth being deciphered-

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Abstract:
Introduction: Velo-cardio-facial syndrome, DiGeorge syndrome related, represents an abnormality manifested by deletion of approximately 3 million bases in chromosome 22 region Q11. It brings together birth different type of facial malformations, feeding difficulties, malformations of the heart as anomalies or conotrunkal defects of the aortic arch, genitourinary anomalies, microcephaly with different degrees of mental retardation, hypocalcemia, immunodeficiency with hypo-or aplasia of thymus. The incidence of this syndrome is described as being of 1:4000 for births.
Material and methods: We describe the case of a 2-month infant male with acute cardio- velo-facial showing cheilognatopalatoschizis, microcephaly, hypertelorism, low implanted ears and short neck, genital malformations with hypogonadism, cryptorchidism and hypoplasia of thymic gland. The heart malformation is a complex vascular malformation of the aortic arch, consisting in right aortic arch, persistent right ductus arteriosus, abnormal branches of the aorta - the carotid arteries emerging from a common trunk, followed by right subclavian artery emerging from the area distal isthmus. Left subclavian artery originates in pulmonary artery proximal from the pulmonary bifurcation. Proximal portion of left subclavian artery shows an area of occlusion, loading with dye artery contrast being achieved by left spinal artery . Left lung artery in turn presents an area of stenosis after emergence. Vascular malformations were detected by echocardiography and confirmed by angio CT. Genetic analysis for performing karyotype and detecting micro-deletions of chromosome 22 by FISH method are in work. Thymic hypoplasia was evidenced by ultrasound method. Therapeutic plan in this case includes providing nutritional intake necessary to ensure proper growth, therapeutic solving of the cheilognatopalatoschizis and the cryptorchidism after six months and, cardiology monitoring.
Conclusion: Early and active diagnosis of all malformations that compose Velo-cardio-facial syndrome is important to ensure prompt resolution of all the malformations that require surgery. The particularity of this case lies in complex vascular anomalies, involving both the aorta and its branches, and pulmonary artery, very less common association.

Session: Pharmacology and Toxicology

Abstract ID: 84

Prevalence of self-medication in territory of Podgorica

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Abstract:
Aim: Drug utilization studies provide useful information about actual habits of consumption of medicines and self-medication in some areas. The aim of our study was to assess the prevalence of self-medication among residents of Podgorica, the capital city of Montenegro. Methods and materials: The study was conducted in September 2010. Prospective study covered 100 families chosen at random in Podgorica. We used a standardized questionnaire and insight into the drug inventory in order to collect data.
Results: At 100 household we found 882 drugs which means that in every household we found in average nine box of drugs. Among this, we found that 52% were taken on their own initiative, without a doctor prescription and 47% reported use of only prescribed medications. The most frequent groups used for self-medication were analgesics (ATC group N02) with 47% and drugs for acid related disorders (ATC group A02) with 32%. Among of all households, only 14% of them asked a pharmacist for adverse reactions of drugs.
Conclusion: Self-medication, or irrational use of medicines, represents a great problem on the territory of Podgorica, so there is the need to make additional educational and regulatory efforts which will provide more rational pharmacotherapy.

Abstract ID: 154

Spontaneous reporting of adverse drug reactions in Clinical Centre of Montenegro

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Abstract:
Aim: Adverse drug reactions (ADR) in hospital are a significant cause of morbidity and mortality. The aim is to analyze the ADR which have been collected through doctors and medical technicians' spontaneous reporting.
Methods and materials: The prospective study covered 655 patients hospitalized in Cardiology Center of Clinical Center of Montenegro. ADR were collected by spontaneous reporting (doctor and nurse reports). According to the criteria of World Health Organization, for every ADR causality assessment, severity, type, outcome, level of intervention and place of manifestation of ADR was established.
Results: With spontaneous reporting, 22 patients had 22 ADR which were noted. Doctors reported a statistically significant larger number of ADR (68%) than medical

technicians (32%), p<0,01. Nine patients (41%) had serious ADR with the following outcome: two ADR were the cause of the hospitalization (22%), four ADR resulted in the extended hospitalization (44%), and three were life threatening (33%). The most frequent symptoms which the patients had as a consequence of ADR were: fainting (27%), headache (18%), weakness (14%), vertigo (14%) and vomiting (9%).
Conclusion: Considering the increased use of cardiovascular drugs and limitations in pre-marketing trials for drug safety evaluation, post marketing evaluation of adverse drug reactions induced by this class of medicinal products seems necessary.

Abstract ID: 169

The effect of serotonin receptor antagonist, granisetron, on inflammatory cytokines in chronic inflammation

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Abstract:
Background: Considering the critical role of inflammatory cytokines in the incidence and progression of tumors and inflammation, we investigated the effect of granisetron as an antagonist of 5HT3 receptors on inflammatory cytokines in rat air-pouch model of inflammation. Injection of carrageenan induces inflammation and the pouch serves as a reservoir of cells and mediators that can be easily measured in the fluid that accumulates locally. We also investigated the production of TNFá, which is reported to be central to upregulating the cytokine cascade responsible for the chronic inflammatory response causing rheumatoid arthritis. Because PGE2 suppresses various leukocyte functions and regulates TNFá production by macrophages dose-dependently, we also studied PGE2 production in the air-pouch.
Methods: To induce air-pouch, male wistar rats were anesthetized, and then 20 ml and 10 ml of sterile air were injected subcutaneously in the back on day 0 and day 3, respectively. On day 6, inflammation was induced by injection of 1 ml of carrageenan 1% into pouches. After 6 and 72 h, the rats were sacrificed and pouch fluid was collected in order to determine the concentration of TNFá and PGE2 in exudates using ELISA.
Results: Granisetron specifically induced an increase in PGE2 synthesis at lower dose (50 ìg/pouch) but higher doses (100 and 200 ìg/pouch) of drug inhibited the release. At the same time, TNFá production was decreased by lower dose and increased higher doses of granisetron in a reciprocal fashion.
Conclusion: Taken together we found that the pattern of TNFá concentration in pouch fluid, changing by granisetron, was inversely correlated with the concentration of PGE2. This suggests that granisetron-induced reduction of PGE2 release, through 5HT3 receptors, regulate TNFá release. These findings provide new mechanistic insights into the anti-inflammatory activities of 5HT3 receptor antagonist, granisetron, which are probably mediated through modulation of TNFá/PGE2 production.

Abstract ID: 281

Antimicrobial drug use in the urology clinic

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Abstract:
Background: Drug utilization analysis is an important segment of clinical pharmacotherapy, because it can point out the need and the ways of therapy rationalization. The aim of our study was to analyze the usage of antibiotic drugs in the Urology Clinic of the Clinical Center of Montenegro.
Methods: We used Central Pharmacy Report as the source of data about drugs delivered to Urology Clinic in the period of time January 01. – September 30. 2004., and in the same period in the year 2010. Total consumption rate was calculated as the number of daily defined doses (DDD), used in 100 bed days (BD).
Results: The total amount of drug consumption was 477.27 DDD/100 BD in 2004 and 473.91 DDD/100 BD in 2010. Based on the results from 2004 and 2010, on the second place are the anti-infective for systemic use, with the 67.22 DDD/100 BD (13, 8%) in 2004 or 82.65 DDD/100BD (17.4%) of total consumption for 2010. The most frequently prescribed group of antibiotics are cephalosporins with over 50% of prescriptions. The use of aminoglycosides decreased from 26.4% in 2004, to 9.44% in 2010. Quinolones were in 2010, significantly longer in use, while other antibiotics used significantly less. The use of cephalosporins recorded significant deviations in 2004 and 2010 year. It was observed significant reduction in the use of cephalosporins generations I and II in 2010 (15.35%) compared to 2004 (48.94%). In 2010 use of the third generation cephalosporins has recorded a significant increase in consumption (84.65%) compared to 2004 year (51.06%). Irrational use of specific pharmacotherapies can significantly increase the financial outlay. The best example for this are cephalosporins, cause in their case the financial outlay increased 2.5 times from 2004-2010.
Conclusion: Utilization of antibiotic drugs groups in majority concords with contemporary pharmacotherapy principles. The noticed exceptions suggest that additional educational and regulatory efforts should be implemented.

Abstract ID: 543

The Antinociceptive Effect of Centrally Administered Cadmium

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Abstract:
Background: Cadmium is a ubiquitous toxic metal which interacts with the metabolism of three essential metals – calcium, zinc and iron. Knowing the influence of zinc and calcium on the nociceptive processes, the present study investigates the cadmium role in central pain modulation

following an intracerebroventricular (icv) administration.
Methods: Healthy adult male Wistar rats, initially weighing 350– 450 g, were used. The rats were maintained in polyethylene cages with food and water ad libitum, in a laboratory with controlled ambient temperature (21 ± 2°C) and under a 12h light–dark cycle. Groups of 7 rats were treated with cadmium (Cd) chloride, 20 nmol Cd/ rat in 10 μL of saline. Stoelting stereotaxic equipment was used for icv administration, in previously ether-anesthetized animals. The control group received an equal volume of saline. Hot plate and tail clip tests were performed before and 15, 30, 45, 60, 75 and 90 minutes after the administration of substances.
Results: The nociceptive tests showed that intracerebroventricular administration of cadmium chloride has an analgesic effect for the tail clip test. The maximum effect was observed 60 minutes after the onset of the experiment. Discussion: The implication of Cd as a divalent cation has been studied before in relation to various physiological roles. However this is the first study to look at its effects on nociception after icv administration. Cd blocks the acid sensing ion channels (ASIC's), which are known to be involved in pain modulation. At the same time, the inhibitory effect of Cd on dopaminergic and GABA neurons has been documented, thus giving more possible explanations for the antinociceptive involvement of Cd in the human body.
Conclusion: Cadmium has an antinociceptive effect following icv administration. However, the slow onset of the analgesic effect observed, coupled with the simple reflex analgesia induced, suggests a different mechanism and site of action than expected based on indirect background data available.

Abstract ID: 686

Influence of seven-day treatment with fungus cordyceps sinensis on rat's organism

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Abstract:
Background: Cordyceps sinensis has been used in Chinese medicine since many centuries ago. Treatment on rats reduces acumulation of serum cholesterol, triglycerides and LDL, hepatocyte damage caused by CCl4 and also can increase insulin sensitivity. The aim of research was to test the influence of seven-day treatment with suspension of commercial preparation, which was made from fungus C. sinensis, on rat's body weight, hyperglycemia, which is induced with glucose and adrenaline, lipid level in blood and liver function after induced damage.
Methods: Rats from species Wistar were used, and there were two groups, the experimental and the control one. Experimental group was treated with suspension of commercial preparation, which was made from fungus C. sinensis, in dose of 1000 mg/kg per os. The treatment lasted seven days and on the 7th day animals were anesthetized with 25 % urethane solution i.p. and sacrificed for the further experiments.
Results: After the seven-day treatment, in compare with the experimental group who received suspension of fungus, the body weight growth of animals from the control group was higher, but the experimental group had higher level of total triglycerides, lower level of HDL lipoproteins and much higer level of AST and ALT. Experimental group was treated with glucose and adrenaline to cause hyperglycemia, and in compare with control group the increase of glycemia was noticed.
Conclusion: Seven-day treatment with fungus Cordyceps sinensis prevents increase of rat's body weight, but it does not have the influence on glycemia after the per os intake of anhydrous glucose and s.c. adrenaline application. The treatment significantly increases concentration of total triglycerides, but it decreases concentration of cholesterol and prevent higher increase of enzym level, which indicates acute liver damage after the treatment with CCl4.
Key words: Cordyceps sinensis, metabolic syndrome, glycemic index, ALT, AST

Abstract ID: 728

Burden of drug accumulation in households: An analysis of data from a developing country

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Abstract:
Background: With the increasing use of prepared medications and the lack of a proper management plan for left-over medication has resulted in accumulation of those drugs in home medication cabinets and has encourage people toward self initiated treatment using non prescription drugs. This has also resulted in many inadvertent cases of poisoning in vulnerable groups like children and elderly. Our aim was to analyze the burden of leftover medications in households and risks posed by these medications to members of the households.
Methods: A descriptive cross sectional study was carried out and data were gathered from 57 randomly selected households in the western province of Sri Lanka and data was gathered by way of an interviewer administered questionnaire.
Results: Out of the total number of households (n=57) studied 50 (87.71%) households had left over medications. A mean of 4 (SD±2) drug packages were collected per household. Out of all drug packages collected 73.45% were prescribed medications and the rest 26.55% were drugs purchased for self initiated treatment. And 14% belonged to the general sales list (GSL) category while 12% belonged to the pharmacy only (PO) category and the remaining 74% belonged to the prescription only medication (POM) category. Out of the drug packages used for self initiated treatment 70% belonged to the prescription only category. The most commonly found class of drug was non steroidal anti inflammatory agents accounting for 16.37% of total drugs collected out of which 5.4% was found to be expired. The next commonest drug class was antibiotics which amounted to 13.27% of total drug packages. In 39 (68.4%) of the households proper drug storage techniques were not followed and 10 (25.64%) out of them had vulnerable individuals (Aged <18yrs and >65yrs) living in the household.

Conclusion: A significant number of households keep medications after the original indication for drug use is resolved. And many of those households lack a proper method of storage for drugs leading to inadvertent poisoning from these drugs. Strengthening the rules related to drug dispense and advice to patients regarding medication disposal by pharmacists will reduce the risks posed by these drugs on population. A sustained awareness of the risks of keeping left over medication and risk of self-medication by these drugs is warranted for the future.

Abstract ID: 750

Study on antifungal activities of Mentha piperita and Thymus vulgaris essential oils against Fusarium oxysporum and F. verticillioides, causal agents of onychomycosis and keratomycosis

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Abstract:
Fusarium is a large genus of filamentous fungi widely distributed in soil. Most species are harmless saprobes, and relatively abundant members of the soil microbial community. Some species produce mycotoxins in cereal crops that can affect human and animal health if they enter the food chain. The main toxins produced by these Fusarium species are fumonisins and trichothecenes. Some species as Fusarium oxysporum and F. verticillioides may cause a range of opportunistic infections. In humans with normal immune systems, fusarial infections may occur in the nails (onychomycosis) and in the cornea (keratomycosis or mycotic keratitis). In humans whose immune systems are weakened in a particular way, (neutropenia, i.e., very low neutrophils count), aggressive fusarial infections penetrating the entire body and bloodstream (disseminated infections) may occurred. The object of this study was assigned to identify the effectiveness of Mentha piperita and Thymus vulgaris essential oils against 24 h cultures of F. oxysporum and F. verticillioides. The experiment was carried out with Whatman paper disc method in 25, 50, 75 and 100% concentration of essential oils on PDA culture at 25°C and mycelial growth measured daily for 20 days. Essential oil (10 µl) was directly assayed to each fungus with 25, 50 and 75% dilution with acetone and undiluted 100%. The control was used for each case by not exposing the fungus to any extract and addition of acetone.The antifungal activity was evaluated under a randomized completely factorial design with three replications. Results indicated significant decreases of 83% and 95% in the radial growth of F. verticillioides by Th. vulgaris (100%) and M. piperita (100%) essential oils, after 10 days, respectively. Complete inhibation of growth in F. oxysporum was observed by M. piperita essential oil in high concentrations (75% and 100%) after 7 days.

