5th International Medical Students’ Congress
In Novi Sad

Abstract Book
2010

July 15th – 18th 2010 Novi Sad, Serbia
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Respected students, teachers and colleagues,

Welcome to the Fifth International Medical Students’ Congress in Novi Sad. This congress will offer a presentation for approximately 150 selected papers in the areas of medicine, dentistry, pharmacy, molecular biology and genetics, whilst Novi Sad will become a gathering place for about 200 students from all over the world. We sincerely hope that the upcoming years will grant us with an even higher number of presented papers of quality superior than the year before and that the following congresses will be a good opportunity to converse with your foreign colleagues.

It is an honor to be the organizer of a student congregation, applauding to the willpower of the students to pursue their scientific research despite many scholar engagements. Thirst for knowledge and new in formations while searching the unknown is a motor for all sciences, especially medicine. Knowledge in medicine is vastly expending, it actually doubles in a period of three years, many problems are being solved, new drugs are found, but also, new questions are raised and ignorance is born. This will always be so. Constant improvement and scientific curiosity, forbearing, straightforward and caring relationship with the patient are a good foundation of a solid medical worker.

Dear students, your papers have showed that you posses all of these qualities and that you represent the future of our medical science and practice. I am thankful for your work and effort, for your mentors with their guidance, teaching and help. I wish you a good presentation of the results of your scientific research on this congress while having the opportunity to exchange your first scientific proficiencies and just have a nice time.

I hope we will be good hosts for you.

Prof dr Nikola Grujić
Dean Of Medical Faculty Novi Sad
Dear participants, colleagues and friends

We are honored to welcome you at the 4th International Medical Students' Congress in Novi Sad. Founded in 2006 by students with the aim of creating a platform for young researchers from different fields, the IMSCNS became an institution for exchange of ideas, and experiences. Over the past four years, the IMSCNS established a way of bringing researchers and medical staff with different interests, but more importantly different countries together.

During the four days, the Congress will gather a great number of professionals from Serbia and our dear colleagues from abroad. The scientific program will seek to address the main areas of interest and current research within the field of fundamental and applied infective diseases, and also various issues in the spheres of theoretical, experimental and practical medicine.

We invite you to share experience and knowledge and make new acquaintances at this event in the next four days. You can meet old friends and develop new friendships and scientific collaborations. In addition to an intensive scientific program, the participants will also enjoy a social program and have the opportunity to visit beautiful Petrovaradin Fortress and several cultural and historical attractions in Novi Sad. We hope you will find time to enjoy the relaxing atmosphere and cultural heritage of our beautiful medieval city.

I would like to thank the Organizing Committee of the 4th IMSCNS. I admire the work you have done and challenges you have overcome while organizing this meeting. Also, I would like to thank the organisations and institutions that have sponsored the Congress.

We hope that each and every one of us will benefit from this event. We trust, that the 4th IMSCNS will mean another step towards better understanding of something which is future of medicine. I sincerely believe that it will provide a useful forum for exchange of ideas and the latest results in wide range of areas, as well as an opportunity to meet experts from all over the world.

I would like to wish to all the participants great success in their activities, good health, optimism and approval of their work by others.

Yours faithfully,

Student Vice-Dean
Goran Mitrović
Dear colleagues and friends,

It is a great pleasure for us to welcome you to the Fifth International Medical Students Congress in Novi Sad. This congress is an official project of EMSA Novi Sad, which is a part of EMSA EUROPE. This project is also supported by the Faculty of Medical Sciences, University of Novi Sad and Serbian Academy of Sciences and Arts.

It is our honor to let you know that the Faculty of Medical Sciences is celebrating its 50th anniversary this year. The Faculty of Medicine was established on 18th of May in 1960, as a higher education institution, and since that day over 6,000 doctors, 1,000 dentists, 250 pharmacologists and 50 health care experts has graduated from this faculty. Today we have 3095 students who are working hard to get their diplomas.

Our idea is to create connections between students of medicine, stomatology, pharmacology, health care, molecular biology and genetics from all over the world! This congress will be a great opportunity to improve your medical knowledge as well as make friendship between nations, faculties and students.

We are delighted to have you here, taking part in this event, exchanging your scientific proficiencies and we hope that you will have a nice time! We are looking forward to seeing the results of your scientific research during this congress. IMSCNS OC will do its best for you in the next few days, and we hope you will come next year, too.

On behalf of the Organizing Committee:

Jasmina Jelić
President of IMSCNS OC
# Programme

**July 15\textsuperscript{th} 2010 - Thursday**

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<td>Registration (Faculty of Medicine, Info desk)</td>
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<td>20:00 – 20:30</td>
<td>Opening ceremony</td>
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**July 16\textsuperscript{th} 2010 - Friday**

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<td>Breakfast</td>
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<td>Plenary sessions I-VI (Faculty of Medicine, amphitheatres and classrooms)</td>
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<td>Coffee break</td>
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<td>11:30 – 13:00</td>
<td>Workshop</td>
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<td>12:30 – 15:00</td>
<td>Lunch (cafe „Scenario“)</td>
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<td>14:00 – 15:30</td>
<td>Guest lecture (Dr. Sasha Jovchevski)</td>
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<td>15:30 – 16:00</td>
<td>Coffee break</td>
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<td>16:00 – 17:30</td>
<td>Workshop</td>
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<td>18:30 – 20:00</td>
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**July 17\textsuperscript{th} 2010 - Saturday**

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<td>07:30 – 09:00</td>
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<td>09:00 – 11:00</td>
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<td>15:30 – 16:00</td>
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<td>Awards &amp; Closing Ceremony</td>
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<td>21:00</td>
<td>Dinner &amp; Party (boat „Zeppelin“)</td>
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PLENARY Session I

CARDIOLOGY
ECG BY COMPUTER - REGISTRATION AND INITIAL ANALYSIS OF BIOELECTRIC POTENTIALS

Author(s): JOANNA ŁUDZIK, Andrzej Matiolański
Supervisor(s): Wiesław Pyrczak, Krzysztof Sarapata
Country: Poland

Introduction: ECG has been a long recognized and appreciated method examination of changes in the potentials during depolarization and repolarization of myocardial cells. Signal detection can be made by longer single-channel device, the analysis and evaluation can be an element of prevention or facilitate the diagnosis of cardiac problems.

Aim: The superior aim of the study is to take interest as much as possible the largest audience in problems of heart disease and spread their effective prevention. It has been proposed to wide use and attempt to build a simple, inexpensive and easy to use set of ECG, which can be connected to a computer.

Materials and Methods: The study used two standard electrodes for recording bioelectric potentials' (ECG, GSR) sensor has been formed of Ag / AgCl, gel-based sponge. Electrodes attached to the left and right hand (lead I Einthoven - bipolar limb) permit register the potentials' difference. Signal introduced by the sound card microphone input (mini-jack connector) on your computer. Signal has been registered using the program Audacity (GNU General Public License GPL) and PCScope presented in graph form. In order to increase a weak signal (row mV) built a simple amplifier, which is part of the measurement system. With the help of the program managed to reduce noise and partly to improve the signal quality.

Results: The results of recorded signals' changes were analyzed. It has been tested eight people, with each attained a different result. We also conducted a probe among more than 50 people. The vast majority, ie 72% showed interest in seeing his own record of heart rhythm on own computer.

Conclusion: Its results demonstrate the need to create projects that makes difficult medical issues in combination with appropriate reference to the e-learning sites may be an element of health behavior and thus an essential element of prevention. Featured kit is the first step to creating a convenient equipment for testing and diagnosis of heart disease. Diagnostics facilities are not impressive, however, it allows for some indication of the direction, and emphasize the importance of research in early detection of heart disease.
LEVEL OF NT-pro BNP-A AND ITS PROGNOSTIC SIGNIFICANCE IN PATIENTS WITH ACUTE CORONARY SYNDROME

Author(s): IVANA MAKSIMOVIĆ
Supervisor(s): Ass. Dr. Vladimir Zdravković
Country: Serbia

Introduction: B type natriuretic peptide (BNP) and N-terminal remainder of their prohormone (NT-proBNP) are synthesized and released into the myocardium in response to increased intracardiac pressure. However, the increased value of these peptides is associated with ischemia of myocardial tissue and in terms of lack of myocyte necrosis, which recommended them for possible early markers of acute coronary syndrome (ACS). In recent years it has been spoken about the NT-proBNP and BNP as powerful predictors of mortality in acute coronary syndrome, so that their increased values are associated with worse prognosis of these patients.

Aim: Determine whether there is a statistically significant difference in the values of NT-proBNP and patients with acute coronary syndrome compared to the healthy population. Examine significant differences in the values of NT-proBNP between survivors and deceased with a diagnosis of acute coronary syndrome, as well as the importance of NT-proBNP as a predictor of mortality.

Material and Methods: The study included 107 patients with acute coronary syndrome treated in coronary care unit (KU) KC Kragujevac, in the period from April to December 2009, whose results were compared with a control group of 50 subjects. The value of NT-proBNP in the blood of patients was analyzed after admission to the KU. Data were obtained by examining the protocols and history of illness of patients and their health was defined after a month by telephone contact with the patient or his family. In statistical data processing were used Student's T test and Mann-Whitney U test.

Results: It’s been registered a statistically significant difference in the values of NT-proBNP between patients with acute coronary syndrome compared to the control group (p <0.0005). The difference in values of NT-proBNP between survivors and deceased patients was statistically significant (p <0.0005). Also, the level of NT-proBNP may be a marker for short-term survival in acute coronary syndrome (AUROC = 0.864, p <0.0005).

Conclusion: The values of NT-proBNP are increased in patients with acute coronary syndrome, especially in those with lethal outcome. Also, our research suggests that the value of NT-proBNP in acute coronary syndrome may indicate patients with worse prognosis.
INFLUENCE OF SELECTED LABORATORY AND ECHOCARDIOGRAPHIC PARAMETERS ON THE EFFECTIVENESS OF CARDIOVERSION OF ATRIAL FIBRILLATION

Author(s): TOMASZ OLESZAK, Sabela Jaroslaw
Supervisor(s): Rafal Dankowski MD, PhD
Country: Poland

Introduction:
Electrical or pharmacological cardioversion are effective treatment options for paroxysmal or persistent atrial fibrillation (AF), but in some patients (pts) fail to restore the sinus rhythm (SR).

Aim:
The aim of this study was to assess laboratory and echocardiographic parameters which could predict the result of cardioversion of AF.

Materials and Methods:
It was the retrospective study of 180 pts (96 men) hospitalized due to AF from 2007 to 2009. 76 (42,2%) pts had paroxysmal AF; 73 (40,5%) persistent AF; 28 (15,6%) chronic AF. In 3 (1,7%) pts recurrent AF recognized.

Results:
SR was restored in 70 (92,1%) pts with paroxysmal AF; 5 by electrical cardioversion (EC); 38 by the use of antiarrhythmic drugs (amiodarone–17; propafenon-8; amiodarone+propafenon-13) and in 16 pts the treatment with antiarrhythmic drugs was followed by EC. Conversion to SR failed in 6 (7,9%) cases, 1 by EC; 5 by antiarrhythmic drugs use. In patients in which conversion to SR was failed there were significantly bigger (p=0,006) left atrial dimensions (>40mm) and lower TSH concentration (p=0,043) compared with the group of pts treated successfully. In patients with persistent AF conversion to SR was successful in 55 (68,5%) cases, 10 by EC; 15 by antiarrhythmic drugs use (amiodarone–9; propafenon–2; digoxin1; amiodarone+propafenon–1; amiodarone+digoxin-2); 25 with both synchronized cardioversion and antiarrhythmic drugs. Conversion to SR was failed in 18 (31,5%) cases, 1 by EC; 10 by antiarrhythmic drugs use, 3 with both EC and antiarrhythmic drugs. In patients in which the conversion to SR was failed there were statistically significant bigger (p=0,049) left atrial dimensions (>40mm) compared with the group of pts treated successfully.

Conclusions:
Electrical cardioversion and antiarrhythmic drugs use are equally effective ways of treating both paroxysmal AF and persistent AF. Enlargement of left atrium and lower concentration of TSH are the predictor of unsuccessful treatment.
BLEEDING AS A COMPLICATION OF PERCUTANEOUS CORONARY INTERVENTION IN A CUTE MYOCARDIAL INFARCTION-FREQUENCES, CLASIFICATION AND OUTCOME

Author(s): NATAŠA ZLATIĆ, Goran Milošević
Supervisor(s): Nebojša Radovanović MD
Country: Serbia

Introduction:

Percutaneous coronary intervention (PCI) is a procedure in which catheters are introduced into the arterial circulation, advanced into the heart to reach a narrowed coronary artery, and by expanding angioplasty balloons, and placing stents it enlarges the narrowed segment of coronary artery. In the following 1-3 months after procedure, patients are required to continue antiplatelet therapy (clopidogrel bisulfate) and continue to use acetylsalicylic acid (100 mg per day) for the rest of the life.

Aim:

The aim of this paper is to estimate frequency and consequences of bleeding, as one of the possible complications of PCI in patients with myocardial infarction and to determine influence of risk factors.

Materials and methods:

The retrospective study was performed for the period from Jan 1st 2008. - June 2nd 2008. The sample consisted of 287 patients with myocardial infarction subdued to PCI in Cardiac Care Unit (CCU). Data were collected from CCU database, and analyzed using descriptive and analytical statistical methods.

Results:

Of total patients number, 5,6 % have developed bleeding after performing PCI. Diabetes was diagnosed in 13,2 %, and hypertension in 62%. Melena was the most frequent type of bleeding (37,5 %), followed by hematomas (25 %). Of all patients that had developed bleeding, 50 % have died.

Conclusion:

After PCI, bleeding is seen in small number of patients, but if it occurs, it has significant influence on patient outcome. This study has shown that only diabetes has significant influence on bleeding occurrence.
Key words: PCI, bleeding, myocardial infarction
TEMPORARY TRANSVENOUS ELECTROSTIMULATION OF HEART - 
CLINICAL RESULTS

Author(s): GORAN MILOŠEVIĆ, Nataša Zlatić
Supervisor(s): Nebojša Radovanović MD
Country: Serbia

Introduction: Temporary transvenous electrostimulation of heart is used to treat transitory disorders of rhythm, followed by symptomatic bradycardia.

Aim: Aim of this paper is to determine frequency of indications, rate of complications and their effect on outcome, and to estimate effectiveness of temporary pacemakers in Cardiac Care Unit.

Materials and methods: The retrospective study was performed, including 377 patients, treated with temporary pacemakers. The sample consisted of 201 male (53,3 %) and 176 female (43,7 %), average age of 67 ± 12. Following characteristics were assessed: underlying condition, type of rhythm disorder, complications, non-invasive clinical parameters, need for permanent pacemaker implantation as well as intrahospital mortality.

Results: Most frequent indication was complete AV block (75 %), and most frequent underlying condition was cardiomyopathy and degenerative conduction disorders (42,9 %). Syncope was the most usually associated symptom with bradycardia. The most frequent complications were pericardial friction rub and ventricular tachycardia (19 % each). Rate of complication was significantly higher if temporary pacemaker was not removed after 10 days. Presence of complication has no influence on mortality. Patients, treated with temporary pacemakers, have significantly improved their hemodynamic status.

Conclusion: Use of temporary transvenous electrostimulation of heart, in specific indications, is preferred method for treating patients with transient disorders of rhythm. Low frequency of life-threatening complications, and low mortality directly connected with procedure, confirm validity of this method.