Session: Physiology

Abstract ID: 116

Heart rate variability dynamics during functional testing in young individuals with family history for cardiovascular risk

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Abstract:
Aim: Our results are part of a complex study of the cardiovascular variability in young normotensive offspring of parents with cardiovascular pathology in response to functional testing.
Methods: Seventy individuals were divided into two groups: normotensive subjects with positive family history for cardiovascular risk (N+) and their age matched controls (N-). They were subjected to the orthostatic test (OT) and to the deep breathing test (DBT). OT comprised three 5 min periods of initial supine position, standing upright and recovery. DBT was carried out in supine position: 5 min baseline, 1 minute of controlled deep breathing (6 cycles) and 5 min recovery. A large group of those patients were tested for a second time for confirmation of the observed data. Continuous electrocardiogram was recorded by means of the Biopac MP100 or iCardio digitizer. Data were analyzed with the help of Acknowledge, MIS 2000 and iCardio software. Heart rate variability (HRV) was estimated using fast Fourier transform (FFT) and wavelet transform analysis (WT).
Results: During OT FFT HRV differed between the two groups, e.g. the baseline index of autonomic balance was significantly higher in (N+) – 2.5 vs. 1.3 ($p<0.01$); normalized indices of HRV showed significant difference as well ($p<0.01$). Those data persisted during the repeated testing. DBT also revealed significant differences between (N+) and (N-) individuals, it produced larger stimulation of HRV in (N-) than in (N+) ($p<0.001$).
Conclusion: The functional tests OT (sympathetic challenge) and DBT (parasympathetic stimulus) revealed the existence of minor yet persisting alterations in the autonomic cardiovascular balance, a sympathetic predominance, in the young normotensive offspring of parents with cardiovascular pathology. In addition, we have shown the advantages in the application of WT analysis in case of short-term instantaneous changes of HRV as in DBT.

Abstract ID: 262

How does the expression of Nerve Growth Factor in osteoarthritic cartilage influence pathology?

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Abstract:
Background: The neurotrophin NGF and its high affinity receptor (TrkA) have been shown to be more highly

expressed by chondrocytes in osteoarthritic cartilage compared to normal cartilage. There is no evidence to clarify a role for NGF in osteoarthritis (OA). Studies investigating NGF's function in other connective tissues have shown a role for NGF in repair and survival. I hypothesize that NGF will drive chondrocytes towards a phenotype characteristic of OA; anabolically hyperactive, and will begin to re-express a chondroprogenitor phenotype, resulting in cartilage matrix calcification.
Methods: Specimens from human knee articular cartilage was obtained; 6 from normal cartilage, and 6 from OA cartilage. NGF, p75 (low affinity) and TrkA receptor (high affinity) and MMP13 mRNA expression was evaluated using quantitative-polymerase chain reaction (qPCR). To evaluate the effect of NGF on chondrocyte phenotype, primary bovine chondrocyte cultures were treated with media containing 500ng or 100ng/well of NGF in two treatment groups, and control groups were replenished with media only. Media contained ascorbic acid and β glycerol phosphate to promote collagen crosslinking and mineralisation. Cultures were incubated for 3, 10 or 14 days; and were assessed with assays for cell number, death, mineralisation and sulphated glycosaminoglycans concentration [sGAG].
Results: NGF mRNA was detected in normal and OA chondrocytes, NGF mRNA levels were significantly increased in the OA chondrocytes (p=0.007). MMP13 levels were significantly increased in the OA chondrocytes (p=0.029). There was no significant difference in p75 mRNA expression between normal and OA chondrocytes. TrkA receptor mRNA expression was undetectable. Cultures revealed no significant difference between extent of mineralisation, [sGAG], cell number or death between cell cultures treated with NGF or controls.
Conclusion: This is the first study using qPCR to show that NGF is upregulated in osteoarthritic chondrocytes, supporting the suggestion of a role for NGF in the pathophysiology of OA. Likewise, this is the first study to use cell culturing to investigate the role of NGF in affecting chondrocyte phenotype, the results seem to disprove a role for NGF in increasing cartilage mineralisation and [sGAG]. Our data does not suggest a role for NGF in an anabolic chondrocyte phenotype.

Abstract ID: 457

Study the effects of swimming in the diabetic pregnant rats on learning and memory of offspring

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Abstract:
Background: There are controversy about the cognitive performance between the infants of diabetic mothers and controls. On the other hands, physical activities during pregnancy could increase brain derived neurotrophic factor in the hippocampus of off-spring. The aim of present study was to evaluate the effect of swimming exercise during pregnancy on learning and memory of diabetic and non-diabetic mothers' offspring in rats.
Methods: Diabetes was induced by a single i.p. injection of STZ (60 mg/kg). Healthy and diabetic female rats were swum during pregnancy. Then, their adult off-springs of swimmer and non-swimmer diabetic and healthy mothers' rats were tested in the passive avoidance, radial maze and multiple t-maze tasks. The collected data were analysed by one-way Anowa test, P-values less than 0.05 were considered as indicative of significance.
Results: There were no significant difference in the number of trials to acquisition, step-through latency and time spent in the dark compartment between different groups of rat in the passive avoidance test. Also, there were no significant difference in the number of baited food arms, reference and working memory errors between experimental groups in radial maze task. On the other hands, the results of multiple t-maze test showed that the numbers of entrance error into the arms in the male and female offsprings of diabetic swam rats significantly less than non-swam diabetic rats.
Conclusion: The results of present study indicated that swimming during pregnancy had no significant effect on the learning and memory of off-spring rat in the passive avoidance and radial maze task but significantly improve the learning and memory of off-spring of diabetic rat. It can conclude that, swimming during pregnancy can improve learning and memory of off-springs in some kind of task. Keywords: Swimming, Diabetes, Off-spring, Learning and memory, Rat

Abstract ID: 468

Physiological reaction and mental stress test results after consumption of energy beverages

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Background: Most studies show positive effects of energy drinks on memory and concentration. Because of these effects of energy drinks on human body, such as improvement of the emotional status, stimulation of metabolism and better concentration, students often consume these beverages. The aim of this study was to indicate physiological effects of energy drinks on the frequency of heart rate, blood pressure and blood glucose levels, and also to demonstrate changes in response to mental stress test.
Methods: The study included 29 students of Medical Faculty in Osijek, aged 18-24 years, who have not consumed alcohol or energy drinks one week before testing. Participants were self-control, comparing the parameters obtained by testing before and after consuming an energy drink. Respondents were extracted a sample of venous blood, from which blood glucose concentration was determined. Participants were also measured blood pressure and pulse rate as the average value of three consecutive measurements. After these measurements they accessed the mental stress test, and fulfillment of psychological questionnaires on emotional status. Next, these tests subjects were given 500 ml of energy drink, after which they rested again for 30 minutes in lying position. After consumption of energy drinks measurements and tests were repeated. The data was statistically analyzed using SigmaPlot 11.2 statistical software.
Results: Before consumption of the energy drink the aver-

age value of mean arterial pressure was (82.83 ± 9.67 mmHg). After ingestion of energy drink value of mean arterial pressure increased to (85.31 ± 8.59 mmHg). Thus, there is a statistically significant change in blood pressure after the consumption of energy drinks ($p = 0.037$). Also, there was a significant change in heart rate frequency. Before consumption the average frequency of the heart rate was (71.31 ± 10.01) and after the consumption of energy drink value of heart rate increased to (76.07 ± 10.68). There is a statistically significant change in heart rate frequency ($p = 0.001$). The average value of glucose in venous blood also increased from (4.54 ± 0.36 mmol / L) to (7.026 ± 1.357 mmol / L). There is a statistically significant change in glucose after consumption of energy drinks ($p = <0.001$). Results of mental stress test (which was arithmetic test) increased after drinking energy drink. Average score on the arithmetic test before consumption was (146.56 ± 50.73) and after consumption average result was (189.31 ± 48.03).

Conclusion: Ingestion of energy drinks increases some physiological parameters. Research results show a significant increase in mean arterial pressure and increased frequency of heart rate after consuming the energy drink, because of sympathetic activation. Due to fact that one of the important ingredients of energy drink is glucose, increased glucose levels were expected after consumption of energy drink. Mental stress test results were also improved, due to active substances that energy drinks contain.

Abstract ID: 492

Copper sulfate inhibit seizure activity induced by pentylenetetrazole in NMRI mice

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Abstract:

Background: Copper is one of the main micronutrients of body which plays a key role as a cofactor in the function of metabolic enzymes. Previous studies have shown that copper sulfate (CuSO4) inhibits long- term potentiation (LTP) in slices of hippocampal CA1 region. Whereas LTP is involved in learning and epilepsy, it seems that copper effects on LTP could be associated with its effects on epilepsy and seizure. Therefore the aim of this study is to evaluate the effect of CuSO4 on seizure induced by Pentylenetetrazole (PTZ).

Methods: the effect of various doses of CuSO4 (2.5, 5, 10 and 15 mg/kg, ip injection) or saline (as a control group) on seizure parameters induced by PTZ (100 mg/kg ip injection) was evaluated NMRI mice. 20 minutes after injection of saline or CuSO4, 100mg/kg PTZ was injected to induce seizure in animals and seizure parameters were recorded.

Results: Comparison of the effect of CuSO4 or saline on seizure parameters such as stage 2 latency, stage 5 latency and stage 5 duration showed that CuSO4 dose-dependently reduced seizure.

Conclusion: This study showed that CuSO4 compared with the saline significantly inhibited seizures caused by ip injection of PTZ.

Abstract ID: 501

Cardiovascular and neuromuscular changes after consumption of energy beverages

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Discipline: Physiology

Abstract:

Background: Energy drinks are known as drinks that increase energy level. They contain large amounts of sugar that is used as fuel in the human body. Most studies show positive effects of energy drinks on athlete performance, such as increasing endurance and improving reaction speed, and that is the reason why athletes often consume these beverages. Because of the increased consumption of energy drink Red Bull among young people, this survey is intended to show cardiovascular and neuromotor changes caused by this drink.

Methods: The study included 27 students of Medical Faculty in Osijek, aged 18-24 years, who have not consumed alcohol or energy drinks one week before testing. Participants were self-control, comparing the parameters obtained by testing before and after consuming an energy drink. They have accessed the Harvard Step Test and speed response measurement. While performing physical work during three minutes, the changes of breathing, heart rate and temperature were measured. Next, these tests subjects were given 500 ml of energy drink, after which they rested again for 30 minutes in lying (recumbent) position. After consumption of energy drinks tests were repeated.

Results: The study showed significant differences in speed of response and changes of breathing and heart rate. Skin temperature has not changed. Heart rate was significantly increased in the first minute of exercise after consumption of Red Bull® (139.4±15 versus 148.6±16.1, respectively). Respiration rate increased significantly during the entire exercise after consumption of Red Bull® (first minute result: 21.6±6.1 versus 25.9±6.7, respectively). Maximum air flow is a parameter that is most changed after drinking Red Bull®. It is consistently significantly elevated during the entire exercise and some time after exercise (first minute result: 1.96±0.53 versus 2.64±0.81, respectively). Speed of motor response was significantly elevated after consumption of Red Bull®. The speed is improved in a randomized (0.26±0.04 versus 0.24±0.04, respectively) and fixed interval (0.3±0.05 versus 0.27±0.03, respectively) also.

Conclusion: Our results have shown the stimulatory effects of Red Bull® in cardiovascular and neuromotor factors. The biggest changes have occurred in the maximum air flow, then the frequency of breathing and heart rate, because of sympathetic activation.

Abstract ID: 572

Correlation between the cross-sectional area and the compound action potential amplitude of the nerve

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Abstract:
Background: Bioelectrical nerve response or compound action potential (CAP) is the sum of all individual action potentials occurring simultaneously in the nerve fibers which form the nerve. The amplitude of the CAP is the voltage value of the peak of the CAP response, therefore it is proportional to the number of excited fibers. This study was designed to determine the correlation between the cross-sectional area and the compound action potential amplitude of the nerve.
Methods: Ten (10) frog sciatic nerves were incubated in Ringer solution (2.0 mmol/l calcium solution) for 2 hours and measurements of amplitude were taken at a distance of 25 mm and 45 mm form the nerve beginning. CAP was measured using extracellular recording techniques. CAP was induced by stimulator with single electrical stimulus and amplitude was measured using a digital oscilloscope. From each nerve two hematoxylin and eosin stains were made, the first at 25 mm and the other at 45 mm distance from the nerve beginning. Morphometric measurements were performed using a microscope Zeiss Axio Imager A1. Data were collected and analysed using the statistical computer programe GrapPad Prism 5.0.
Results: Ten (10) nerves were histologically processed. The average value of the nerve length was 9.64 ± 0.90 mm. The average value of the nerve cross-sectional area at a distance of 25 mm was 0.55 ± 0.13 mm2, at a distance of 45 mm was 0.20 ± 0.06 mm2, ($p<0.05$) and corresponding amplitude were 24.48 ± 3.15 mV and 12.80 ± 1.29 mV, ($p<0.05$), respectively. The results showed that greater cross-sectional area corresponds to higher amplitude: the cross-sectional area of 0.20 ± 0.06mm2 corresponds to the amplitude of 12.80 ± 1.293mV and the area of 0.55 ± 0.13mm2 corresponds to the amplitude of 24.48 ± 3.148mV. However, Pearson's correlation coefficients between the cross-sectional area and nerve CAP amplitude at a distance of 25 mm and at 45 mm were r=0.01 and r = 0.0064, respectively.
Conclusion: Pearson's linear correlation coefficient showed that there was a weak correlation between the cross-sectional area and the CAP amplitude of the nerve.

Abstract ID: 608

The effects of energy drink on cognitive functions

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Discipline: Physiology

Background: Energy drinks are beverages advertised as beverages that "raise" the human energy level. Previous studies have shown that the Red Bull energy drink active ingredients act on the human body by stimulating metabolism and increasing alertness. However, not much is known about its' effects on cognitive functions, such as: perception, memory, attention and consciousness. Thus, the aim of this study was to determine the effects of Red Bull energy drink on cognitive functions in young people.
Methods: Twenty nine students (male and female) of Faculty of Medicine (Josip Juraj Strossmayer University Osijek) were asked to participate in this cross-over study. They underwent cognitive tests prior and after energy drink consumption. Tests used in this study were: Auditory Verbal Learning Test (AVLT), three types of verbal fluency tests (phonemic, semantic and ideational), Auditory Digit Span Task (ADST), D2 Attention Loading Test and Digit Symbol Substitution Test (DSST). The data was statistically analyzed using SigmaPlot 11.2 statistical software.
Results: All tests' results improved after consumption of Red Bull energy drink. Students solved phonemic verbal fluency tests better after the consumption Red Bull (12.45±4.20) than before the consumption (8.45±2.79), $p<0.0001$. Semantic verbal fluency tests were also better solved after the energy drink consumption (26.10±4.94), than before (23.28 ± 3.89), $p=0.0006$. Auditory Digit Span Task results were also better after the energy drink consumption (8.48±0.87) than before (8.03±0.82); $p= 0.0167$. D2 Attention Loading Test was better solved after the consumption (592.45±60.31) than before (486.83 ± 9.19), $p<0.0001$. Students had better results in Digit Symbol Substitution Test after the energy drink consumption (72.00±6.53) than before (59.14±8.52); $p<0.0001$.
Conclusion: The biggest difference in tests results is in D2 Attention Loading Test and Digit Symbol Substitution Test. Greater ability to focus and improved concentration are the most important results shown in this study. Test of memorizing different number sequences was much better solved after consuming an energy drink. Respondents were also much better in conceptual, semantic and phonemic verbal fluency tests in which a successful solution requires a good focus and concentration. Although one time consumption of the energy drink seems to improve all tested cognitive functions, studies evaluating effects of chronic consumption of energy drinks on cognitive functions are needed.
This trial was part of pilot research on energy drink consumption's physiological effects, approved by Ethical Committee of Faculty of Medicine University of Osijek. Study was supported by in-house funding of the Faculty of Medicine, PI prof Ines Drenjancevic, MD, PhD.