Keywords: Temporary transvenous electrostimulation of heart, disorders of rhythm, pacemakers, symptomatic bradycardia
THE INFLUENCE OF INTERVAL AND CONTINUOUS TRAINING MODES ON THE MAXIMUM O2 CONSUMPTION AND EJECTION FRACTION AFTER OPEN HEART SURGERY

Author(s): MEHRNAZ ZANGENEH KAMALI, Sara Bahadoram, Mohammad Noorizadeh

Supervisor(s): Mehrnaz Zangeneh Kamali

Country: Iran

Introduction and aim:
Aerobic Preparation (maximum oxygen consumption) and the ejection fraction are factors represent myocardial heart power. regular aerobic activity can improve both of them, but it is not still clear that how much intense it should be or what kind of exercises would be maximally effective. the aim of our study is investigation on the effects of interval and continuous training methods on maximum oxygen consumption and ejection fraction and comparison of these methods in patients with a history of open heart surgery.

Materials and methods:
We enrolled 21 patients divided in three groups. the first group practice interval training, the second practice continuous training mode and the third group was selected as the control group. Patients in the first Group did interval mode which were as intensive as 50 to 70 percent of maximum heart rate, while the second group of patients practice continuous mode in four periods that each of which last four minutes that were as intensive as 85 to 95 percent of maximum heart rate three periods that each of which last 3 minutes that were as intensive as 50 to 70 percent of maximum heart rate.

Results:
Study results showed significant increases in maximum oxygen consumption after 8 weeks interval (p=0.002) and continuous (p=0.036) aerobic training, and interval training showed more significant increases, but the ejection fraction didn't improve significantly.

Conclusion:
The results confirm the positive effect of physical exercise, especially interval aerobic training mode on maximum aerobic capacity after open heart surgery.
EVALUATION OF PERCUTANEOUS CORONARY INTERVENTION WITH STENTING ON IMPROVEMENT OF LEFT VENTRICULAR FUNCTION IN PATIENTS WITH SINGLE VESSEL CORONARY ARTERY DISEASE

Author(s): Mehrnaz Zangeneh Kamali, Sara Bahadoram, Mohammad Noorizadeh
Supervisor(s): Mehrnaz Zangeneh Kamali
Country: Iran

Introduction and aim:
LV function may improve after revascularization of coronary occlusions; however, the magnitude of improvement in this setting is not well characterized. The purpose of the current study was to evaluate the effect of coronary stenting on systolic and diastolic LV function.

Materials and methods:
We studied 120 patients with coronary artery disease, ages 36-74 years (mean 54.6 years) referred for PCI with stenting to Imam Khomeini Hospital, Ahwaz. Echocardiography was performed in all patients before and within 48 hours after PCI with stenting.

Results:
LV ejection fraction increased, from 49.43% ± 0.54 to 54.52% ± 0.56 (p < 0.001), LV fractional shortening increased, from 25.96% ± 0.32 to 29.8% ± 0.47 (p < 0.001), LV Wall Motion Scoring Index decreased, from 1.06 to 1.01 (p < 0.001). E velocity increased, from 0.79 ± 0.1 to 0.81 Cm/sec (p < 0.001), A velocity decreased, from 0.68 ± 0.1 to 0.65 ± 0.1 (p < 0.001), E/A ratio increased, from 1.18 ± 0.02 to 1.27 ± 0.01 (p < 0.001). Deceleration time decreased, from 220.77 ± 2.52 to 212.02 ± 1.63 msec (p < 0.001), Isovolumic Relaxation Time decreased, from 80.72 ± 0.8 to 78.2 ± 0.55 (p < 0.001).

Conclusion:
We observed significant improvements in systolic and diastolic LV function after P.C.I. with stenting.

Keywords:
Coronary stenting, Left ventricular function, Coronary artery disease, balloon angioplasty
MYOCARDIAL RESPONSE STRETCH – THE UNEXPLORED DIASTOLIC SIDE OF THE FRANK-STARLING MECHANISM AND ANREP EFFECT AND ITS MODULATION BY ISCHEMIA AND ISCHEMIC PRECONDITIONING

Author(s): RICARDO CASTRO FERREIRA, Ricardo Ladeiras-Lopes, João Ferreira-Martins, Ricardo Castro Ferreira, Ricardo Ladeiras Lopes, João Ferreira-Martins, Adelino Leite-Moreira

Supervisor(s): Ricardo Castro Ferreira, Ricardo Ladeiras-Lopes, João Ferreira Martins, Adelino Leite-Moreira

Country: Portugal

Aim: In this way, our objective was to evaluate diastolic function response to acute mechanical overload in the normal cardiac muscle, in the setting of myocardial ischemia and after ischemic preconditioning.

Material and methods: Rabbit papillary muscles (modified Krebs solution, 0.2Hz, 1.8mM Ca2+, 30°C) were acutely stretched from 92% Lmax to 100% Lmax (length at which maximal force is developed) under non-ischemic conditions (control: normoxia and presence of glucose; n=9), during an ischemia/reperfusion insult (IR: stretch during 15 minutes of ischemia followed by reperfusion; n=7) and after an ischemic preconditioning event (IP: stretch in muscles previously subjected to 2 cycles of 5 minutes ischemia followed by 10 minutes of reperfusion; n=8). Immediate and delayed responses to muscle stretch were evaluated. Results presented as mean ± standard error (p<0.05).

Results: Under non-ischemic conditions, myocardial stretch elicited immediate (35.6±5.3%) and delayed increases in contractility (40.7±13.8%). Moreover, despite the immediate increase in myocardial passive tension (PT) induced by acute stretch (from 1.7±0.4 to 18.2±2.2 mN mm-2), afterwards this parameter showed a significant and time-dependent decrease down to 8.2±1.1 mN mm-2 (55%) at 60 minutes. On the contrary, in ischemic muscles (IR) this decrease in myocardial stiffness was blunted throughout the ischemic period. Upon reperfusion, both contractility and myocardial stiffness progressively returned to baseline levels. In the IP group, acute mechanical overload elicited a significant attenuation in the immediate increase in PT (13.1±2.7 in IP vs 18.2±2.2 mN mm-2 in control) and a preserved adaptation of systolic function.

Conclusions: Besides the well known increase in contractility, this study highlights a new and undescribed adaptive response to myocardial stretch - a significant and time-dependent decrease in myocardial stiffness. Moreover, its inhibition under ischemic conditions, as well as its enhancement upon myocardial reperfusion and IP, highlights the possibility of an active, energy dependent process responsible for the time dependent increase in myocardial distensibility that follows stretch.
FACTORS THAT INFLUENCE LONG-TERM PROGNOSIS OF PATIENTS WITH ACUTE PULMONARY EMBOLISM

Author(s): IZABELA KILUK
Supervisor(s): Anna Kozieradzka
Country: Poland

Introduction:
Despite advances in treatment, mortality in acute pulmonary embolism (APE) remains very high.

Aim:
The aim of the study was to evaluate factors that influence 1-year mortality in patients with APE hospitalized at our department.

Materials and methods:
We analyzed retrospectively data of patients hospitalized at our department due to APE in years 2007-2009. Following variables potentially associated with prognosis were taken into account: diabetes, obesity, hypertension, anaemia, atrial fibrillation, recent myocardial infarction, neoplasm, stroke, hospitalization complicated by pneumonia or shock and echocardiographic parameters of right ventricle overload or pulmonary hypertension. Results. The study comprised 119 patients (mean age 62.6±16.7 years, 50.4% of women, n=60). Fibrinolysis was given to 18.5% of patients (n=22). In-hospital mortality reached 11% (n=13), 6 of these deaths occurred in the first day and further 6 deaths in days 2-7. Overall 1-year mortality was high: 21% (n=25). In a univariate analysis the variables associated with death were: age, systolic blood pressure (SBP), diastolic blood pressure (DBP), shock, diabetes, neoplasm, stroke, recent myocardial infarction, right ventricle diameter, RV/LV ratio, pulmonary artery systolic pressure. In a multivariate analysis a significant independent correlation with mortality was shown for: age (RR=1.08 95%CI 1.02-1.15), DBP (RR=0.92 CI 0.87-0.98), stroke (RR=23.41 CI 2.61-209.69) and RV diameter (RR=1.13 CI 1.02-1.26).

Conclusions:
APE is condition associated with high mortality, especially during first day and week from symptoms onset. Hemodynamic status was related to in-hospital death while the 1-year prognosis was associated particularly with age and comorbidities.
AORT VALVE STENOSIS

Author(s): BETUL MACIT  
Supervisor(s): Lale Koldaş  
Country: Turkey

Aort stenosis is the abnormal narrowing of aortic valve. In its later stage it can impede the flow of blood so can cause deoxygenation of body tissues. There are three main reasons that cause aort stenosis. It can be congenital. It can happen after rheumatic fever because of fibrous tissue on the valve and also it can happen because of wear and tear. It can cause hypertrophy of left ventricle and left atrium. In the latest stage of disease it can also cause pulmonary hypertension. Major symptoms of aort stenosis are angina pectoris and syncope. The reason of chest pain is thickening of heart muscle must pump against high pressure to push blood through the narrowed aortic valve. This increases heart muscle oxygen demand in excess of the supply delivered in the blood. The reason of syncope is decrease blood flow to brain. In diagnosis of disease you can hear murmurs (it is correlate with severity of stenosis) and lower intensity of carotid pulse. For diagnosing aortic valve stenosis we can use EKG, Echocardiography, Chest X-Ray, Cardiac Catheterization. For treatment of aort stenosis the first thing you have to do is warn your patient about avoid from weight lifting. Medical treatment is special for symptoms. For protection from bacterial invasion you can use antimicrobial drugs. For reduce high lung pressure you can use diuretics. Finally the last method is valve transplantation.
There are a variety of risk factors that contribute to CVD morbidity and mortality. Through extensive research, many of these risk factors for CVD have been identified and are well documented and understood. Each of these risk factors can be categorized as preventable (those over which the individual has control) or non-preventable (those over which the individual has no control). Fortunately, research has identified almost all of the risk factors for CVD and has shown that most are modifiable through simple lifestyle choices. While extensive efforts have been made in recent decades to improve these risk factors, many of these efforts have not been successful. This lack of successful behavior change can be attributed in part to societal barriers discouraging healthy behavior. In my presentation, I will focus on the preventable risk factors for CVD, including overweight and obesity, unhealthy eating, physical inactivity, high blood pressure, high blood cholesterol, diabetes, and cigarette smoking. When risk factors are combined, risk for CVD can increase. The more risk factors you have, the greater your chance of developing coronary heart disease. Also, the greater the level of each risk factor, the greater the risk.
IMPLANTABLE CARDIOVERTER DEFIBRILLATORS IN PRIMARY PREVENTION OF SUDDEN CARDIAC DEATH IN PATIENTS WITH HEART FAILURE – FIVE YEARS FOLLOW UP

Author(s): NIKOLA RADOVANOVIĆ, Tijana ilić
Supervisor(s): doc. dr Siniša Pavlović
Country: Serbia

Introduction:
Technology development in the last twenty years turned the attention in prevention and therapy of life threatening heart dysrrhythmias towards implantable cardioverter defibrillators (ICD). Clinical studies document the advantages of this therapeutic modality, and lead to increase in implantation of these devices to the point that it becomes a routine procedure. All aspects of practical use of current ICD are quite comparable to standard bradycardia devices. Nowadays, indications for ICD implantation are defined, well established and generally approved in secondary, as well as in primary prevention.

Aim:
The aim of this study was to evaluate our results in use of ICD in primary prevention of sudden cardiac death in patients with heart failure.

Material and methods:
Authors present a results of a retrospective study on 272 patients with ICD. Patents were followed up during five years and results of their regular check up are analysed. Special attention is paid on frequency of therapeutic intervention by cardioversion.

Results:
This study proves that use of ICD is a treatment of chosie in prevention of sudden cardiac death in patients with heart failure. The frequency of defibrilation in our patients wasn’t high, and this fact proves that use of adequatly programmed devices in this patients is justifed.

Conclusion:
Significant positive result of ICD therapy lead to its increased application and further technologic development will allow its use in special indications.

Key words:
implantable cardioverter defibrillator; prevention of sudden cardiac death; heart failure
THROMBOLYSIS IN DIABETICS WITH ACUTE MYOCARDIAL INFARCTION AND PREVIOUS CORONARY ARTERY BYPASS SURGERY

Author(s): JELENA RISTIĆ, Milorad Rovčanin
Supervisor(s): dr Predrag Mitrović
Country: Serbia

Introduction:
Despite the importance of thrombolytic therapy (TT) in acute myocardial infarction (AMI), it is substantially underutilized in patients with prior coronary artery bypass surgery (CABS).

Aim:
To show the influence of TT - streptokinase in patients with diabetes mellitus (DM) who had AIM after previous CABS.

Material and methods:
From April 1988 to January 2010, 726 patients were studied who developed AMI after CABS. There were 192 pts (26.6%) with DM. All patients were divided in two groups: group I - 103/192 (53.6%) patients with DM and AMI, allocated to TT and group II - 88/191 (41.6%) conventionally treated patients with DM and AMI who weren’t given TT.

Results:
Angina pectoris which preceded AIM occurred more often in the first group than in the control (79.6% vs 44.3%, p=0.00008). Hypertension (p=0.00006), hyperlipidemia (p=0.00008) and family history for CAD (p=0.00009) were more frequent in Group 1. Although intrahospital mortality of diabetics treated with streptokinase wasn’t statistically significantly lower than the mortality of diabetics without this treatment, the 5-year survey of these patients showed a statistically significant difference in survival of patients treated with streptokinase (p=0.0028).

Conclusion:
Diabetics have a greater risk for coronary disease. Removing other risk factors for coronary disease and proper usage of ordinated drug therapy can somewhat slow down the progression of coronary disease. When AIM occurs, thrombolytic therapy is of great importance for better prognosis.

Key words: acute myocardial infarction, diabetes mellitus, thrombolytic, revascularization.
THE IMPORTANCY OF DEFIBRILLATION THRESHOLD TESTING AMONG PATIENTS WHO HAVE ICD IMPLANTED AS PRIMARY PREVENTION

Author(s): TANJA RADENKOV  
Supervisor(s): prof dr Goran Milasinovic  
Country: Serbia

Introduction:  
Implantable cardioverter defibrillator (ICD) are implanted to prevent the sudden cardiac death (SCD). Defibrillation threshold (DFT) is tested to confirm that ICD will detect ventricular fibrillation (VF), also the efficency of the therapy.

Aim:  
The purpose of this study is to investigate the importancy of DFT testing among patients who have ICD implanted as primary prevention of SCD.

Material and methods:  
The analysis included 95 patients who had ICD device implanted. Parameters are: type of cardiomyopathy, aim (primary or secondary prevention), therapy, DFT testing and therapy shocks.

Results:  
Statistical analysis ($\chi^2$ test) have shown that there is high difference in DFT testing among patients who has had ICD implanted as primary prevention and those who has had ICD implanted as secondary prevention. Also, statistical analysis have shown that there is no difference in activating ICD between patients who has had DFT tested and those who did not.

Conclusion:  
Defibrillation threshold testing is not necessary when ICD is implanted as primary prevention.

Key words:  
sudden cardiac death, cardioverter defibrillator, primary prevention, defibrillator threshold.
PROGNOSIS OF DIABETICS PATIENTS WITH ACUTE MYOCARDIAL INFARCTION AFTER CORONARY ARTERY BYPASS GRAFTING

Author(s): OPAČIĆ DRAGAN, Lukić Tatjana, Petrović Dušan, Zekovic A., Bojović O., Savić T, Tošić M., Denc H., Jovanović I., Juričić S., Santrač N., Garabinović Ž.