Session: Psychiatry

Abstract ID: 47

A study of attitude of relatives of psychotic patients towards Electroconvulsive Therapy

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Abstract:
Background: ECT is a technique, in which seizures similar to those of epilepsy are induced by passing a current of

electricity through the forehead. It is useful for treatment of major depression, acute psychosis & catatonic schizophrenia. Knowing the attitude of relatives of psychotic patients is important ,since their consent is taken before administering ECT.
Study question: Does administration of ECT to the psychotic patient have any effect on the attitude of their relatives? The aims of this study were to study the attitude of relatives of psychotic patients towards ECT ; to study the difference, if any, in the attitude of relatives of patient who have undergone ECT v/s those who have not to study the attitude of general population towards ECT & to study if this differs from the attitude of relatives of psychotic patients.
Design: The study consists of three groups. Group A & B each consisting of 30 relatives of psychotic patients who had undergone ECT or who had not undergone ECT respectively. Group C consisted of 30 persons matched for age, sex & education from general population. A self developed 8 questions questionnaire was utilized. Chi square test was used for statistical analysis of the data.
Results: Group A had a positive attitude towards ECT; Group B was in between Group A & C; while Group C had a negative attitude. The attitude of relatives of psychotic patients who had undergone ECT was found to be more positive & they had fewer misconceptions than group B & C.
Conclusion: The study can be improved if the level of education of the relatives is also taken into consideration while knowing their attitude towards ECT. Mass education, laying stress on the areas of misconceptions, should be given so that ECT can be given to the appropriate patients.

Abstract ID: 198

The relationship between disorganized thought in psychotic disorders and abnormal brain structure, assessed using magnetic resonance imaging

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Abstract:
Purpose: Disorganised thought is a cardinal feature of schizophrenia, but has continually proven problematic to assess. This has precluded the past attempts to find an anatomical basis for the phenomenon. Recently, alteration in insular structure has been a prominent and recurring finding in schizophrenia1, though the relationship between insula and disorganised thought in schizophrenia is not known. On the basis of this, we tested whether altered insular surface area is correlated with the severity of formal thought disorder in schizophrenia.
Methods: 28 patients in the stable-phase of schizophrenia were recruited, and using an adaptation of the Thought and Language Index (Liddle et al., 2002), we assessed their free-flowing speech as they described three pictorial stimuli. The sensitivity and reliability of this method was then analysed. They also underwent an MRI scan, processed using Freesurfer software, allowing us to calculate the surface area of cortical structures.
Results: Inter-rater reliability for total TLI score was shown to be excellent (ICC r=0.828). There was significant first-order negative relationship (r=-0.393, p = 0.039) between right insular area and severity of thought disorder, though covariate analysis indicated this was accounted for by whole brain cortical surface area. There was a positive correlation between disorganisation and left-sided hemispherical asymmetry of the insula (r=0.431, p=0.022).
Conclusion: Our results provide validation of the TLI as an accurate and sensitive measure of disorganised thought, useful as a measure of subtle aspects of disorganisation in schizophrenia which may be missed during a cross sectional clinical interview. Increased disorganisation severity was associated with absolute reduction in right insular area (as opposed to relative reduction), perhaps due to a failure to integrate the internal cues, plans and external demands such as the needs of the listener. This is consistent with a recently proposed insular dysfunction model of schizophrenia. 1 Glahn, D. C., et al. (2008) Meta-Analysis of Gray Matter Anomalies in Schizophrenia: Application of Anatomic Likelihood Estimation and Network Analysis. Biological Psychiatry, 64, 774-781. 2 Liddle, P. F., et al. (2002) Thought and Language Index:an instrument for assessing thought and language in schizophrenia. British Journal of Psychiatry, 181, 326-330.

Abstract ID: 369

Prevalence of Depressive Symptoms in Patients With Systemic Lupus Erythematosus

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Abstract:
Background and objectives: Psychiatric disorders including depression represent clinical manifestation of systemic lupus erythematosus (SLE). Recognition of depression in SLE patients is of utmost importance, since it is treatable and can be of fatal consequences if unrecognized. This study was conducted to determine the prevalence of depressive symptoms in SLE patients in terms of age, gender, disease duration and severity, and duration of steroid treatment in SLE patients.
Materials and Methods: 85 SLE patients (77 females, 8 males) with verified SLE diagnosis completed Beck's depression inventory, a self-reported measure of depression. Clinical data on disease and treatment were obtained from patient files. Data were analyzed by chi-square test and the severity of depression according to Beck's inventory was determined in patients.
Results: Totally, 60% of patients achieved scores indicating depression. The most common depressive symptoms in participants were fatigue and weakness (88.2%), irritability (82.3%), sadness (77.6%) and somatic preoccupation (76.4%), while the least common symptoms were weight loss (34.1%), low level of energy (28.2%) and suicide ideation (10.5%). Meanwhile, there was a significant difference between the disease activity and the severity of depression (p=0.0001).
Conclusion: Our findings show higher prevalence of

depression in our sample in comparison to previous studies, suggesting that the prevalence of depressive symptoms and depression varies across different populations. This may be related to multiple factors including ethnicity, age, cultural background and disease course of individual patients.

Abstract ID: 497

Prevalence of Type D personality in Ischemic heart disease

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Abstract:
Introduction: Ischemic heart disease is one of the most important causes of disability and mortality in recent years, so checking the risk factors including the individual personalities and characteristics of people (e.g. type D personality) is so important. Type D personality is a joint tendency towards negative affecting (e.g worry, irritability, gloom) and social inhibition (e.g. reticence and a lack of self assurance).
Material and methods: The survey method is done by using DS14 questioner which the constancy is done according to the appropriate Kronbakh (á kronbakh: 0.84). In this study 337 people including 168 IHD patients and 169 healthy people were studied by Alzahra and Kowsar hospital in Shiraz in 2011.The observed groups (IHD patients and Type D personality) were selected from the same range of age and sex. IHD patients didn't have any other psychiatric disorders and organic disease, beside IHD, and healthy people didn't have any other psychiatric and organic problems.This assessment is done by SPSS and T test and Chi-squre. In our study P value<0.05 is selected as a statistically significant correlation between studied factors.
Results: According to the result of our study, the total prevalence of type D personality is 35.9% and the result in IHD patients and healthy people is 46% and 23.9% as we observed, in IHD patients, the number of type D personality is about twice as much as the healthy people (p value <0.05). According to the study, the prevalence of type D personality increase in divorced or widowed, in both groups (P value<0.05).
Conclusion: despite of other studies there is no relationship between age and involvement of type D. The maximum involvement has been shown in a range of [53-69]. It seems that because this group was the most involved group during Iran's revolution in 1979 and the war between Iraq and Iran in 1980. In all groups except this one the relationship between type D personality and age increase is shown by P value<0.05. The prevalence of type D personality in Iran is more than in European countries. This issue is related to socio-economic supports and the level of welfare in advanced countries.

Abstract ID: 671

Prevalence of Psychiatric Disorders, Depression, and Suicidal Behavior in Child and Adolescent with Thalassemia Major

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Abstract:
Purpose: To study the rate of psychiatric disorder and suicidal behavior in children with thalassemia major.
Method: One hundred ten subjects with thalassemia major were interviewed according to the K-SADS Farsi version by face-to-face interview.
Result: The most common psychiatric disorders were major depressive disorder and separation anxiety disorder. The rate of oppositional defiant disorder, attention-deficit hyperactivity disorder, and bipolar mood disorder were 3.6%, 1.8%, and 0.9%, respectively. About 49% suffered from depressed mood and 62.7% suffered from irritability and anger. More than 43% of them had recurrent thought of death and 27.3% considered suicide in the last year.
Conclusion: The rate of psychiatric disorders was very low than that in the prior studies and the most common was major depressive disorder. However, the rate of psychiatric symptoms was very common. The rate of suicidal behavior was not more than that in the general population.

Session: Public Health

Abstract ID: 160

Medical student attitudes and confidence towards their knowledge of anatomy: a national survey of UK medical students

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Abstract:
Background: Anatomy has traditionally been considered to be the cornerstone of medical education. In the UK, the majority of anatomy is taught in preclinical years using a variety of teaching approaches and methods. Many, including senior doctors, consider anatomy teaching to be a casualty in modern medical education reforms. Previous studies on local scales have shown that many medical students lack confidence in their knowledge of anatomy. The aims of this study are to determine whether medical students across the UK are confident in their knowledge of anatomy for their clinical studies and future medical career. Furthermore, to assess the confidence levels of medical students in putting their anatomy into practice.
Method: A survey-based study was carried out to collect anonymous demographical and educational information, in addition to measuring the attitudes of medical students using questions with a five-point Likert scale. The survey

was administered electronically via student representatives to 27 different UK medical schools and analysed using Microsoft Excel.
Results: The number of responses received nationally was 989, of which 623 (63%) were medical students in clinical years. A larger proportion (48.3%) of this group agreed/strongly agreed that their knowledge of anatomy is sufficient for their clinical studies than disagreed/strongly disagreed (35.2%). Similarly, the largest proportion of medical students agreed/strongly agreed that their knowledge of anatomy prepares them well to practise as doctors (46.9%) and that they feel confident about using it to follow surgical procedures (49.1%) and to interpret/understand radiological images (61.6%). However, most medical students (61.5%) felt that they still needed more anatomy teaching and 49.5% of students felt that they haven't had enough anatomy teaching.
Conclusion: The findings of this study show that UK medical students generally feel that their knowledge of anatomy is sufficient for their clinical studies, prepares them well to practise as doctors, and is generally sufficient for interpreting radiological images and following surgical procedures. This study provides a framework for future studies to investigate differences in confidence levels of anatomy knowledge of medical students both temporally and geographically.

Abstract ID: 234

Health Related Quality of Life of Type II Diabetic Patients Attending Primary Health care Centers and Hospitals, Riyadh, Saudi Arabia

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Abstract:
Introduction: Type 2 diabetes mellitus is a chronic disease that has a high prevalence in Saudi Arabia. The prevalence of type 2 diabetes mellitus continues to increase among Saudi population, making it a major public health problem. Health-related quality of life (HRQOL) is an important health measuring tool, representing a goal of health intervention. HRQOL in diabetic patients has several manifestations. These include an inability to do physical work (physical function) because of diabetes-related complications and feeling fatigued and depressed because of high blood glucose level (mental function). Therefore, there is a need to explore HRQOL in diabetic patients. Objectives: The objective of this study was to measure the changes in daily activity and health status on quality of life for type II DM patients.
Methods: This cross-sectional study conducted in five primary health care centers and King Saud medical complex in Riyadh. A random sample consisted of 206 (130 (63.1%) males, and 76 (36.9%) females. Type II diabetic patients were chosen, and self-administered questionnaire distributed to measure HRQOL was filled by them. Data were entered and analyzed using SPSS ver. 17. Chi square test, t test, ANOVA, and correlation coefficient were used a properly. Level of significance (p value) was set to be < 0.05 thru out the study.
Results: Males had significantly more total satisfaction scores than females (p= 0.02); females had significantly more difficulty in daily activity than males (p= 0.02). The satisfaction score decrease and the difficulty in daily activity increase when the age increase (p=0.001). Complications of diabetic appeared When BMI increased the (p= 0.04). The complication increased when the duration of diabetes increased (p= <0.000).
Conclusion: The results of this showed that females have lower HRQOL than males and that agreed with other studies done in Saudi Arabia. Also it was found that unemployed patients have difficulties in daily activities as Nigerian study showed Recommendation: The study recommends the important need for a national health education program aims to increase the awareness of diabetic patients, and to clarify the importance of controlling diabetes as well as encouraging the patients to regularly visit their diabetic clinics in order to increase their HRQOL.

Abstract ID: 265

The prevalence of asymptomatic viral infection of the respiratory tract in susceptible patients with asthma and chronic obstructive pulmonary disease

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Abstract:
Background: Viral respiratory infections are known to be responsible for exacerbations in asthma and chronic obstructive pulmonary disease (COPD) patients and studies have shown that an increased frequency of exacerbations can cause a decline in lung function in both diseases. Moreover, a subset of asthmatic and COPD patients exacerbate more than others. This could be due to an asymptomatic respiratory viral infection, so when the patient becomes susceptible the infection becomes symptomatic, causing an exacerbation.
Objective: We sought to determine the prevalence of asymptomatic respiratory viral infection in patients with asthma and COPD. Also to identify the impact positive results would have on exacerbation rate and respiratory function in asymptomatic patients.
Methods: Respiratory specimens were collected by induced sputum and nasopharyngeal and throat swabs from patients with asthma (n=50), COPD (n=50) and control individuals (n=84), when asymptomatic. The samples were analysed by real-time polymerase chain reaction for: influenza A and B, respiratory syncytial virus, parainfluenza 1, 2 and 3, adenovirus, enterovirus, rhinovirus, metapneumovirus and the H1N1 influenza virus. We also measured the number of exacerbations suffered in the previous 12 months, lung function, disease severity and disease control in asthma and COPD patients.
Results: From all respiratory samples taken 9/314 (2.9%) were positive for a virus. For the asthma group 5/100 (5.0%) of nasopharyngeal and throat swab and induced sputum samples were virus positive. In the COPD group, 2/83 (2.4%) of samples were positive and for control patients 2/131 (1.5%) of nasopharyngeal and throat swab samples were positive. However, we did not find an association between having a lower lung function, increased severity of disease, poor disease control and a higher

number of exacerbations between individuals who were virus positive and virus negative.
Conclusion: Positive virology samples were only found in a small number of asymptomatic patients and no association was found for clinical characteristics between virus positive and virus negative subjects. However, an asymptomatic respiratory viral infection should be considered as a possible cause of frequent exacerbations and worsening lung function, as sample sizes in this study were too small to detect a difference.

Abstract ID: 298

Immunization Status Among Under-five Children In A Selected Rural Area Of Bangladesh

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Discipline: Public Health

Abstract:
Introduction: Children under the age of five face multiple obstacles, including birth injuries, infectious diseases, malnutrition, home environment that lack intellectual stimulation, and environment with polluted water and air. Each year, more than 9 million children die, mostly from preventable and treatable causes. The burden of infectious diseases has been increasing throughout the world in an uncontrolled manner. In Bangladesh, children under-five are suffering from Diphtheria, Pertussis, Hepatitis B, Measles ,Poliomyelitis, Tetanus, Tuberculosis and Influenza due to lack of educational competence. To combat with these diseases our Government along with WHO & UNICEF have launched EPI (Expanded Programme On Immunization) which aims at maximum immunization coverage throughout the country to reduce the vaccine preventable diseases.
Objectives: The objectives of this research are to observe the immunization coverage of a locality, to access the vaccination status, to estimate the drop out & left out and the causes for combining with the national status. As we have achieved MDG award-2010 for reducing child death rate to 50%, it is our duty to sustain the glory by retaining this success.
Methods: Study design: Cross sectional type of descriptive study Study place: Village-Sreefaltali, Upazilla-Kaliakoir, District- Gazipur Study period: 1st February to 30th April,2010 Study population: Children between 12th months to 59th months # Samples were selected by convenient sample technique. Data were collected by an interviewer administered questionnaire. Check list and method was face to face interview. Each questionnaire was processed and analyzed every day.
Results: Most (95.37%) of the children had completed EPI vaccination. Drop out was 3.70% and left out 0.93%. About individual vaccine, 98.61%, 97.22%, 98.15%, 96.76%, 97.22% of the children had completed BCG, DPT, OPV, Measles, HBV respectively.
Discussion: The research indicates that the immunization status of under-five children of this locality as well as Bangladesh is impressive and improving with the increasing rate of literacy. Still some effective steps and promotions can be taken to motivate the people of remote places. Future doctors like us should come forward to raise mass-awareness to create a bond of knowledge for embracing the future, for making this world a better place to live in.