Supervisor(s): Doc. dr Pregrag Mitrović

Country: Serbia

Introduction: The long-term fate of bypass vein grafts is principally determined by graft atherosclerosis. Atherosclerosis frequently develops in native vessel and in vein grafts after coronary artery bypass graft surgery (CABG). This process appears related to age, gender or coronary risk factors.

Aim: To compare the in-hospital and long-term clinical outcomes of acute myocardial infarction (AMI) patients with and without diabetes.

Materials and methods: To analyze clinical characteristics and prognosis of AMI in diabetics versus non-diabetics with previous CABG, there were retrospective analyzed 210 patients hospitalized 96.4+16.4 months with AMI after CABG. There were 55 patients (26.2%) with diabetes mellitus and 155 patients, without diabetes.

Results: Angina was registered more often in diabetics patients (79.2% vs. 44.2%, p=0.0005). Non-diabetic patients had more often highest all infarct size values. Patients with diabetes mellitus had more often anterior localization of AMI (p=0.001) and inferior (p=NS). Patients in control group had more often lateral localization of AMI (p=0.0001). As one of in-hospital complication death was more often in diabetics (p=NS). Heart failure was more often registered in control group (p=NS). Multivessel disease, especially two-vessel disease (77.8% vs. 39.8%, p=0.0001) was more often registered in diabetics patients. One-year survival rate was better in non-diabetic patients (p=0.0403).

Conclusion: Patients with diabetes mellitus have higher risk for new progression of coronary artery disease and AMI after CABG. They have multivessel disease, with highest infarct size parameters and worse one-year prognosis.

Key words: acute myocardial infarction, diabetes mellitus, revascularization, prognosis
AN UNUSUAL CASE OF HEART FAILURE IN A YOUNG WOMAN WITH HYPEREOSINOPHILIA ECHOCARDIOGRAPHIC DIAGNOSIS

Author(s): TABAN CORINA, Dicu Andra,Canulescu Delia, Basturescu Simona, Merticariu Mircea, Andronic Bogdan, Aur Stefania
Supervisor(s): Dr Spataru D. MD, PhD, Dr Iliesiu A. MD, PhD
Country: Serbia

We report the rare case of a female patient with restrictive cardiomyopathy with an associated important obstructive component.

Introduction: During her otherwise normal pregnancy, A.I. developed extremely high levels of eosinophils. Shortly after delivery she was admitted for further investigations. The physical exam revealed tachycardia, hypertension and increased respiratory rate. The laboratory tests confirmed the hypereosinophilia but showed normal levels of WBC. No signs of acute inflammation were detected.

Aim: Our aim was to identify a method with high sensitivity and specificity parameters in order to put the right diagnosis as early on as possible.

Material and methods: A cardiac ultrasound was performed in order to establish a diagnosis and in our poster we shall present several revealing images for this spectacular condition. A large obstructive mass was observed in the left dilated ventricle, which also lead to the infiltration of approximately two thirds of the ventricular wall. The images are therefore suggestive for a restrictive cardiomyopathy with secondary obstructive elements. In addition we are going to present the evolution under treatment with anticoagulants and corticosteroids.

Results: Ecocardiography measurements showed an aortic valve of 31 mm, left atrium of 40 mm, interventricular septum of 6 mm, a 56 mm left ventricle, a 26 mm right ventricle, a posterior wall of 7 mm. The systolic function is well preserved (ejection fraction 65%). A solid mass was identified in the apical region of the left ventricle with echo-dense structure with dimensions of 30/20 mm, that infiltrates the IV septum. In addition a similar mass thickening the lateral wall of the ventricle is described as a mirror image. Second degree mitral regurgitation is observed due to the infiltration of the valvular apparatus.

Conclusion: Hypereosinophilia has multiple etiologies (including some parasite infections, e.g. toxocara) and can lead to the infiltration of several organs, one of the most important being the cardiac muscle. Thus, an echocardiography should be considered a mandatory examination when high levels of eosinophils are found and should be included amongst the routine tests performed in such cases.
MYOCARDIAL BLUSH GRADE AS AN ANGIOGRAPHIC PREDICTOR OF CLINICAL OUTCOME AFTER PRIMARY PCI IN PATIENTS WITH ST ELEVATION ACUTE MYOCARDIAL INFARCTION (STEMI)

Author(s): MARIJA RAJKOVIĆ  
Supervisor(s): Srdjan Aleksandric, Sinisa Stojkovic  
Country: Serbia

Nowadays, reperfusion therapy for acute myocardial infarction is considered to be angiographically successful when Thrombolysis In Myocardial Infarction (TIMI) 3 flow is achieved in the infarct-related coronary artery. Even when TIMI 3 is achieved, some patients have less optimal reperfusion at the myocardial tissue level. Myocardial blush grade (MBG) is a simple coronary angiographic technique which is used to assess perfusion in the myocardial tissue. The aim of our study was to show that patients with TIMI 3 and MBG 2 or 3 have better clinical outcome than patients with TIMI 3 but MBG 0 or 1. The study included 66 patients (mean age 58±11) with STEMI in which primary angioplasty was performed and had TIMI 3. We prospectively studied the value of MBG in those patients. Primary end points were mortality and the combined incidence of death, nonfatal recurrent myocardial infarction, and new revascularization (Major Adverse Cardiac Events, MACE) at follow-up of at least 6 months. Of the 66 patients, 18.18% had MBG 0 or 1, and 81.82% had MBG 2 or 3. Mortality was higher in patients with MBG 0 or 1 (8.3%) compared with patients with MBG 2 or 3 (1.9%). The combined incidence of MACE was higher in patients with MBG 0 or 1 (25.0%) compared with patients with MBG 2 or 3 (7.4%). MBG is excellent angiographic predictor of clinical outcome after primary PCI in patients with STEMI and successful reperfusion should include either TIMI 3 flow as well as MBG 2 or 3.
THE INFLUENCE OF VARIOUS HYPOTENSIVE DRUGS ON ENDOTHELIAL DYSFUNCTION IN PASSIVE SMOKING FEMALE SUFFERING FROM ARTERIAL HYPERTENSION

Author(s): A.U. KULINKOVICH
Supervisor(s): MD, PhD N. A. Bylova, MD, PhD, Prof. G. P. Arutyunov
Country: Russia

The purpose of the study was to compare the influence of different groups of hypotensive drugs on blood pressure (BP), markers of endothelial dysfunction, C-reactive protein (CRP) in passive smoking female of reproductive age suffering from arterial hypertension.

Materials and methods:
Study included 180 women, at the age more than 18 years with the level of blood pressure more than 140/80 mmHg and not higher than 180/105 mmHg, stable status within at least 4 weeks, lack of regular antihypertensive therapy, passive smoking, elevated levels of markers of endothelial dysfunction. All patients included in the study were randomized into 4 groups: nebivolol, tarka (verapamil hydrochloride and trandolapril), physiotens (moxonidine), placebo. During the study we performed: a general examination, measurement of blood pressure, heart rate, pulse wave velocity, augmentation index, the definition of levels of CRP, mg/l, vascular cell adhesion molecule-1 (VCAM-1), ng/ml, inter-cellular adhesion molecule-1 (ICAM-1), mg/ml, tissue plasminogen activator (TPA), ng/ml, plasminogen activator inhibitor-1 (PAI-1), nM/liter.

Results:
Nebivolol had a greater influence on heart rate: the background of nebivolol to 5 weeks of the study the heart rate was 60 beats per minute, which was statistically significantly lower than in other groups (p <0,05). Tarka had a great affect on the numbers of BP and on the levels of adhesion molecules.