Abstract ID: 360

Young Researchers and Knowledge Translation: A KAP study

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Abstract:
Background: Purpose of Knowledge translation (KT) is to reduce know-do gap. Little is known about KT among researchers in developing countries.We aim to make aware to decision-makers about it in Tehran University of Medical Sciences in Iran in order to decrease know-do gap if it is necessary.
*Methods:*A cross-sectional KAP study was executed on all of young researchers who were principal investigators of approved basic or clinical research projects in Students' Scientific Research Center (SSRC) from 2008 to 2010.The piloted questionnaire includes knowledge questions, Weiss models using a Likert scale to evaluate attitudes, three questions assessing practices in project's topic selection, collaboration with stakeholders and dissemination of results and finally demographic information.The questionnaire was designed in Google-Docs by creating service and emailed to researchers.We used descriptive and non-parametric two independent sample test to analyze.Patient information confidentially observed in all steps.
*Results:*The response rate was 72%(71/98). Mean years of research experience was 3.46±1.62. Nearly 18% have already participated in KT workshops. On a range of 0-6, the mean score for knowledge was 1.66±1.37. Knowledge between the groups that had already participated in KT workshops (knowledge score=3.07±1.38) and the groups which had not (knowledge score=1.34±1.26) was significantly different (pvalue=0.005). The Likert score for attitude models on a range of -2 to +2 for "strategic" model was 1.36 ±0.61, "interactive"model was 1.32 ± 0.60, "know ledge driven"model was 0.22 ± 1.17, "problem solving"model was 0.16 ± 1.09 and "enlightenment" model was -0.30 ± 1.09. In evaluating the practice, 37% of researchers mentioned their reason for project's topic selection was just their own or master's interests. Others have at least one further reason for selection for example decision-makers' needs. Nearly 30% of researchers did not had any collaboration in even one stage of their research with stakeholders and just 14% of them used active knowledge translation methods to disseminate their result.
Conclusion: Despite an overall positive attitude towards"strategic"and"interactive"models of KT, the study demonstrates relatively low knowledge among young researches about the concepts of KT which leads to weak practice in knowledge utilization.It seems that it is better to include KT in research education for researchers to decrease know-do gap.

Abstract ID: 406

Effect of learning communication skills

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Abstract:
Background: The development of medical education has triggered Faculty of Medicine Gadjah Mada University to implement competence-based curriculum. In order to improve the curriculum FM UGM has applied a community based education (CBE) program, in which allow students to interact with people in the community so that students could apply their communication skills in the community.
Objective: To find out the effect of learning communication skill in the community on the community.
Methods: Two medical students, two students' guide, and two member of community were chosen to be interviewed in this study. This study used eight weeks participatory rural appraisal for students to be involved in community activities. A qualitative method for analysis was conducted as well as applying in-depth interview and observation as data collection technique. Data were recorded and transcribed. Repetitive open coding processes were carried out by the researcher and two other coders.
Results: This CBE on communication skill effect the community itself by providing the chance for the member of the community to have more exposure to health information and education, to identify their own health problem, and also revealing expectancy to fulfill and barriers to avoid in optimizing the benefit of CBE on community itself.
Conclusion: Student's visit provides numerous effects to the community. Effects revealed from the research were benefit, barriers, and expectancy. Optimum benefit will be gained by optimizing community expectancy and minimizing barriers of the program. This study supports will support both health education institution and community to enhance stronger partnership.

Abstract ID: 509

Economic significance of heart diseases

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Abstract:
Background: Cardiac diseases primarily have medical, economic and social significance. Economic significance is represented by the fact that cardiac diseases are related to financial aspects due to high costs of treatment of illness, laboratory and other examinations, hospitalizations, patients' absence from work etc. In our survey we wanted to see economic aspect of cardiac diseases due to hospitalizations and patients' absence from work.
Methods: We used Protocol Data about hospitalized patients in Cardiology Center of Clinical Center of Montenegro.
Results: In the six month period of research at the Cardiology Department, 655 patients were hospitalized with the average age of 60.72±11.36 years. These patients had in total 4029 hospital days, with average hospitalization duration of 8.15±4.03 days. The most frequent diagnose of patients was angina pectoris (38%), infarctus myocardii acutus (22%) and arrhythmiae cordis aliae (11%).
Conclusion: The noticed duration of hospitalization and incidence of cardiac diseases suggest that additional educational and regulatory efforts should be implemented, in order to prevent this group of diseases which is increasing.

Abstract ID: 547

Young Researchers and Knowledge Translation: A KAP study

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Discipline: Public Health

Abstract:
Background: Purpose of Knowledge translation(KT)is to reduce know-do gap. Little is known about young researcher's status in KT area in developing countries. We aim to aware decision-makers about KT among researchers of Tehran University of Medical Sciences in Iran in order to decrease know-do gap if it is necessary.
Methods: A cross-sectional KAP study was executed on all of young researchers who were principal investigators of approved research projects in Students' Scientific Research Center from 2008 to 2010. The piloted questionnaire includes knowledge questions, Weiss models using a Likert scale to evaluate the attitudes, questions assessing practices in project's topic selection, collaboration with stakeholders and dissemination of results and finally demographic information. The questionnaire was designed in Google-Docs by creating service and emailed to researchers. We used descriptive and non-parametric two independent sample test to analyze. Patient information confidentially observed in all steps.
Results: The response rate was 72% (71/98). Mean years of research experience was 3.46±1.62.Nearly 18% have already participated in KT workshops. On a range of 0-6,the mean score for knowledge questions was 1.66±1.37. knowledge between the groups that had already participated in KT workshops(knowledge score=3.07±1.38)and the groups which had not (knowledge score=1.34±1.26)was significantly different.(P value=0.005).The Likert score for attitude models on a range of -2 to +2 for"strategic" model was 1.36±0.61,"interactive" model was 1.32± 0.60,"knowledge driven" model was 0.22±1.17,"problem solving"model was 0.16±1.09 and"enlightenment"model was -0.30±1.09.In evaluating the practice,37% of researchers' mentioned their reason for project's topic selection was just their own or master's interests. Others have at least one further reason for example decision-makers' needs. Nearly 30% of them did not had any collaboration in even one stage of research with stakeholders and just 14% of them used active knowledge translation methods to disseminate the result.
Conclusion: Despite an overall positive attitude towards

"strategic" and"interactive" models of KT, the study demonstrates relatively low knowledge among young researches about the concepts of KT which leads to their weak practice in knowledge utilization. It seems that it's better to include KT in research education for young researchers to decrease know-do ga

Abstract ID: 809

The worst place in the world to be a woman: Analysing causes and impacts of wartime sexual violence in the Democratic Republic of Congo

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Abstract:
Background: Sexual violence in the DRC is unprecedented in magnitude and brutality and has had a considerable impact on w omen's health and mental well-being. Security concerns in the past have rendered data collection difficult, so only basic regional estimates for the purpose of humanitarian resource distribution have been identified. In order to tackle the phenomenon effectively, a detailed understanding of the context specific causes of sexual violence and its impact on Congolese women is required.
Methods: Raw data collected by various UN agencies and non-governmental organizations, was collated and analyzed to determine the nature of the perpetrators, types and motivation behind attacks as well as the health, social and economic impacts of attacks.
Results: Unlike other conflicts, in the DRC, every warring faction is implicated in perpetrating sexual violence, targeting every ethnic group. The worst affected regions are in the east where 26000 women sought medical treatment for rape-related injuries in 2008 alone. The most prevalent type of attack is gang-rape(79%), with the average number of attackers per victim being 4.5. Major health impacts of sexual violence include traumatic fistulae, incontinence, unwanted pregnancy, and HIV as well as PTSD and depression. Social impacts include stigmatization due to the cultural view of rape and marginalization within society resulting in loss of income. The use of sexual violence as a weapon of war and the climate of impunity are repeatedly cited by perpetrators and victims alike as facilitating the epidemic.
Conclusion: Sexual violence is an effective weapon of war because of the representation of women in the DRC, as symbols of their community and substitutes to attacking enemy men. Current interventions, such as rape kits, tackle immediate health needs in UN and NGO run services, but inadequately address mental health needs, partly due to the constant flux of refugee populations. Future efforts need to twin medical treatment with culturally acceptable psychological interventions, such as women's groups. The focus on treating the overwhelming number of victims has distracted from preventative efforts. Improving funding of the judiciary system and providing equal legal rights to women offers scope for justice for victims and a deterrent to future perpet

Session: Pulmology

Abstract ID: 115

Effect of full dose treatment on patients with mild asthma; clinical and spirometry findings survey

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Abstract:
Introduction: Asthma is a chronic inflammatory disease which affected 5% of population proximately. Asthma severity was characterized with patient complaint but it's not related to severity of inflammation. Airway remodeling is a time wasting process. It becomes necessary because of persistent inflammation. The Routine treatment protocol has been focused on symptom suppression but the severity of inflammation was neglected. Also, many patients with mild asthma progress to higher severity eventually. In this study, we investigated efficiency of the full dose treatment protocol on patients with mild asthma with normal spirometry.
Methods and Materials: A highly selective self-control clinical trial study was performed in Baqiyatallah hospital (Tehran, Iran) since 2009-2010. Patients with typical asthma stigmas (dyspnoea, cough and wheezing) who have normal Pulmonary Function Test (PFT) were enrolled. Other etiology was overruled and asthma as diagnosis confirmed. Full dose treatment protocol of severe asthma consisting prednisolone 1mg/kg for five days then inhaler fluticasone 250 microgram 4 puff daily plus inhaler salmeterol 25 microgram 4 puff daily was started and patients were followed up for 2 months. The patient's clinical effectiveness and side effects was assessed after 2 months and Clinical and PFT findings were compared with primary PFT.
Results: 68 patients with mild asthma (mean age; 43.77±10.70 and female/male; 47/53%) who had mean primary forced expiratory volume in 1 second (FEV1) of 91±12% (mean +/- SD) of the predicted value and the mean primary Forced Volume Capacity (FVC) of 87±11 of the predicted value were investigated. Two months later mean FEV1 percent predicted were 105±14 and FVC percent predicted were 97±10 which both improved significantly compared with baseline (P.value <.000). Improvement in cough and dyspnoea prevalence were mildly significant (P.value= 0.041, 0.034 respectively). No side-effect was found.
Conclusion: Many asthmatic patients show only mild clinical signs but no obvious changes in spirometry. Regarding to the results, maybe some of patients have had over the normal spirometry values before the disease than after the onset of the disease, these values decline and reached normal levels and the patient have shown symptoms. It seems The Global Initiative for Asthma (GINA) treatment protocol for mild asthma, which recommends short acting beta 2 receptor agonist lonely, is not enough and more stringent treatment is needed.

Abstract ID: 164

Combined diseases of the airways- asthma and rhinitis

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Abstract:
Aim: To determine frequency of concomitant rhinitis in patients with asthma, classification of asthma and rhinitis depending on hypersensitivity to inhalant allergens, annual frequency of asthma and rhinitis, sex- and age-related distribution.
Methods and materials: This retrospective and partially prospective study included 902 patients with asthma diagnosed in the period from January, 2004 – December, 2009. The data were collected from the clinical database. The obtained findings were statistically processed, analyzed and compared with the references.
Results: Females were significantly more often affected by asthma than males ($p<0.05$), and the patients were usually aged from 20 -29 years. Allergic asthma was confirmed in a great percentage (75.9%). Hypersensitivity to internal, external or both inhalant allergens was verified in 73.9%, 63.4% and 45.1% of the patients respectively. Rhinitis was involved in 64.7% and 34.6% of the patients with allergic and non-allergic asthma respectively. 60% of asthmatics developed rhinitis symptoms prior to asthma, in the period ranging from 1-27 years earlier. A high correlation of rhinitis and asthma was established for both allergic ($r=0.91, p<0.05$) and non-allergic ($r=0.95, p<0.05$) etiology of the disease. These correlations are statistically significant. In patients with combined allergic respiratory diseases (both asthma and rhinitis) hypersensitivity to internal inhalant allergens is 80.1 % and external 74.7 %. Statistically significant difference doesn't exist for these.
Conclusion: Most asthmatics had allergic asthma and belonged to the female gender and the age group of 20-29 years. Patients with asthma in high percentage have concomitant rhinitis. Rhinitis has been manifested much earlier than the symptoms of asthma developed.

Abstract ID: 219

Poor academic performance among university students with obstructive sleep apnea and snoring

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Abstract:
Introduction: Obstructive Sleep Apnea (OSA) and habitual snoring are known to be associated with impaired attention and poor academic performance among school children. The effect of OSA and snoring on academic performance of university students is not well studied.
Aim: Estimate the prevalence of snoring, daytime sleepiness and OSA among university students and describe the effect of OSA and snoring on academic performance among university students.
Methods: A cross-sectional survey of university students at Jordan University of Science and Technology was conducted between March and May 2009. The Berlin Questionnaire was used for identifying students with OSA. Academic performance was self reported and below average score considered as poor.
Results: A total of 777 students (49% male; mean age, 20 years) completed the study questionnaire. By the study definition, the overall prevalence of OSA was 5.4%. Snoring was present in 11% and daytime sleepiness was found in 30%. OSA was present in 26 (6.5%) of male students and 6 (1.6%) of female students ($p=0.001$). Students with OSA were more likely to have poor academic performance (26.2%) than students without OSA (12.7%), OR 2.45 (95% CI 1.2-5.0), ($p=0.015$). Likewise the presence of snoring was associated with poor academic performance, OR 2.96 (95% CI 1.7-5.0), ($P < 0.005$).
Conclusion: OSA is an under recognized health problem among young, male university students. OSA and snoring were associated with poor academic performance. Health care professionals should pay greater attention to this potentially disabling condition.

Abstract ID: 729

Some mechanisms of control diurnal patterns breathing in patients with bronchial asthma

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Discipline: Pulmology

Abstract:
Background: A fundamental property of all living organisms is a biological rhythm, which provides adaptation of the organism to the environment. Thanks biorhythms provided an internal movement, the development of the organism, its resistance to environmental factors. Bronchial asthma from the viewpoint of chronobiology is a syndrome of reversible airflow obstruction that occurs in most patients during the night and morning hours. In the management of diurnal patterns of breathing in bronchial asthma patients involved the parasympathetic nervous system, a tone which rises in the night time by increasing the activity of neurotransmitters. Tone of the sympathetic nervous system, by contrast, is weakened due to the high lability of the tracheobronchial tree. The important role played by the secretion of melatonin, which normally reaches a maximum at night (after 21.00), and an exacerbation of asthma decrease in the content of melatonin in serum may lead to a deterioration of bronchial obstruction. Also in the acute stage there is an imbalance of pro-and anti-inflammatory cytokines (IL-4, IL-1B, IL-10), supporting the inflammation in the tracheobronchial tree. However, daily fluctuations of cytokines in asthma is not studed well. Influence of gnotobiological insulation on the state of "lipid peroxidation (LPO), showed that during an attack of asthma is excessive activation of LPO in the background of reduced antiradical protection in the lung surfactant.
Methods: When peak flow control in patients with bronchial asthma in acute in times of the day, there was a reduction of peak expiratory flow rate of volume in the early morning (6.00 a.m.) and late night (2.00p.m.) with the circadian clock (31.2 + 2.9)% due obviously with the action of the complex of these factors.
Conclusion: Thus, management of daily patterns of

breathing in bronchial asthma - a complex process, the mechanisms which were insufficiently studied and require further research to improve the treatment effect of the disease.

Abstract ID: 735

Implementation of chronic inflammation in asthma and coronary heart disease

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Abstract:
The modern view of bronchial asthma(BA) and coronary heart disease (CHD) as a chronic inflammation provides a basis for their existence and potency, of complications during combined bronchial-cardiac pathology. The implementation of both types of inflammatory responses involved a variety of mediators, the role and dynamics are still not unclear. Immunological basis of asthma is an imbalance of T-helper type 2 with excessive production of IL- 2 and inhibition of synthesis of Î³-IFN .In CHD excess production of IL-2 provides a basis for autoimmunity.
Methods: Diagnosis of asthma were in accordance with the recommendations of GINA-2007. The cytokines value (IL-2, IL-6, Î³-IFN) in serum was studied by spectrophotocolorimetric method using kits of reagents for enzymoimmunoassay. Studied 82 patients with asthma. Patients were divided into 2 groups: I group - patients with moderate asthma, II - patients with associated pathology. The control group consisted of 25 healthy individuals.
Results and discussion: We found that patients with asthma in acute concentration of IL-2 exceeded targets by almost 2-fold, and in patients with combined pathology - to 8-fold. The level of pro-inflammatory cytokine IL-6 significantly higher than the reference rate in both groups of studies and patients in Group II was 7.4 times higher rates of patients with asthma. After treatment with IL-6 figure remained high at 2 times the control values in both groups. The content of Î³-IFN in the serum of patients with Group I and II at the beginning of treatment was lower compared to a group of healthy individuals, and after treatment, the concentration of this cytokine increased significantly.
Conclusion: Thus, these data indicate unidirectional shifts that occur in the presence of cytokines in atherosclerotic arteries and bronchial asthma and lead to the conclusion that the development and evaluation of the combined pathogenetic approach to management of patients with comorbid disorders

Session: Radiology

Abstract ID: 493

Computed tomography in characterization of focal lesions of adrenal glands –importance of washout study

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Abstract:
Background: In clinical practice there are two groups of patients: the patients with adrenal endocrinopathy, and those without clinical manifestations, in which we accidentally discover pathological changes in adrenal glands. In order to characterize focal lesions of adrenals one can perform target CT examination which includes washout study, that contains three phases: native, contrast enhanced and delayed enhanced phase.
Methods: We analyzed retrospectively the 400 abdominal CT examinations. In group of patients with detected adrenal incidentalomas (43) in cases of disability to differentiate benign and malign lesions, target CT examination was indicated.
Results: Incidentaloma was detected in 43 (10, 75%) of 400 examined patients. In 10 (23%) of 43 patients, lesions were bilateral. Diameter of lesions moves from 7-55 mm. In 20 cases we discovered adenomas, 11 regular ”lipid rich“ and 9 “lipid poor”, remainder 5 lesions were malign.
Conclusion: Analyzing incidentaloma of the adrenal glands with target CT methods we discovered that most of lesions had characteristics of adenomas (hypodense ,oval, lesions, regular shaped, size under 4cm). In cases where lesions were hard to differentiate, using washout study we separate diagnosis of malign (washout 60%) and benign lesions (“lipid poor” adenomas).

Abstract ID: 561

The effect of barium sulfate on subdiaphragmatic activity in technetium-99m sestamibi myocardial perfusion scan

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Abstract:
The aim of this study is to investigate the effect of barium sulfate on subdiaphragmatic activity in technetium- 99m sestamibi myocardial perfusion scan.
Methods and results: This study included 15 patients (6 male, 9 female) who were randomly selected. These patients were referred for 2 days rest-stress tc-99m myocardial perfusion scan with diprydamole as stress agent. All patients underwent stress phase of scan, after stress phase a planar static scan (for 5 min) from abdominal area of patients was obtained (control group), after that all patients were given 30 gr of barium sulfate, dissolved in 200cc room temperature water and second planar static scan (for 5 min) was obtained from them (barium

group). The effect of barium sulfate on subcardiac activity was evaluated both visually and quantitatively. After obtaining two planar static images, an area of about 1400 pixels in left upper quadrant of abdomen, adjacent to inferior wall of heart in gastric area was selected in both images. The mean count per pixel of these two areas was calculated (13.18 ±4.28 in control group and 9.96 ±3.43 in barium group), comparison done from these two values of count. Wilcoxon signed ranks test shows significant reduction in the subcardiac count per pixel in barium group compared to control group with p value = 0.001.
Conclusion: The findings of this study suggest that filling of the stomach with barium sulfate, as low price, safe and worldwide available oral contrast may result in an improvement in the image quality by decreasing the adjacent gut activity.
Key words: Subdiaphragmatic activity, technetium-99m sestamibi myocardial perfusion scan, artifacts

Abstract ID: 647

Ultrasonographic Evaluation of Gastroduodenal Wall Thickness for Prediction of Gastritis and Helicobacter Pylori Infection in Children

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Abstract:
Background/Objective: There is no report about the relationship between the thickness of gastric wall layers measured with transabdominal ultrasonography and the presence of gastritis or Helicobacter pylori infection. The aim of this study was to assess the accuracy of sonography in diagnosis of gastritis and Helicobacter pylori infection. Patients and
Methods: One-hundred children aged 1 to 15 years who needed upper gastrointestinal endoscopy and biopsy because of suspected gastritis underwent transabdominal ultrasonography to measure thickness of different layers of the stomach antrum and duodenal bulb wall. The wall layer thickness was compared with the results of endoscopy for gastritis and the presence of Helicobacter pylori infection.
Results: The mean thickness of muscularis mucosa and the sum of muscularis mucosa and submucosa in both gastric antrum and duodenal bulb were significantly higher in patients with Helicobacter pylori infection than those without infection (mean thickness in gastric antrum: 0.65±0.25mm vs. 0.53±0.19mm [p-value=0.03] and 1.21±0.35mm vs. 1.07±0.26mm [p-value=0.03], respectively; mean thickness in duodenal bulb: 0.69±0.32mm vs. 0.48±0.20mm [p-value=0.001] and 1.25±0.35mm vs. 0.99±0.28mm [p-value=0.002], respectively). The mean thickness of muscularis mucosa plus submucosa in the duodenal bulb was also more in patients with gastritis (1.09±0.35mm vs. 0.95±0.20mm [p-value=0.02]). Several cut points were determined to predict the results of endoscopy.
Conclusion: Transabdominal ultrasonography is a noninvasive and easily available method in evaluating children with suspected gastritis and predicting some findings of endoscopic evaluations.

Session: Surgery

Abstract ID: 347

The effect of nanofibre structure and composition on wound contraction

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Abstract:
Background: Burn injuries can lead to excessive scarring which may cause skin to thicken and contract. Contracture formation greatly affects both the function and aesthetic appearance of skin. Recent studies demonstrate a potential use of bio-mimetic polymer scaffolds in cutaneous wound healing. However, limited work has been undertaken on the effect of scaffold orientation on cell behavior. This study aims to use electrospun nanofibres woven into specific patterns to control the behavior of isolated human skin cells. From this, one hopes to achieve a reduction in wound contraction during the healing of burn injuries. The effect of fiber alignment and composition (poly-l-lactide (PLLA) and PLLA/Collagen) will be examined.
Methods: A laboratory-based study using in-vitro techniques was undertaken. Isolated human keratinocytes and fibroblasts were seeded onto aligned or randomly orientated PLLA or PLLA/Collagen (4:1) nanofibers. Following fluorescent labeling for f-actin and vinculin, cells were visualized under con-focal, light, and scanning electron microscopy to assess cell behavior in response to nanofiber orientation and composition. Furthermore, a pilot study was conducted in order to preliminary evaluate the effect of both platelet-derived growth factor (PDGF) and transforming growth factor beta (TGFα) on the behavior of isolated human fibroblasts when seeded onto tissue culture plastic (TCP).
Results: Fibroblasts displayed an aligned, 'elongate' cellular morphology on aligned nanofibers, and a random, 'stellate' orientation on random nanofibers. On aligned nanofibers fibroblast actin filaments orientated along scaffold length, whereas on random nanofibers actin filaments assumed a random distribution. Similar results were observed in keratinocytes. Minimal differences were observed between PLLA and PLLA/Collagen fibers. In the pilot study, fibroblasts exposed to TGFα displayed shorter and thicker actin filaments, suggesting a myofibroblast phenotype, whereas those exposed to PDGF displayed thinner and more extended actin filaments, suggesting a proliferative phenotype.
Conclusion: These results indicate a strong potential for the use of electrospun nanofibers in modulating wound contraction. Although preliminary, our pilot study indicates a potential application of growth factors to further influence the wound environment. Additional work using growth factors on cells seeded onto nanofiber constructs will be undertaken.
Abstract ID: 326

Influence of blockers of dofaminum receptors on the changes in the liver at subhepatic block of the bile passage in rats

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Abstract:
Bilification is the vital function of an organism, its disturbance leads to cholestasia syndrome. According to modern viewpoint, cholestasia is the disturbance of synthesis, secretion and bile outflow. In children's surgery the congenital pathology of hepatobiliary system isn't frequent. It is presented by various forms of the lesion of different parts of the bile removing system and it's combination with inflammatory diseases of biliary tracts. However the consequences, which develop in a liver, in the course of time become irreversible and lead to the development of secondary biliary cirrhosis and portal hypertensia. The understanding of the pathogenesis of cholestasia has extended recently. It is shown, that not all the changes in hepatobiliary system have the procholestatic character, some changes in liver cells, kidneys, an intestine correspond to the anticholestatic mechanism. Obstructive cholestasia first of all the involves epithelium of cholic ducts and only then hepatocytes. It is still unknown, what exactly starts the mechanism of development of the changes mentioned above. Hormones, prolactinum in particular can be one of the trigger factors. Prolactinum – a hormone of the forward share of a hypophysis, produced by yellow lactotrophs, receptors to which are presented practically in all tissues of an organism. Dofaminum, connecting to D2-receptors in pituitary body cells brakes prolactinum releasing, has an inhibiting influence on hormone releasing on the basis of a feedback principle. The blockers of dofaminum receptors, which competitively connect to dofaminum receptors and prevent interaction of Dofaminum with them, influence on Dofaminum level. The purposes and problems: The purpose of the our research is to estimate the influence of blockers of dofaminum receptors on Prolactinum level in blood serum, on pathological and compensatory processes at subhetical block of a bile passage and to study morphological changes in a liver and cholic ducts.
Materials and methods: The experiment was carried out on the basis of the central research laboratory of pharmacology and toxicology of The Belorussian state medical university. 36 outbred rats weighing 250 ± 30g each were used to carry out the researchers and were divided into 4 groups (control, false operated group, cholestasia, cholestasia+ preparation). Depending on the term of decapitation and duration of the introduction of a preparation subgroups were farmed from the experimental groups.

Abstract ID: 433

Hemoperitoneum due to spontaneous rupture of liver metastasis

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Discipline: Surgery

Abstract:
Background: Hemoperitoneum as a result of hemorrhage from liver metastases is a very rarely and an emergent life-threatening complication.
Methods: We present a rare case of hemoperitoneum due to spontaneous rupture of liver metastasis.
Results: A 42-year-old Caucasian man was admitted to hospital presenting severe abdominal pain, shock, abdominal distension. There was no history of recent trauma. His physical examination revealed epigastric rigidity. Preliminary diagnosis was perforation of peptic ulcer. His laboratory findings revealed white blood cell count 13,000/ml and hemoglobin 11 g/dl. Coagulation system of the patient was normal. Plain films of abdomen and chest were normal. Abdominal ultrasonography showed metastatic lesions in the liver and ascites. The patient was resuscitated with fluids and taken in the operating room. In laparotomy, intraperitoneal hemorrhage, multiple nodular lesions on the liver surface. Aligation of the common hepatic artery and gastroduodenal artery was performed. The liver did not appear cirrhotic. Biopsy was taken from the lesion on the liver and the incision was closed. Histopathological findigs revealed liver metastasis of a moderately diferentiated tubulo-papillary adenocarcinoma with the intestinal tract as starting point. The patient was discharged on the postoperative eighth day and was directed to the medical oncology department.
Conclusion: Although liver rupture due to metastatic disease is uncommon, it is a dramatic, devastating entity. The aim of this report was to draw attention to the possibility of spontaneous rupture in cases of acute abdomen.

Abstract ID: 434

Morphological analysis of colonic anastomosis healing under the conditions of induced experimental peritonitis and obstruction in rat

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Abstract:
Background: The aim of this experimental study was to analyse morphological of the healing of colonic anastomosis under the conditions of induced experimental peritonitis and obstruction using the microsurgical operative techniques.
Materials and methods: We used 30 male Sprague Dawley rats which were subjected to anastomosis of the colon.

The rats were randomised into one of three groups. In the first group, we performed anastomosis on the normal colon. In group 2, we induced peritonitis by cecal ligation and perforation. In group 3, we induced obstruction by colon ligation. After 12 hours, the rats from group 2 and 3 were operated again, and we performed resection of a colon segment and end-to-end sutured anastomosis. All rats were killed on postoperative day 7 and and the anastomoses were examined macroscopically and histologically.
Results: The leakage rate of the anastomosis was the same (1 case) in group 2 and 3 (peritonitis and obstruction colon anastomosis). In the group 1 (normal colon anastomosis) there were no leakages. Histologic evaluation also showed a more profound inflammatory response in groups 2 and 3, compared with group 1.
Conclusion: This study proves the possibility of primary type colonic anastomosis healing without the dense connective tissue scar formation.

Abstract ID: 535

Bariatric Surgery on morbidly obese patients with type 2 diabetes mellitus and the antidiabetic effects of bariatric surgery: a retrospective study

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Abstract:
Background: There are some obesity related diseases like; diabetes mellitus(DM), hypertension, cardiovascular diseases etc. Bariatric surgery for treatment of morbid obesity is increasingly being used as a first-stage procedure.
Aim: In this study, we aimed to show the effects of bariatric surgery for morbid obese patients with diabetes mellitus type 2.
Methods: A retrospective review of collected data from three surgeons of Istanbul University Cerrahpasa medical faculty general surgery department is included in this study. There were 120 patients, divided into 4 groups. All patients were morbid obese and had type 2 DM. First group with 30 patients had gastric bypass operations. Second group had sleeve gastrectomy. Third group had adjustable gastric banding operations and the forth group was our control group, which did not have a bariatric or gastrointestinal operation. Patients of the fourth group were treated with diet and exercise. The average age of patients was 44,2. All patients were treated laparoscopically. The average age of first group was 44,3 and BMI score of the same group was 45,06. The average age of second group was 41,6 and BMI score of the same group was 46,4. The average age of third group was 46,7 and BMI score of the same group was 44,6. The average age of forth group was 42,6 and BMI score of the same group was 43,6. Preoperatively blood glucose levels of the patients are noted. The avarage of blood glucose levels for the first group was 154,87. The avarage of blood glucose levels for the second group was 157,78. The avarage of blood glucose levels for the third group was 157,78. The avarage of blood glucose levels for the forth group was 144,6. After 6 months, every patient was fallowed up and their weights and blood glucose levels were noted.
Results: A total of 90 patients were treated with bariatric surgery. The patients were controlled after 6 months of their operaitons. In the first group the levels of BMI and the blood glucose values are significantly decreased (p<0,01). In the second group the levels of BMI and blood glucose levels are also significantly decreased (p<0,01), but the first group has prominent decrease.
Conclusion: Bariatric surgery is an effective method to reduce BMI and blood glucose levels. The most effective way of controlling DM is the gastric bypass. Gastric bypass, gastric banding and sleeve gastrectomy are the three methods that can be used safely on diabetic morbidly obese patient

Abstract ID: 554

Efficacy of Prophylactic Ilioinguinal Nerve Excision on Pain Severity after Lichten Stain Inguinal Hernia Repair

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Discipline: Surgery

Abstract:
Background: Hernia repair is the most common surgery in surgery ward and Chronic inguinal pain is one of the most complications after inguinal hernia repair; also, it prolongs return to work. We evaluated the efficacy of prophylactic ilioinguinal neurectomy on post herniorrhaphy pain severity.
Method and Materials: This was a Randomized double blind controlled trial on 140 male patients with uni-lateral inguinal hernia admitted to Baqyiatallah Alazam Hospital. We excluded patients with bilateral, strangulated and recurrent hernia, also diabetic and addicted patients were excluded. Informed consent was obtained before surgery on hospital-admitted patients and the research was approved by Baqiyatallah University of medical sciences ethic committee. Patients randomized in two groups: 74 case in preserved group and 66 cases in excised group. Lichten stain method was used for hernia repair in all patients. Pain and Hyposthesia evaluated in 1 day, 1 month, 3 months, 6 months and 1 year after surgery with visual analogue scale (VAS) system(0: no pain and 10: most severe pain). We used SPSS ver.16 and independent and paired sample t-test for analysis.
Results: The mean age of our patients was 39.1 years (min 18 years and max 68 years) and no difference between two groups in ager. Pain decreased and Hyposthesia increased significantly in two groups (p.value<0.001). When we compared two groups: Pain severity was significantly decreased more in excised group at 1 day, 1month, 3 months and 6 months (p.value <0.05) but the difference wasn't significant at one year(p.value>0.05). Hyposthesia was significantly increased in excised patients in compare with preserved group at 1 day, 1month, 3 months and 6 months and one year (p.value<0.001).
Conclusion: Ilioinguinal nerve excision at the time of inguinal hernia repair decreased post herniorrhaphy inguinal pain and it can be used as a routine method in herniorrhaphy.