Conclusions:
Using nebivolol by passive smoking women must be accompanied by a decrease in the number of stroke. The use of tarka, probably will be more effective in the group of passive smoking women with altered endothelial function.
PLENARY Session

II

PEDIATRICS, PULMOLOGY, DERMATOVENEROLOGY AND REHABILITATION
EFFECT OF 25-HYDROXYVITAMIN D ON UPPER RESPIRATORY TRACT INFECTION IN CHILDREN IN DAY CARE CENTER

Author(s): Shakiba Mehrdad, BEHNAKGAR ZAHRA
Supervisor(s): Shakiba Mehrdad
Country: Iran

Introduction:
Over the past decade, interest has grown on the role of vitamin D in many nonskeletal medical conditions, including respiratory infection. Vitamin D has been shown to be an important immune system regulator. Vitamin D insufficiency during winter may cause increased susceptibility to upper respiratory tract infections (URIs).

Aim:
To investigate a possible association between vitamin D level and respiratory infection by comparing serum 25 hydroxyvitamin D [25(OH) D] levels in young children.

Material and Methods:
Study design: clinical trial (Randomized Controlled). We studied 49 children between the age of 5 months and 5 years from November 2009 to March 2010. They were randomized to receive 50 microg vitamin D3 (2000 IU) daily, versus placebo every week in first month and then for every month matching placebo. 25(OH) D levels were measured for two times: before and after the administration of vitamin D. A monthly questionnaire was used to record the incidence and severity of URI symptoms.

Results:
Those are not ready yet.

Conclusion:
We expect that vitamin D will lower the incidence and severity of (URIs) in young children.
ORAL ANTICOAGULANT THERAPY IN CHILDREN WITH CONGENITAL HEART DISEASE

Author(s): BENCE HEGYI
Supervisor(s): Gábor Mogyorósy M.D., Ph.D. Associate Professor
Country: Hungary

Survival rates of children with congenital heart disease significantly increased in the last decades as a result of improved diagnostic, surgical and interventional techniques. A number of children underwent complex corrective cardiac surgery or heart valves implantation have to be anticoagulated through their whole life, which is generally managed with oral vitamin K antagonists. Many aspects of hemostasis are age dependent and drug metabolism is also altered in children. Therefore the aim of this study was to examine the applicability of the adult protocol in the children. We compared retrospectively the INR values during acenocoumarol and warfarin management between 1996 and 2009. The INR was measured in 12 children, who are cared by the Pediatric Clinic at University of Debrecen. We determined that the deviation of the INR values from the therapeutic range significantly decreased with warfarin therapy compared to acenocoumarol (0.28±0.02 vs. 0.35±0.03, p<0.05). Bleeding complication manifested in 2 patients, the incidence was 0.8/year and the INR-average was 4.74±0.55. Osteoporosis was identified in 2 children treated with acenocoumarol. We observed, that the INR values measured during an infection were often (70.27%) deviate from the therapeutic range (by 0.71±0.19 in average, p<0.001). Among the effect modifying factors of the coumarins: protein C deficiency, FV Leiden mutation and protein loosing enteropathy occurred in 1 case each. Our examination suggests that warfarin is more appropriate for the children’s permanent oral anticoagulation after the corrective heart surgery, because it decreases the INR dispersion, so it could provide a balanced effect.
PREVALENCE OF RESPIRATORY SYMPTOMS AMONG THE EMPLOYEES AND RESIDENTS LIVING IN THE VICINITY OF A MAJOR FERTILIZER FACTORY IN MULTAN/RARE CLINICAL FEATURE OF EPILEPSY, REPORT OF TWO CASES

Author(s): MUHAMMAD NADEEM  
Supervisor(s): Prof. Awaise  
Country: Pakistan

Introduction: Approximately 10% of all adult onset asthma cases are related to the occupation. It is estimated that 5% of subjects exposed to high molecular weight agents and up to 10% of subjects exposed to low molecular weight agents develop occupation related asthma. In addition, repeated exposure was found to be associated with the development of persistent asthma. A fertilizer factory is a major chemical unit known to emit various gases which have the potential to cause occupational asthma and the preventive measures are not so optimum in most of the units in Pakistan, it was expected that exposed workforce of a fertilizer factory could have a higher asthma prevalence.

Aim: To find out whether or not there is a higher prevalence of respiratory symptoms in the working and/or nearby residential population exposed to various gases and chemicals of the fertilizer factory which is located at the northern edge of Multan city.

Study design: This is a cross sectional questionnaire based survey carried out in the employees and residents of the fertilizer factory located at the northern edge of Multan city. Questionnaire contained various asthma symptoms and was derived from ISAAC study questionnaire.

Results: Questionnaire on respiratory symptoms was circulated among 550 persons working and/or living in the factory. 489 (88.9%) people returned the questionnaire while 61 (11.09%) people did not report back. Sixty six percent were males and 44 % were females. Mean age of the population under study was 38.02+12.33 years of age. Mean duration of job/residence in the fertilizer company was 17.25+10.97 years. The most prevalent symptom was allergic rhinitis/sneezing, present in 54.80% (268/489) of the population. History of breathlessness was the second most frequent symptom experienced by 51.73% (253/489). Around 38.24% (187/489) cases were already known to have allergy/asthma, 37.01% (181/489) cases had a doctor’s advice or prescription for allergy/asthma. 33.53% (164/489) cases reported to experience frequent dry cough. Wheezing was present in 17.79% (87/489) and nocturnal shortness of breath/cough was reported by 16.35% (80/489) of the study population. All these symptoms had significantly higher prevalence among those workers who lived within the residential compound of the factory as compared to those living outside the factory. The most prevalent symptom experienced was shortness of breath which was experienced by 162/261 (62.06%) persons living in the vicinity of the factory whereas it was reported by only 91/228 (39.91%) of those living outside the factory.

Conclusion: This study has provided evidence of significantly higher prevalence of asthma/rhinitis related symptoms among workers as well as non workers living in the residential compound of the fertilizer factory. The data indicates that urgent measures should be taken to identify the causative agents, reduce the exposure and to relocate people who have developed asthma. Stringent health safety measures should be adopted at the work site and appropriate measures taken to control the emission and environmental pollutants emitted by the fertilizer plants.
Introduction

Epilepsy is continuing tendency to have seizures even if a long interval separates attacks. Epilepsy is common over 2% of the population have two or more seizures during their lives and in 0.5% epilepsy is an active problem and hence common one in general practices. In UK approximately 65 people suffer their first seizures each day. Often no clear cause is found for seizures(1). Epilepsy means a tendency to have seizures and is a symptoms of brain disease rather than a disease itself. there is a group of disorders whose only or main symptom is epilepsy, whilst in other disorders epilepsy is just one of the manifestations. The annual incidence of new cases of epilepsy after infancy is 20-70/100000. The life time risk of having a single seizures is about5%, whilst the prevalence of epilepsy in European countries is about 0.5%, prevalence in developing countries is up to five times higher than in developed countries; incidence is double(2).

In this case series report of two epilepsy patients, I report unusual abnormal behaviour in the patients.

Case presentation

Two patients 23 year and 27 year old with epilepsy were observed for three years, presented with false (pretended) aggressive behaviour. When ever they want to flippant with other people, they fight and beat them. The intensity of fighting is low than original intensity, so in daily life activities, epilepsy patient present with false aggressive behaviour. It is their way to flippant with others. The patients suffering from epilepsy have manifested a false aggressive behavior. This has been observed that such patients during showing aggressive behavior, do not want to give physical damage.

Conclusion

Although epilepsy causes abnormal behaviours, but abnormal false aggressive behaviour is also caused by epilepsy
PET EXPOSURE AND THE SYMPTOMS OF ASTHMA, ALLERGIC RHINITIS AND ECZEMA IN 6-7 YEARS OLD CHILDREN

Author(s): Mehran Karimi1, Mohsen Mirzaei, Behnam Baghiani moghadam, Ehsan Fotouhi, ATEFEH ZARE MEHRJARDI  
Supervisor(s): Mehran Karimi  
Country: Iran

Introduction: Allergic diseases are frequent in children and their prevalence and severity differ in the different regions of the world. The association between pet ownership in childhood and subsequent asthma and sensitization is very controversial.