Abstract ID: 565

Genistein improves hepatic lipid metabolism in an in vitro hepatic steatosis model

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Abstract:
Background: Fatty liver is a pervasive disease associated with endemic diseases like obesity, diabetes mellitus and hyperlipidaemia. It leads to durable morphologic and biochemical changes of liver tissue including steatosis, fibrosis and cirrhosis. Effective measures are required to lower lipid content at an early, still reversible stage. Genistein (GEN) is suggested to reduce hepatic lipid levels by influencing metabolic signal pathways. Our aim was to apply an in vitro steatosis model based on primary human hepatocytes (PHH) in order to investigate the effects of GEN on hepatic lipid metabolism.
Methods: PHH were isolated from human liver resectates using a two step collagenase perfusion technique. For inducing steatosis the cells were treated with 1 mM oleic acid and palmitate (in ratio 2:1) for 24 h. GEN was then applied for 24 h in the concentrations 0, 1, 5, 10 and 50 μM. Lipid content was measured photometrically by Oil Red O staining and normalised with SRB staining. Cytosolic and nuclear protein of the transcription factors SREBP1c and PPARalpha were measured using Western Blot analysis.
Results: The in vitro hepatic steatosis model showed a significant increase in number and size of lipid particles. A treatment with GEN showed a tendency towards decreased lipid content in Oil Red O staining. Nuclear protein content of PPARalpha was elevated and cleaved SREBP1c was significantly decreased by GEN, both in a concentration dependent manner.
Conclusion: GEN slightly lowered hepatic lipid content in steatotic PHH. Elevated nuclear PPARalpha levels suggest an enforced beta-oxidation. Also, active SREBP1c is decreased, leading to an impaired fatty acid synthesis. The data suggest that GEN could be used as a therapeutic drug for supporting regeneration of steatotic liver. This study was supported by the Virtual Liver Network, BMBF 0315741.

Abstract ID: 577

Genistein modulates insulin signaling in a human fatty liver model

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Abstract:
Background: The increasing prevalence of overnutrition and reduced activity has led to a worldwide epidemic of obesity. The complex metabolic disorder is characterized by an excessive fat accumulation in various organs and tissues. Nonalcoholic fatty liver disease (NAFLD) caused by obesity is the most common chronic liver disease. NAFLD includes a broad spectrum of disorders ranging from reversible fatty liver to irreversible fibrosis and cirrhosis. The reversible steatosis shows an adverse morphology of hepatocytes and changes in metabolic and signaling pathways. In this regard steatosis has been strongly associated with impaired insulin signaling in the liver, described as insulin resistance. Genistein (GEN), a natural soy isoflavone, has attracted attention due to its wide variety of pharmacological effects. Several studies have shown some potential benefits of GEN supplementation on fatty liver and insulin resistance. In the present study we investigated the impact of GEN on hepatic insulin-responsive downstream targets in a human in vitro model of fatty liver disease.
Methods: Primary human hepatocytes (PHH) were isolated from resected liver tissues via a two phase collagenase perfusion technique. PHH were treated with oleic and palmitic acid at 2:1 ratio and a final concentration of 1 mM for 24 h. Lipid content was determined photometrically by Oil Red O staining and normalized with SRB assay. Alterations in phosphorylation of Akt, ERK1/2, FOXO1 and GSK3alpha/beta were detected by western blot analysis in normal and fatty PHH with and without insulin as well as after incubation with GEN.
Results: PHH treated with free fatty acids showed a significant increase of intracellular lipid accumulation compared with control. In steatotic PHH we observed decreased insulin induced phosphorylation levels of Akt and GSK3alpha/beta and increased phosphorylation of ERK1/2. Additional incubations with GEN changed phosphorylation in a concentration dependent manner.
Conclusion: Our data show that insulin dependent pathways are changed in steatotic PHH compared with untreated control. Insulin resistance was observed by decreased phosphorylation of Akt and GSK3alpha/beta. Additional treatment with GEN leads only in control PHH to an improvement of energy metabolism. Further investigations are needed to elucidate the effects of GEN on hepatic insulin signaling. This study was supported by the Virtual Liver Network, BMBF 0315741.

Abstract ID: 587

Comparison of long time Survival and its risk factors in patient with and without chronic renal failure who gone coronary artery bypass graft.

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Discipline: Surgery

Abstract:
Aim: It suggested that the different treatment strategies available for stable coronary artery disease may have differential beneficial effects according to chronic kidney disease and it need more evidence; so we decide to asses of chronic kidney disease (CKD) on coronary artery bypass graft (CABG) survival.
Methods: We analyzed the data of 1014 consecutive patients, with or without a chronic kidney disease (creatinine less 1.4 for women and creatinine less 1.6) that underwent isolated coronary artery bypass grafting performed in Baqyatallah hospital, with following patient

during a 5-year period. Kaplan-miere and Cox regression analysis was done by PASW ver. 17.
Results: From patient who underwent a CABG surgery throughout the study time, the mean age was 60± 9 years (mean ± SD); there was 813 men (80.2%) and 201 women (19.8%). The hospital mortality rate was 1.4%. 946 patients (92.4%) with and 78 patients (7.6%) without CKD. The 5 years survival in two groups was significantly different (p=0.00).
Conclusion: CKD is associated with high long term mortality in patients undergone CABG. Assessing renal function is essential to recognize higher-risk patients need more intensive care, and in whom new interventions can be performed to improve consequences.

Abstract ID: 748

The study of vascular invasion in thyroid carcinoma and its relation with histopathology of tumor

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Abstract:
Introduction: The aim of this study is to determine the relation between micro vascular invasion with type, stage, grade of papillary and follicular carcinoma, patients sex, age and prognosis of tumors.
Patients and method: This cross sectional retrospective study was performed on hospital database and pathological slides of 100 patients (F=77, M=23) undergone total thyroidectomy between (1991-2006). Pathological vascular invasion was assessed with new scoring system based on number of blood vessel invasion in microscopic fields.
Results: The increase of vascular invasion (score 3,4) was seen in poorly differentiated tumors (Pv=0.001), and higher stage (tumor size and lymph node invasion) (pv:0.03), older patients had a higher score (Pv=0.036), highest score in males than females despite F/M ratio =3/1. 60.9% of males had score (3,4) where as 41.6% of females had a score (3,4), highest score in tumors with largest size (Pv=0.000). Patients with lymph node involvement (15%) had highest scores (Pv=0.02), no significant difference between vascular invasion and metastasis (Pv=:0.169), also vascular invasion and type of tumor(Pv=0.131).
Conclusion: Highest scores of vascular invasion were seen in patients with higher grade and stage, males and age over 45 years old. So vascular invasion should be considered as a prognostic factor in thyroid neoplasms. Additional studies need to approve it.

Abstract ID: 768

Pre-arteriovenous fistula operation risk factors resulting fistula failure in Iranian patients with end stage renal disease

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Abstract:
Introduction: One of the long-term hemodialysis vascular accesses for end stage renal disease (ESRD) patients is arteriovenous fistula (AVF) that requires the fewest interventions and is associated with the lowest complications in comparison with other types of access. The failure of this access could expose the patients to high risk situations. The aim of this study was determining the frequency of AVF failure and its relations to demographic and clinical characteristics of patients who would receive chronic renal replacement therapy with AVF. We hope it would be helpful for simple prevention of AVF failure.
Method and material: In this analytical cross-sectional study, all the patients who received surgery of autogenous AVF from March till September 2008 in Shahid Hasheminejad hospital selected conveniently. Age, gender, underlying diseases, blood samples and blood pressure before the AVF creation were determined. For average 15 months after AVF creation, failure was considered by surgeon and defined as an early and late failure. Based on AVF failure, patients were categorized and statistical relations between patients with or without failure were observed. Data analysis was performed using SPSS v.16 via Independent-samples T-test and Chi-square.
Results: 86 patients were included in this study with mean age of 56.43±16.22 years (36% female ,64%male) followed up for an average of 15 months. 35.39% of patients suffered from diabetes, 76.5 % from hypertension. AVF failed in 19.8% (n=17) of patients that eight of them experienced early failure. In patients with AVF failure the means of systolic blood pressure (P=0.017) and diastolic blood pressure (P=0.028) before AVF creation, were significantly different, in comparison to the patients without the failure. The higher pre-operating systolic blood pressure (mean±SD:145±29) and pre-operating diastolic blood pressure (mean±SD:83±16) were observed in patients without AVF failure. AVF failure was significantly associated with gender (P=0.029) and diabetes (P=0.023). In patients with AVF failure, frequency of female and diabetes were higher.
Conclusion: This study showed that gender and diabetes had relation with short-term failure of AVF in Iranian patients who had renal failure. On the other hand considering of keeping blood pressure in maximum normal before autogenous AVF creation could be helpful for maturation or usage of AVF.

Abstract ID: 783

Insuflation advantages of low pressure in geriatric laparoscopic surgery

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Abstract:
Introduction: Insulfation pressure used for laparoscopic cholecystectomy usually amounts to 12 -15 mmHg. Pneumoperitoneum was created insuflation carbon dioxide in the abdominal cavity showing a significant effect on the function of the cardiovascular and respiratory systems. In contrast with geriatric patients with limited cardiopulmonary reserves (ASA III / IV), pneumoperitoneum caused by the high values insulfation pressure can cause significant cardiopulmonary instability.
The aim: This paper aims to assess the impact of different values intraperitoneal insuflation pressure in hemodynamically and respiratory status geriatric patients (ASA III / IV) during the performance of laparoscopic cholecystectomy.
Material and methods: The investigation included 30 patients, divided into two groups after 15 patients. In the group I was used insuflation pressure of 8 mmHg, while in Group II insuflation applied pressure of 14 mmHg. The research was divided into five time phases. All patients applied IPPV breathing volume of 10 ml / kg / tt and frequency of breathing of 12/min.
Results: The results reveal significant haemodynamic instability and a significant disruption of arterial blood gas analysis in Group II. In this group the recognized significant decrease in the value of MAP (> 32%), CVP (> 28%) and heart minute volume (> 42%) in the third, fourth and fifth time phase of research. At the same time there is a significant increase in PaCO2 (> 49 mmHg) and PaCO2 gradient differences - etCO2 (> 10.6 mmHg). Unlike Group II, patients from Group I showed less haemodynamic instability and mild disturbance of arterial blood gas analysis.
Conclusion: Key moments that cause the different pathophysiological changes during laparoscopic cholecystectomy the creation pneumoperitoneum insuflation carbon dioxide and position patient on operating table. Interplay of these factors had a negative impact on cardiovascular and respiratory function geriatric patients with limited cardiopulmonary reserves (ASA III / IV). During laparoscopic surgery, older patients and patients with chronic cardiopulmonary disease may require careful intraoperative monitoring. Keywords: insuflation, laparoscopy, geriatric

Session: Unspecified

Abstract ID: 150

The effect of vasoactive intestinal peptide treated CD4 t-lymphocytes on the survival and proliferative capacity of hippocampal stem cells; the key role of Interleukin-4

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Abstract:
Background: Hippocampal neurogenesis, the process by which stem cells differentiate into mature neurons, continues throughout adult life, and is involved in mood, behavioral and seizure disorders. Therefore, understanding the endogenous mechanisms that control this process is critical. In the past few years the potential of the communication between the brain and the peripheral immune system has been realized. Studies in immuno-deficient mice show that CD4+ T-lymphocytes are essential to neurogenesis, the mechanism remains unknown. In our lab, we have recently shown that Vasoactive Intestinal Peptide (VIP) modulates the survival and fate of hippocampal precursor cells. VIP, produced by hippocampal interneurons during neuronal activity, may provide a signaling pathway to CD4+ lymphocytes in the periphery to secrete factor(s) that modulate neurogenesis. The aims for this work were to develop an in vitro paradigm to look at the role of CD4+ T-lymphocytes in the modulation of survival and proliferation of primary hippocampal precursor cells and investigate potential VIP involvement.
Methods: We generated postnatal (P7-10) rat hippocampal primary cell cultures and grew them for 3DIV, after which the cells were pulsed with 5% supernatant generated from untreated or VIP-treated CD4+ T-cells. Cell proliferation was quantified using BrdU, and survival by propidium iodide. The cytokine profile, as well as the VIP receptors expressed by CD4+ T-lymphocytes at different time points was obtained using q-RT PCR.
Results: We demonstrated that supernatant from anti-CD3 activated, CD4 T-lymphocytes increases endogenous cell proliferation, an effect that is significantly enhanced by VIP. Moreover, the addition of an IL-4 mAb antagonist to our cultures completely ablates cell proliferation. CD4-T lymphocytes under 30nM VIP increase their expression of the anti-inflammatory cytokines IL-4 and IL-10, whilst decreasing their expression of pro-inflammatory cytokines IFN-γ and IL-6 mRNAs. CD4+ lymphocytes also express the VIP receptors, VPAC1 and PAC1 mRNAs.
Conclusion: These results indicate that CD4+ T-lymphocytes can stimulate the proliferation of primary hippocampal cells. Furthermore, this data demonstrates that VIP allows hippocampal inter-neurons to signal to CD4+ T-lymphocytes, to secrete cytokines, such as Interleukin-4, known to be supportive of neurogenesis. This effect implicates CD4+ T lymphocytes and VIP as regulators of hippocampal neurogenesis and therapeutic targets for mood disorders.

Abstract ID: 192

Biosynthesis of silver nanoparticles from Penicillium aurantiogriseum, P. citrinum and P. waksmanii

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Abstract:
Introduction: The enzymatic activity of fungi presents them as highly competent microorganisms to precipitate of nanoparticles in external environment of the cell. Since the miniaturization has become more important in various areas such as medicine, the necessity for rapid, eco-friendly biosynthesis of nanoparticles is constantly increasing. For example, several studies reported whatever the size of silver nanoparticles decreases, its antibacterial activity increases. In this paper, we stress upon synthesis of silver nanoparticles from Penicillium aurantiogriseum, P. citrinum and P. waksmanii.
Methods: The pure colonies of P.aurantiogriseum, P. citrinum and P. waksmanii were approved by department of mycology and plant pathology of Sari Agriculture and Natural Resources University. Initially, they were cultured in a fluid. Then, their supernatants were examined for the ability to produce silver nanoparticles. In this step, 1 mMol solution of AgNo3 added to the reaction matrixes separately. The reactions were done in a dark and anaerobic environment at 28ºC. After 24 hours, it was observed that the color of the solutions turned to yellowish brown from pale yellow. Synthesized nanoparticles were characterized by using UV-Visible Spectroscopy, Nano Zeta Sizer (Malvern,England), SEM (Scanning Electron Microscopy) and FTIR (Fourier transformed infrared spectroscopy).
Results: The results showed that the silver nanoparticles were formed fairly uniform with spherical shape with the z-average diameter of 151.4 nm, 181.6 nm and 157 nm for P.aurantiogriseum, P. citrinum and P. waksmanii, respectively. Representative spectra of obtained nanoparticles manifests absorption peaks located at about 1053.89, 1412.95 and 1626.37 in the region 1000-1800 cm-1. The FTIR spectra reveal the presence of different functional groups to silver nanoparticles which were present in the fungal extract.
Conclusion: By this approach, it is suggestive that this rapid synthesis of nanoparticles would be proper for developing a biological process for mass scale production.

Abstract ID: 286

Integration of HoxB4 into human and murine embryonic stem cells for red blood cell transfusion applications

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Abstract:
Background: Producing red blood cells(RBCs) from stem cells has been a key research thrust in recent years since it has the potential to provide unlimited, universal, infection-free blood for transfusion purposes. Although protocols have been devised to produce RBCs from human embryonic stem cells(hESCs)1,2, the yield has been too low for transfusion applications. Several studies in murine ESCs cells(mESCs) and hESCs have shown that overexpression of the homeobox transcription factor HOXB4 promotes the differentiation to and proliferation of hematopoietic cells3,4. The Forrester Laboratory has designed an inducible HOXB4-ERT2 –encoding gene cassette to precisely control the activity of HOXB4 by the addition of tamoxifen5.
Methods: The HOXB4-ERT2 cassette was integrated into mESCs and hESCs using 2 methods: (1) transfection with plasmid encoding the HOXB4-ERT2 gene via electroporation and (2) infection with lentivirus, generated with plasmid from(1). The resulting colonies were analysed for HoxB4 gene and HOXB4 protein expression pre and post induction with tamoxifen using quantitative PCR, and western blotting respectively. EGFP gene was used a positive control throughout.
Results: (1) Positive hESC clones, with the HoxB4 gene cassette were obtained by selection with puromycin. The clones were found to a. increase HoxB4 gene expression(qPCR) and HOXB4 protein expression (western blot) b. upregulate the expression of genes previously positively associated with HoxB4 overexpression in mESCs and haematopoietic potential, when HOXB4 was activated by addition of tamoxifen (2) 12 lentivirus stocks were generated with titres between1×107~7×108 viral particles/ml detected by Q-PCR. These were found to contain infective particles, shown by positive colonies on infection.
Conclusion: This project has developed HoxB4-ERT2 lentiviral vectors, with high infective potential, for downstream applications, which include generation of stable inducible Hox4-ERT2 hESC and mESC cell lines. Further work is planned to test whether HOXB4-expression can lead to increased RBC production for potential transfusion applications.
References: 1. JC Mountford, Olivier E, Jordanides NE et al. Red blood cells from pluripotent stem cells for use in transfusion. Regenerative Medicine, May 2010. 5(3): 411-423. 2. Ma, F. et al. Generation of functional erythrocytes from human embryonic stem cell-derived definitive hematopoiesis. Proc Natl Acad Sci USA 2008. 105:13087-92

Abstract ID: 305

The effect of Psycho-educational intervention on the life quality of depressive patients referred to Hospitals affiliated to Shiraz University of Medical Sciences in Shiraz-Iran

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Abstract:
Background: Depression is the world's fourth most prevalent health problem which is associated with substantial mortality, direct medical cost , diminished life quality and significant physical and psychosocial impairment. This

study aimed to investigate the effect of Psycho-educational intervention on the life quality of major depressive patients
Methods: 70 patients who were willing and had met the required criteria for participation were selected from hospitals in Shiraz city, Iran. So 35 of the patients were assigned to the experimental group and 35 others to the control group. For data collection a two part questionnaire was developed, the first part consists of 13 items related to general characteristics and the second part with 36 items on life quality were used. The experimental group was divided into 5 subgroups of 7 patients. For each group 6 intervention sessions were scheduled. The control group didn't receive the intervention. The questionnaires were completed for all subjects in the experimental and control groups before and one month after the end of Psycho-educational intervention. Tabulated data were analyzed using Chi-Square, Independent and pair T-test.
Results: The results of the study indicated that Psycho-educational intervention in comparison with other available treatments proved to be more effective on 8 domains of life quality in the experimental group. A significant difference was observed for all the domains ($p<.0.001$).
Conclusion: Psycho-educational intervention can be used as an auxiliary treatment in improving life quality and decreasing depression in patients suffering from major depressive disorder.

Abstract ID: 346

A survey of medical students' learning model based on push-pull model in 2 medical schools of Iran; Shiraz and Babo

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Abstract:
Background: According to changes in health concerns of human society, medical schools must reform their education strategies, such as trainer-trainee relationship to achieve that goal. According to M.Downey's theory, there are two learning models. First; the PUSH model(or told-learning) which emphasizes on the trainers role. Trainees are completely dependant on their trainers to learn. Second is the PULL model(or self-learning) which emphasizes on the trainees role. Trainer just help and consult the trainees to solve the problems themselves. The aim of this research is to study Shiraz and Babol medical students' learning model according to Downey's theory.
Methods: In this qualitative research we collected data by semi-structured interview with 9 medical student in March 2011.Important theme were determined by content analysis and data gathered till data saturation.
Results: Analyzing data indicates that most of medical student's learning model is PULL-model. They have regular meetings with their trainers and consult them about their educational issues. On the other hand a few students declare that their learning model is Push, so their trainers solve their educational problems.
Conclusion: According to our study's result, we believe that clarifying these two learning model for both trainers and trainees, specially the pull model can play an important role in improving education efficacy.

Abstract ID: 409

Migration of monocytes in patients with critical limb ischaemia

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Abstract:
Background: Peripheral vascular disease affects approximately one in five individuals over the age of 70 years. It can progress to critical limb ischaemia (CLI) with a significant proportion of patients requiring an amputation. Limb salvage through the injection of autologous cells to stimulate neovascularisation may be a future treatment option in this group of patients but, to date, the correct cells to inject have not been identified. In CLI patients, there is an increase in the number of Tie2-expressing monocytes that are implicated in neovascularisation, but in-vitro studies have shown that these cells from patients are impaired in their ability to stimulate angiogenesis. These results may suggest that there are other functional deficits in monocytes from CLI patients, such as migration. Objectives: This study compared the migratory capacity of monocytes from patients with CLI and healthy controls.
Methods: In vitro migration assays with the chemoattractants MCP-1, Ang1 and Ang2 were carried out using a modified Boyden chamber system. Migration was measured as fold changes in fluorescence, and compared across three groups: CLI patients (n=7-8), age/sex matched controls (n=3), and young controls (n=3-4).
Results: Monocytes from CLI patients migrated similarly to cells isolated from matched and young controls. Migration to MCP-1 at 30 minutes was 3-fold higher in the patient group compared with matched controls $P<0.05$ (two-way ANOVA with Bonferroni's post hoc test), but at 60 minutes, maximal migration was not significantly different between the groups. Also, monocyte migration to the chemoattractants was highly variable in young and matched controls (maximal migration to MCP-1 in one matched control was 8-fold higher on experimental day 11 versus day 16). However, variability was not seen where conditions were maintained, for example in patients.
Conclusions: Migration as a functional capacity of monocytes is not impaired in CLI patients. The variability in migration in the control group, however, suggests that day to day factors may alter monocyte function.

Abstract ID: 415

Effects of Polygonum Aviculare herbal extract on proliferation and apoptotic gene expression of MCF-7

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Abstract:
Introduction: One of the most common malignancies in women is breast cancer. Although there are several treatments for breast cancer, almost all of them have undesirable effects on patients.

Objectives: Using herbal medicine is a new suggestion as a supplementary treatment that helps recover the disease. In this research, our objective is to investigate anti-cancerous effects of Polygonum avicular herbal extract.
Methods: Polygonum avicular juice extraction was made by methanol. MCF-7 cell line was cultured with different concentrations of Polygonum avicular (50, 100, 150, 200, 250, 300,350 400 ng) in different times (6, 12, 24, and 48 hrs). MTT assay was used to detect cell proliferation and Flow Cytometry for apoptosis detection. For apoptotic genes expression, RT-PCR was carried out.
Results: Results showed that Polygonum avicular induced cytotoxicity in MCF-7 cell line while in 300 ng concentration. This is confirmed by the highest rate of cell death as measured by Trypan Blue and MTT assay. RT-PCR results showed Up-regulation of P53 and Down-regulation of Bcl-2.
Conclusion: Polygonum avicular is able to induce apoptosis in MCF-7 cell line. Up-regulation of P53 and down-regulation of Bcl-2 in presence of polygonum avicular might confirm anticancerous effect of polygonum avicular. However more studies are necessary to confirm that completely.

Abstract ID: 420

Morphometric analysis of hippocampus in maternally deprived rats

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Abstract:
Background: Early separation of rat pups from their mothers (separatio a matrem) has been considered and approved as a model of prenatal stress.
Objectives: Adult rats, which were separated from their mothers early after birth, develop long-lasting changes in the neuroendocrine system and the brain, which correspond to symptomatology of schizophrenia and affective disorders. Findings of morphometric studies done post-mortem in patients with chronic schizophrenia indicate the existence of reduced hippocampal volume. The psychological stress that occurs in maternal separation produces atrophy of the pyramidal cells. One goal in medicine over the last years has been to create models of schizophrenia in lab animals. The aim of this study was to assess the long-term effects of perinatal maternal separation on hippocampal volume.
Methods: Rats were separated from their mothers on the ninth postnatal day for 24h, according to the standard procedure for maternal deprivation. To determine the volume of the whole hippocampus and his areas (CA1, CA3 and GD), stereological sections of the rat brains on the same distance from breghma (-2.76 mm), bilaterally, stained with cresyl violet were photographed and in the obtained images, areas of the hippocampus and the entire hippocampus volume were measured using the ImageJ software.
Results: The results of our study have shown a statistically significant decrease in the volume of the whole hippocampus ($p=0.02$) and its areas CA3 ($p = 0.01$) and GD ($p = 0.03$) in maternally deprived rats while there were no changes in the volume of the CA1 area ($p = 0.22$).
Conclusion: The reduction in hippocampal volume in maternally deprived rats, shown in this study, might indicate a connection between the deficit in the hippocampal volume and the pathogenesis of schizophrenia, but that remains yet to be proven in future experiments.

Abstract ID: 724

Communication skills of nursing students with patients

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Abstract:
Introduction: Nursing practice requires effective communication with clients to establish this relationship, specific communication skills are needed. Also, ability to communicate has an important role in patient satisfication.This study aimed to investigate the communication skills of nursing students of Ilam medical sciences in 2010.
Methods: This study was conducted descriptive-analytically among 72 nursing students who had passed internship course. In this study a demographic questionnaire and a 26 options check list were used to collecting data. Behavior of each of students was observed by trainer and recorded in checklist. After collecting data, there were analyzed by spss software, T-test, Pierson coefficient and ANOVA.
Results: There was a significant differences between educational semester, interaction skills, disease description for patient and skill for interview terminating ($p=0.01$). %72 of students had good communication skills. There was a significant relationship between sex and interview starting with patient, pursuing patient's problems and interview finishing skills ($p=0.01$).
Discussion and conclusion: Results showed that more courses is needed for improving student comminucation skills, especially in begining of thier course.

Abstract ID: 737

The Effect of Zinc Supplementation on the number of lymphocytes in HIV-infected patients: a randomized clinical trial

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Abstract:
Background: Zinc is one of the elements that improves body's immune system and adequate zinc is critical for its function; however, zinc deficiency occurs in >50% of human immunodeficiency virus (HIV)-infected adults. The prevalence of deaths is more among those with low serum concentrations of zinc. Studies have shown that zinc supplementation at nutritional levels delays immunological failure. This study was performed to further assess the efficacy of zinc supplementation on the number of lymphocytes in HIV-infected patients.

Methods: In this interventional study participants attending "Navabsafavi" medical center in Isfahan, Iran in May and April 2009 were randomly assigned to receive zinc supplementation (zinc sulfate 45 mg per day) for about two months. The number of lymphocytes before and after the oral administration was counted and data was analyzed using SPSS 16.
Results: This Study was performed on 30 HIV-infected patients. The average lymphocyte counts before and after the administration was 33.8% ±7.3% and 35.6% ± 8.2% respectively (P value> 0.05). Data was analyzed using t-paired test at a significant level of P<0.05.
Conclusion: As the result was not significant, the effect of zinc supplementation on the number of lymphocytes was not justified. More studies with larger number of patients, different doses of zinc supplementation and longer administration of zinc supplement are suggested.

Abstract ID: 764

M-Learning: An Experiment in Using SMS to Support learning

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Abstract:
Background: While e-learning extends study beyond physical classroom, Mobile learning (m-learning) promises continued extension towards the "anywhere, anytime" learning process. It is defined as the teaching and learning processes through the use of handheld devices such as cell phones, Personal Digital Assistants (PDAs), laptops, and tablet PCs. This paper investigates the use of wireless technologies in education with particular reference to the potential of learning English for Medical Purposes (EMP) using Short Message Service (SMS) text messaging.
Method and Material: Subjects: The study was carried out with 2 groups of 1st-year volunteer students, randomly selected and willing to participate in the experiment. Setting: This experimental study has been carried out at the Medical University of Gorgan, Iran. The development of the project is based on a survey which indicated that SMS enabled Mobile phones are owned and used by nearly every student at the University. Therefore most of the necessary ICT infrastructure is already in place. One hour and half lectures were delivered two times a week. Lessons defined 12 words per session , recycled previous vocabulary, and used the words in various contexts. During the experiment, three times a day, the experimental group received short mini-lessons, sent in discrete chunks so as to be easily readable on the tiny screens.
Data collection and analysis: A pretest and a posttest have been carried out. Students also were tested biweekly and compared to group that received identical lessons just on paper. Subsequently students were asked to carry out a written survey in order to receive their feedback and attitudes.
Conclusion: The study has confirmed that the rapid proliferation of mobile phones and the particular popularity of SMS text messaging, among the student population is generating a novel platform for the development of formal and non-formal education. The results indicated that SMS students improved their scores by nearly twice as much as students who had solely received their lessons on paper, increases their motivation, ensuring that essential core learning is not missed at an early stage. The post-project feedback on a Likert scale gives strong evidence that m-Learning was found to be an especially useful, efficient and preferred method of instruction. The system developed for EMP can be enhanced and used for the teaching of other subjects as well.

Appendix

Abstract ID: 853

Investigating the Role of Microglia in Gliomas Using an in vitro Model

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Abstract:
Introduction: Malignant gliomas are a heterogenous group of primary brain tumours, associated with a particularly poor prognosis. The role played by microglia in this condition is not fully understood, and has been the focus of recent research. Organotypic modelling has proven to be a useful in vitro tool to represent complex in vivo environments.
Aims: • To characterise an organotypic model of glioma using rat hippocampal slices. • To investigate the immune profile of this model.
Methods: Rat hippocampal slices were prepared and after 7 days, rat C6 tumour cells added to one group of the slice cultures. The trauma of the addition of cells was replicated in the sham group by the addition of cell free media, and a third group consisted of the control slices, to which nothing was added . At different time-points (D1, D3, D5 and D7), the cultures were stopped and immunohistochemistry undertaken on fixed slices using Iba1(marker of microglia), CD68 (marker of phagocytosis), and Ki67 (marker of proliferation). At the same time-points, RNA extraction, reverse transcription and gene amplification was performed to detect inflammatory cytokines (IL1β, IL6, IL10, TNFα and TGFβ).
Results: We reproduced an in vitro model of brain tumour, and have shown an increase in Iba1+ microglia associated with glioma cells (p=0.001). In addition the phagocytic activity of microglia, as determined by CD68:Iba1 (%), was significantly increased in the glioma model over the time of the experiment and compared with control groups (p<0.001). An increase in cell proliferation in the glioma group was observed using the marker Ki67 (p<0.001). We also observed that the levels of mRNA of pro-inflammatory cytokines IL1·, IL6 and TNF~ were reduced in relation to control (p=). No significant differences were observed between the groups in TGF B or IL10 (p= and p= respectively.
Conclusion: In our organotypic model of brain tumour, we have observed that glioma cell proliferation is associated with proliferation of microglia, an increase in microglia phagocytic activity, and a cytokine profile which overall is anti-inflammatory. Thus our model supports the role of microglia promoting tumour growth, and is suitable for further investigation and manipulation of the role of microglia in glioma.