Material and methods: In our survey conducted with standardized method (International Study of Asthma and Allergies in Childhood), 3200 children 6-7 years old were questioned regarding asthma, allergic rhinitis and eczema.

Results: The prevalence of Attacks and shortness of breath with wheezing during last 12 months in the children who had exposure to pets in the first year of life was 34.3% 'that was less than children who had not exposure (OR=3.06, 95% confidence interval [CI] 1.14-8.21, P=0.021). Also the prevalence of past 12 months night dry coughs, allergic rhinitis symptoms and eczema symptoms in those who had pet exposure in the first year of their life was lower than the children did not have it. However there was no significant difference in some other symptoms of asthma in two groups.

Conclusion: Our findings suggest that pet exposure in the first year of life can have a protective effect on asthma, allergic rhinitis and eczema,

Key words: Pet exposure; Allergic Rhinitis; Asthma; Eczema
CORRELATION BETWEEN QUALITY OF LIFE SCORES FROM ST. GEORGES RESPIRATORY QUESTIONNAIRE (SGRQ) AND R16G AND E27Q ADRB2 GENE POLYMORPHISM IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) PATIENTS

Author(s): TOMASZ KUCHARCZYK, Justyn Emeryk, Radosław Mlak
Supervisor(s): Paweł Krawczyk, Hab.Ph.D., M.D.
Country: Poland

Introduction:
Chronic obstructive pulmonary disease (COPD) is usually an irreversible lung disease causing airflow limitation and shortness of breath. Single nucleotide polymorphisms (R16G, E27Q) in β2-adrenoreceptor (ADRB2) gene may alter its functions causing better or worse reaction for short- and long-acting β-adrenoreceptor agonists, which are often used as asthma and COPD treatments. These amino acid changes may have influence on patients quality of life and health impairment, which is determined by St. Georges Respiratory Questionnaire (SGRQ).

Aim:
The aim of the study was to determine whether there is a connection between polymorphisms in ADRB2 gene and COPD patients life quality using SGRQ.

Materials and methods:
Studied population consisted of 93 COPD patients (69 male and 24 female), mean age 64,5 ± 8,7. Polymorphisms of ADRB2 gene was assessed by PCR RFLP method. Statistical data was analysed with ANOVA and Mann-Whitney tests.

Results:
Polymorphism in codon 16 of ADRB2 gene had a major affect on patients’ SGRQ test. There was a significant increase in impact scale (chi² = 5,85, p = 0,05) among patients with allele A, as well as in symptoms scale (p < 0,05). No significant affect on the SGRQ results was found when codon 27 was tested.

Conclusion:
Patients with R16G ADRB2 gene polymorphism had a higher total score in SGRQ test which means that allele A have a bigger influence on patients life quality.
AN EVALUATION OF RISK FACTORS FOR RECURRENT WHEEZING AFTER ICU ADMISSION FOR BRONCHIOLITIS

Author(s): TABAN CORINA, Canulescu Delia, Merticariu Mircea, Andronic Bogdan, Dicu Andra, Basturescu Simona

Supervisor(s): dr Craiu Mihai MD, PhD

Country: Romania

Introduction:
One in three children has a wheezing episode before their third birthday. Over 60% of children have at least one episode of wheezing by the age of 6. Published data mention a rate of developing RW after bronchiolitis of 30%. RW is considered to be an independent risk factor for the development of asthma in adult life.

Aim:
Our aim was to make a retrospective study based on the questionnaire method upon infants that came to the Intensive Therapy Unit of the IOMC Hosp Bucharest, Romania with the diagnosis of acute bronchiolitis from 15 nov-31st dec 2005 (83 patients with a response rate of 36%). Severity score was calculated according to the Wainghright C et al N Engl J med 2005 criteria in BMJ. The overall severity score was moderate (2 or 3) or severe (>3).

Material and methods:
The variables included the main risk factors associated with viral induced asthma (exposure to cigarette smoking during pregnancy and after birth, lack of breast-feeding, a family history of atopy) the number of wheezing episodes that needed to be admitted in the hospital and the number of wheezing episodes even without hospital admission.

Results:
Reccurrent wheeze rate (>3 adm in 1.5 years) was over 72%. Passive smoking - the risk of RW in infants with smoking mothers was 1.37 times greater. The risk of developing RW after bronchiolitis was 3.42 times greater in children with no siblings as opposed to those with several siblings. Children that were breast-fed had a risk that was 0.4 times smaller that those that received formula.

Conclusion:
Risk factors for RW include - prenatal tobacco smoke exposure, environmental tobacco smoke exposure, the absence of a breast feeding and lack of siblings.
YOUNG WOMEN’S KNOWLEDGE AND ATTITUDE TOWARDS THE HUMAN PAPILOMAVIRUS AND THE PREVENTION OF CERVICAL CANCER

Author(s): MILANKA PARIC  
Supervisor(s): Doc. dr Aleksandra Stojadinovic  
Country: Serbia

Introduction:
The Human papillomavirus infection is a common sexually transmitted disease and an important factor in the development of cervical cancer. A significant role in the prevention of infection and cervical cancer, plays a routine Pap smear as well as a prophylactic Human papillomavirus vaccine.
Aim: The aim of this study was to determine a young woman’s knowledge and attitude towards the Human papillomavirus infection, the Pap smear and the Human papillomavirus vaccine.

Material and methods:
In this cross study, a questionnaire was administered to 250 female students attending the University of Novi Sad, aged 18-29 years. Students completed the questionnaire, which consisted of 14 questions related to the Human papillomavirus infection, the Pap smear and the Human papillomavirus vaccine.
Results: The results of our study show that 64% of female students have heard of the Human papillomavirus and 59% of them knew that the Human papillomavirus infection can cause the development of cervical cancer. Even 95% of students knew that the Pap smear can identify changes anticipating the development of cervical cancer, but 64% of students had never taken the test. Only 24% of students have heard of the Human papillomavirus vaccine and 66% of these who have heard, stated that they would like to vaccinate.

Conclusion:
Young women’s knowledge, regarding the Human papillomavirus as one of the leading factors in the development of cervical cancer, is insufficient. A great number of students do not do the Pap smear regularly and their knowledge about the Human papillomavirus vaccine is poor. This study highlights the need for further education of the entire population in order to increase the awareness of the possibilities of prevention of cervical cancer.

Key words: cervical cancer, human papillomavirus, young women
LUNG FUNCTION, HEALTH-RELATED QUALITY OF LIFE AND ANXIETY SYMPTOMS IN DIFFERENT STAGES OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Author(s): IVANA ZIVKOVIC, Zeljko Garabinovic, Ana Zekovic, Ognjen Bojovic
Supervisor(s): Prof. Dr Branislava Milenkovic
Country: Serbia

Introduction: Chronic obstructive pulmonary disease (COPD) is characterized by lung function impairment. It is confirmed high prevalence of anxiety symptoms in COPD.

Aim: Aim of study is to examine correlation between lung function parameters, health-related quality of life and anxiety symptoms in patients with different stages of COPD.

Material and methods: 56 patients (mean age was 62.3±9.1) in stabile phase of COPD were examined. Lung function was observed before and after salbutamol inhalation. Health-related quality of life was assessed by St. George’s Respiratory Questionnaire (SGRQ), calculating scores for symptoms (SGRQs), activity (SGRQa), impact (SGRQi) and total score (SGRQt). Anxiety symptoms presence was examined by Hospital anxiety and depression scale (HADS), determining score for anxiety (As). Visual Analogue Scale (VASc and VASf) presented the degree of cough and fatigue.

Results: According to Global Initiative for COPD criteria, 42.9% patients were II stage, 50.0% were III stage and 7.1% were IV stage COPD. There is statistically significant negative correlation between basal and post-bronchodilatatory forced expiratory volume in first second (FEV1b and FEV1pb) and As (FEV1b:p=0.015 and FEV1pb:p=0.036), significant negative correlation between FEV1b and SGRQ scores (SGRQi:p=0.003 and SGRQt:p=0.009), significant negative correlation between FEV1pb and VASc (p=0.039) in III stage. There is no significant correlation between lung function parameters and SGRQ scores, As or VAS (p>0.05) in II stage.