Abstract ID: 855

Bacterial Vaginitis caused by Chlamydia, Ureaplasma and Mycoplasma â€“ implication in premature labor.

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Abstract:
I*ntroduction (Purpose):* Premature birth is one of the most disturbing issues concerning Obstetrics-Gynecology and modern medicine as well, for its devastating impact on the neonatal morbidity and mortality on one hand, and for its long-term consequences on the population health status on the other hand. The only pathological process proved to be directly correlated with the premature labor is considered to be infection. The inflamation of the fetal teritory is linked to the debut of the labor at patients with ascending intrauterine infection, especially with Chlamydia, Ureaplasma and Mycoplasma.
Background: The purpose of this study was to correlate the IL-6 levels from the cervico-vaginal fluid with the presence of microbial species that modify the normal vaginal flora.
Material and method: The study consists of 106 pregnant women with an average age of 30.2 years old (aged between 18 and 40 years old), with a pregnancy age between 22 and 34 weeks and was conducted from 19th December 2010 to 18th April 2011 in private clinics and the departments of Obstretics and Gynecology of the no.1 and no.2 Clinical County Hospitals of Craiova, Romania. Samples from the endocol were prelevated in order to identify the vaginal flora and to determine the value of IL-6 from the cervico-vaginal fluid.
Results: The patients from the study were divided in 2 groups: a control group that consists of 40 pregnant women with an average age of 26.8 (aged between 18 and 36 years old) and a group of 66 pregnant women with an average age of 32.3 years old (aged between 18 and 40 years old) at whom were detected significative risk factors of premature delivery: the presence of bacterial vaginitis, history of spontaneous abortion (miscarriage) or premature delivery. The levels of IL-6 were significantly higher at pregnant women who presented vaginal infection with Chlamydia, Ureaplasma or Mycoplasma (p<0.05) in comparison with the control group.
Conclusions: In the presence of some bacterial stimulus induced by Chlamydia, Ureaplasma or Mycoplasma there is a direct influence on the production of IL-6 in the cells of the vaginal epithelium, the key-cytokine of acute phase which acts as a major modulator of the body's response to infection.

Abstract ID: 856

The analgetic effects of magnesium after central administration

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Discipline: Pharmacology and toxicology

Abstract:
Background: While the implication of Mg as a divalent cation has been studied before in relation to pain modulation, this is the first study to look at its effects on nociception after icv administration. As magnesium blocks the N-methyl-D-aspartate (NMDA) receptor and its associated ion channels, it can prevent central sensitization caused by peripheral nociceptive stimulation. However magnesium ion can block Ca influx and at the same time can noncompetitively antagonize NMDA receptor channels. Aim of study : The present study is trying to identify experimental arguments for a magnesium role in central pain modulation following an intracerebroventricular (icv) administration.
Material and Method: Healthy adult male Wistar rats, initially weighing 350– 450 g, were used.The rats were maintained in polyethylene cages with food and water ad libitum, in a laboratory with controlled ambient temperature (21 ± 2°C) and under a 12h light–dark cycle. Groups of 7 rats were treated with magnesium (Mg) chloride, 600 nmol Mg/ rat in 10 ìL of saline. Stoelting stereotaxic equipment was used for icv administration, in previously ether-anesthetized animals. The control group received an equal volume of saline. Hot plate and tail clip test was performed before and 15, 30, 45, 60, 75 and 90 minutes after the administration of substances.
Results: Our results show that intracerebroventricular administration of magnesium chloride has an analgesic effect for the hot plate and tail clip test. The maximum effect was observed after 75 minutes in tail clip and 90 minutes in hot plate.
Conclusions: Magnesium has an antinociceptive effect following icv administration. However, the slow onset of the analgesic effect observed in our experiments may involve a different mechanism or site of action than cited in the literature.

Abstract ID: 869

Spinal Cord Stimulation for Chronic Pain

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Abstract:
Introduction: Generally chronic pain is presented by neurogenic pain syndrome due to injury of nervous structures. The most commonly used treatment modality for management of such pain syndromes is spinal cord stimulation (SCS) predicated on reducing the intensity, duration and frequency of pain. Aim: To study the possibility and effectiveness of chronic spinal cord stimulation in treatment of therapy-resistant pain syndromes of neurogenic origin.
Methods: In our department during the 2-year period (2008-2009) were performed 16 SCS operations on patients (13 woman, 3 men, mean age 42,1 yrs) with a variety of chronic pain syndromes: FBSS, CRPS II, gunshot injury of cauda equina, fantom limb pain, postthoracotomic pain, deafferentation pain in the arm, spastic-pain syndrome due to spinal arachnoiditis, pain syndrome in the anogenital area. Average pain presence was 4 yrs. Indication for the operation was steady neurogenic pain with poor response to conservative treatment for at least 3 months. Pain intensity was evaluated using a modified Visual Analogue Scale (VAS). Then patients underwent the percutaneous implantation of temporary lead electrodes in the back epidural space and intraoperative test stimulation. In 13 cases electrodes were placed on the ThX-ThXII level, in 2 - on the CV-CVI level and in 1 - on the ThII-ThIV level. During the next 4-7 days trial sessions of high- frequency stimulation (duration 10-30 min 2-4 times per day) were performed in order to assess the response to the treatment.Patients selected amplitude, frequency and pulse width within 0-7,0 V, 35-150 Hz, 60-120 mks by their own using an individual programmer device. Indication for internalization of the SCS devices (cable lead and pulse generator Itrel 3) was pain relief more than 50% according to a VAS.
Results: Mean follow-up duration was 15,4 months. 10 patients (62,5%) reported an excellent (pain relief > 75%) long- term improvement. 4 patients (25%) reported a good (≥50%) improvement and a reduction in analgesic drugs. In 2 patients pain relief was poor (<50%). Up to 80% were satisfied with treatment. Complications (displaced electrode and discomfort at the pulse generator site) occurred in 2 cases.
Conclusion: Spinal cord stimulation is a highly effective treatment modality for patients with neurogenic pain syndromes. SCS can obtain effective pain relief, significant improvement of quality of life and functional capacity.

Abstract ID: 861

In vitro antitumor activity of novel copper complexes

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Abstract:
Background: Due to the fact that malignant diseases have high prevalence and lethality, while resistance towards existing anticancer agents is increasing as well as their side effects, we investigated potential cytotoxic action of novel copper complexes, their organic ligands and inorganic parental salt, against different tumor cell lines (B16, C6, L929, HL60, REH).
Methods: Cell viability was determined using acid phosphatase assay after 24h treatment with different concentrations of all tested substances. According to the IC50 value, the most sensitive cell line was chosen for further investigation of cytotoxic mechanism of novel complexes using flow cytometry. Propidium-iodide, acridine-orange and dihidrorhodamin staining were used to determine DNA fragmentation, autophagy and production of ROS, respectively.
Results: All tested cell lines showed significant decrease in cell viability after 24h exposure to two novel complexes, while HL60 cell line was the most sensitive with IC50 values 6.20±0.03μM (complex1) and 16.25±1.07μM

(complex2). Organic ligands did not show cytotoxic effect, while the cytotoxicity of parental salt was not statistically significant in comparison to complexes. Both complexes led to a statistically significant dose dependent increase in the percentage (%) of DNA fragmentation compared to control – complex1 (6.25μM) 29.19% vs control 8.39%; complex2 (12.5μM) 29.24% vs control 8.40%. 24h exposure to different concentrations of both copper complexes did not increase the acidic content in HL60 cells. The increase in ROS production after 2h exposure to complex1 (25μM) was statistically significant in comparison to control (2.40x). Further more, only 30min exposure to complex2 (50μM) significantly increased ROS production (3.87x) in comparison to untreated cells. *Conclusion:* Investigated novel copper complexes have significant cytotoxic activity against B16, C6, L929, HL60 and REH tumor cell lines. The possible antitumor mechanism of cell death is ROS production and consequtive induction of oxidative stress, which leads to DNA fragmentation.

Abstract ID: 879

The pilot study of the efficacy of intravitreal bevacizumab for the treatment of aggressive posterior retinopathy of prematurity

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Discipline: Ophthalmology

Abstract:
Background: Retinopathy of prematurity (ROP) is a potentially sight-threatening disease that affects children worldwide. The consequence of advancements in neonatal care is the significantly increased risk of visual morbidity in very low-birthweight infants. It encompasses a spectrum of pathologies that affect vision, from mild disease that resolves spontaneously to severe disease that causes macular dragging or retinal detachment.
Objective: To determine if the use of intravitreal bevacizumab (IVB) shows superior efficacy as compared with cryotherapy and laser treatment for aggressive posterior ROP (AP-ROP).
Methods: We conducted a prospective randomized controlled pilot study designed to evaluate the efficacy of IVB monotherapy for AP-ROP (stage 3 with plus disease). Preterm infants were randomly assigned for treatment with IVB (0.5 mg), laser or cryotherapy. The main outcome measure was the regression of an active disease.
Results: Nine patients (18 eyes), 6 males and 3 females with gestational age ranging from 25 to 32 weeks and birth weight 800-1600 g respectively, were included in the study. The median follow-up time was 18 months. Following the IVB injection there was a significant response in the regression of neovascularization in 100% of cases. None of the eyes possessed the signs of deterioration and required additional intervention. There were neither systemic nor local complications after treatment.
Conclusion: Laser and cryotherapy has been a gold standard for treatment of neonates having AP-ROP. These treatments both tend to destroy receptor cells of the retina resulting in a significant peripheral visual loss and scarring. Current study indicates that IVB monotherapy successfully results in AP-ROP regression, subsidence of plus disease and neovascularization. Achieved result is noteworthy because the regression was seen in 100% of cases after single intravitreal injection of bevacizumab. Although we observed no side effects, considering that, additional studies are required to determine the proper dose of IVB and potential side effects. If successfully implemented, we believe this approach to treatment of ROP can be recommended as first-line treatment for AP-ROP. The use of IVB distinguishes it from existing approaches with its inexpensiveness, short recovery period and no special training required.

Abstract ID: 863

N-acetylcysteine increases plasma insulin level in diabetes: possible protection of pancreatic beta cells against oxidative stress

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Abstract:
Background: Diabetes causes hyperglycaemia that increases the production of reactive oxidative species. The oxidative species can cause further damage of the pancreatic beta cells and decrease in insulin production. Decrease in insulin production can lead to increase in plasma glucose and triglyceride concentrations, which are risk factors for cardiovascular complications. This study looked at the effect of the antioxidant N-acetylcysteine on plasma insulin, glucose, cholesterol, and triglyceride concentrations in diabetic rats.
Methods: This 9-week experiment involved 24 male wistar rats equally and randomly divided into four groups: control-untreated, control-treated, diabetic-untreated, and diabetic-treated. Rats were rendered diabetic with a single tail vein injection of streptozotocin of 60 mg/kg. N-acetylcysteine was orally administered to the control-treated and diabetic-treated rats by dissolving it in their daily water 4.8 g/L and 2.4 g/L, respectively. Blood plasma Insulin and glucose concentrations were quantified (Linco Rat Insulin RIA Kit and Beckman Glucose Analyzer 2, respectively). Blood samples were also collected for enzymatic colorimetric assays of triglyceride and cholesterol concentrations. The oxidation status was determined by measuring the amounts of 15-F2t-isoprostane and nitrate/nitrite with commercial assay kits. Results were analysed with ANOVA, and $p < 0.05$ was considered significant.
Results: N-acetylcysteine significantly increased the insulin level (0.19 +/- 0.07 vs. 0.43 +/- 0.22 ng/mL; $p < 0.05$) and decreased glucose level (31.57 +/- 1.19 vs. 27.69 +/- 1.77 mmol/L; $p < 0.01$) in diabetic rats. It also significantly decreased the triglyceride level (4.18 +/- 1.67 vs. 0.81 +/- 0.44 mmol/L; $p < 0.01$) and cholesterol level (2.40 +/- 0.69 vs. 1.11 +/- 0.20 mmol/L; $p < 0.01$) in diabetic rats. The diabetic-untreated group had the highest 15-F2t-isoprostane (49.62 +/- 11.87 pg/mL) and lowest nitrate/nitrite (5.82 +/- 1.76 mcM) concentrations, both of which were significantly different from the diabetic-treated group (29.27 +/- 8.26 pg/mL; $p < 0.01$ and 10.12 +/- 1.37 mcM; $p < 0.01$, respectively).
Conclusion: N-acetylcysteine made more insulin avail-

able, thus lowering the glucose and triglyceride levels. The presence of an antioxidant effect is supported by the low oxidative status in the diabetic-treated group. Antioxidant treatment possibly has a protective effect on the pancreatic beta cells in diabetes.

Abstract ID: 870

The analgesic effects of magnesium after central administration

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Abstract:

Background: While the implication of Mg as a divalent cation has been studied before in relation to pain modulation, this is the first study to look at its effects on nociception after icv administration. As magnesium blocks the N-methyl-D-aspartate (NMDA) receptor and its associated ion channels, it can prevent central sensitization caused by peripheral nociceptive stimulation. However magnesium ion can block Ca influx and at the same time can noncompetitively antagonize NMDA receptor channels. Aim of study : The present study is trying to identify experimental arguments for a magnesium role in central pain modulation following an intracerebroventricular (icv) administration.

Material and Method: Healthy adult male Wistar rats, initially weighing 350– 450 g, were used.The rats were maintained in polyethylene cages with food and water ad libitum, in a laboratory with controlled ambient temperature (21 ± 2°C) and under a 12h light–dark cycle. Groups of 7 rats were treated with magnesium (Mg) chloride, 600 nmol Mg/ rat in 10 ìL of saline. Stoelting stereotaxic equipment was used for icv administration, in previously ether-anesthetized animals. The control group received an equal volume of saline. Hot plate and tail clip test was performed before and 15, 30, 45, 60, 75 and 90 minutes after the administration of substances.

Results: Our results show that intracerebroventricular administration of magnesium chloride has an analgesic effect for the hot plate and tail clip test. The maximum effect was observed after 75 minutes in tail clip and 90 minutes in hot plate.

Conclusions: Magnesium has an antinociceptive effect following icv administration. However, the slow onset of the analgesic effect observed in our experiments may involve a different mechanism or site of action than cited in the literature.

Abstract ID: 876

Apical pacing reduces Right ventricular function more significant than septal pacing

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Abstract:

Background: Permanent pacing is a conventional treatment for incompetent hearts and prevents the sudden death inducing by left ventricular dysfunction. Several studies have focused on the effect of right ventricle(RV) septal or apical pacing on left ventricle(LV) function but most of them were not reliable. The assessment of right ventricle function after septal versus apical right ventricle pacing has never been investigated (in Iran). Our purpuse is to assess right ventricular function in patients with permanent septal versus apical right ventricular pacing.

Methods : We conducted a cohort study of 60 consequences patients who underwent permanent DDDR pacing. The patients were categorised into two groups according to the type of pacing they received. They were followed prospectively by echocardiography and certain variables(Right and left ejectionfraction(EF);cardiac volumes and ejection time and ratio)which were assessed at baseline and one month after pacemaker implantation. , to show patients' response to these two types of treatments.

*Results:*The mean age of patients was 64.6±7, of whom 38.3% were male. The baseline evaluation shows the *m*ean of RVEF 48.21±4.3% in apical group and 53.61±3.84% in septal group. The mean LVEF were 51.16±5.93% in apical group and 56.98±2.4%. The RVEF reduction at apical pacing was more significant than septal pacing after one month follow up (P<0.001). increase in LV diastolic parameters were significantly altered with increase in LV-IVRT from 86.23 ±19.42ms, (P<0.001) in apical group. Increase in RV internal dimention from 1.44±0.44, (P<0.05)was also noticed in apical group.

Conclusion: Our findings showed RVEF reduction after one month of follow up in both apical and septal pacing which was more significant in apical pacing.

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