Conclusion: Improvement of FEV1 by salbutamol inhalation can improve health-related quality of life and anxiety symptoms in patients with III stage COPD, better than in II stage.

Keywords: chronic obstructive pulmonary disease, anxiety, lung function
THE ANALYSES OF CLINICAL SYMPTOMS, COMORBIDITY AND RISK FACTORS FOR OCCURRENCE OF ACCUTE RESPIRATORY INSUFFICIENCY IN PATIENTS WITH EXTRA HOSPITAL PNEUMONIA

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Introduction: Pneumonia is an acute inflammation of pulmonary parenchyma. In the course of pneumonia may occur to the development of acute respiratory insufficiency (ARI), which can cause many different clinical features. The result of respiratory insufficiency are hypoxemia and hypercapnia.

Aim: The aim of our study was to analyze the most frequent risk factors and associated diseases and their mutual influence in acute respiratory failure.

Material and methods: This study included 50 patients who were hospitalized, with the diagnosis of extra hospital pneumonia (24 male and 26 female), mean age 58.4 ± 18.4. The first group (n=25) consisted of patients with ARI, and the second consisted of patients without ARI (n=25). We have analyzed the most common symptoms, associated illness, risk factors, and their frequency.

Results: In the group without ARI the most common were symptom of thread bleeding (hemoptisiae), associated cardiac disease, and the most common risk factor is the usage of antibiotics during the three months before the occurrence of pneumonia, while in the group with ARI the dominant symptom is asphyxia, the most common associated disease is arterial hypertension and smoking is the most common risk factor. The comparation of frequency of hypertension and asphyxia in the group of patients with ARI with patients group without ARI is statistically significant.

Conclusion: Arterial hypertension is the most important associated disease for the development of ARI in patients with pneumonia, especially if they are smokers.

Keywords: pneumonia, acute respiratory failure, arterial hypertension, smoking, comorbidity.
KNOWLEDGE AND OPPINIONS OF MEDICAL STUDENTS ABOUT TUBERCULOSIS

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Introduction:  
Medical students’ knowledge and opinion about tuberculosis (TB) are very important for, making diagnosis timely in their future work, good and proper attitude during their medical practice, relaps prevention and multy / extensive resistant TB appearance.

Aim:  
To define the medical students’ knowledge about TB (symptoms, way of medical treatment, possible complications, comorbidity).

Material and Methods:  
Prospective study comprised the medical students, general practice group. The data were obtained by the questionnaire filled in during October and November 2009 on Medical Faculty in Novi Sad.

Results:  
The total of 791 male students, and 542 (68.5%) female students were questioned. The majority of students had a good knowledge about TB (n= 671, 84.7%). The majority of questioned students knew that TB is infectious disease (n=776, 98.1%) that the main cause of TB is bacteria (n=667, 84%) as well as it is curable disease (n=772, 97.6%). Over 95% knew that cough is the main cause of TB transmission. 74,4% questioned students considered that risk factors can contribute the tuberculosis appearance (58,63% alcoholism, 74,8 poor nutrition, 83,0% comorbitidy (such as diabetes, HIV infection, tumor) and 81,3% smoking. The statistically significant difference was noticed (p<0,001) in the number of positive responses in favour of seniors (4., 5). The most students (n=430, 54,4%) thought that TB incidence in the state area was increasing.

Conclusion:  
Medical students showed the good knowledge about TB. The biggest gaps in the students’ knowledge were noticed at juniors, but all of them had poor knowledge about the harmful factors as well as chronical comorbitidy. They also are not well informed about TB presence in the state area and the effects of national and international guidelines implementation in the country respectively.
The purpose of the study was to evaluate the excretion of hydrogen (H2) in breathable air of breastfed newborn infants and then to use these indicators in the diagnosis of lactose insufficiency. Study included 15 breastfed newborn infants. We were doing the study twice (in 3-4 days and 28-30 days of life). We were using the breath hydrogen test GiN-2. The max level of H2 excretion was determined in 1.5-2 h. after feeding. The level of H2 was higher in 1 month then in the age 3 days of life. (25.5±20.2 ppm against 10.9±16.9 ppm, p=0.089) In age 1 month of life 4 children had typical clinical manifestation of lactase insufficiency and the level of H2 was higher than results of children without clinical symptoms (33.8±16.2 ppm) p=0.078 Results: 1. during 1 month of life the excretion of H2 was getting higher 2. children with clinical manifestation had higher concentration of H2, than children without clinical symptoms.
CARDIAC PATHOLOGY IN A PEDIATRIC HOSPITAL IN BUCHAREST, ROMANIA IN THE LAST 4 YEARS

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The heart diseases are one of the most important causes regarding the death and clinical outcome in children. In Romania, we still have a very low rate of cardiovascular interventions and surgery. There are only two cardiac surgery centers in Romania, in Targu Mures and Cluj Napoca, but we collaborate also with centers outside Romania. The consequences are a high rate of morbidity and mortality for congenital heart diseases (CHD). Other cardiac pathologies decreased in the last decade.

Material and methods:
Retrospective statistical analyze regarding the cardiac pathology between 2005 and 2008 in one of the four pediatric hospitals in Bucharest, Romania.

Results:
The number of hospitalized children decreased from 8006 to 7452 per year. In this 4 years period we had 643 cardiac pediatric patients. The cardiac pathology was represented by CHD, 342 patients, 53.2%, arrhythmias, 151 patients, 23.5%, arterial hypertension, 57 patients, 8.9%, rare cases of cardiomiopaties 8 cases, 1.2%, pericardites (2 cases), endocardites (1 case), rheumatic fever (1 case). This pathology changed from one year to the next, mainly by decreasing the number of cases. CHD decrease from 126 in 2005 (1.5%) to 41 in 2008 (0.5%). The mortality in cardiac pediatric patients was mainly due to CHD, which together with sepsis are the most frequent causes of death. 48 cardiac patients, 7.5 %, deceased in this period.

Conclusion:
CHD represent the most important cardiac pathology in pediatric patients. The non CHD cardiac pathology continues to decrease. We still have a high rate of mortality in our patients.
THE PERCENTAGE OF SCOLIOSIS AMONG CHILDREN OF CERTAIN AGE

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Introduction:
Scoliosis is a spine deformation and represents the existance of a lateral curvature in the normally straight vertical line of the spine. Three most common causes of the scoliosis are: congenital, neuromuscular and idiopathic. The most common type is idiopathic scoliosis whose cause is unknown.

Aim:
To evaluate the percentage of scoliosis among children of certain age and the influence of physical rehabilitation on this spine deformation.

Material and methods:
In this work physically examination and x-ray are used as a diagnostic procedures.

Results:
Among 54 examined children aged 6 to 16 scoliosis was present among 21 of them which makes 38.89%. Some of examined children have other spine deformations not evaluated in this study. Corrective gymnastics as a therapy needed 15 children which makes 27.78% of examined children. Improvement was achieved in 10 cases and in none of the cases the health state of the child got worse.

Conclusion:
Scoliosis is one of the most common spine deformations today. It is a really big health problem among children. It causes many discomforts that has a big influence on a quality of life, but early diagnosis and physical rehabilitation has a great impact factor on its improvement.
CLINICAL AND LABORATORY PARAMETERS IN PATIENTS WITH TINEA CAPITIS TREATED WITH ITRACONAZOLE IN CLINICAL CENTER OF SERBIA FROM 2005-2010

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Introduction:
Tinea capitis (TC) is a fungal infection of the scalp, hair follicles and the surrounding skin caused by dermatophytes. Beside topical, treatment includes systemic antimycotics which may affect hepatic function.

Aim:
To evaluate clinical and laboratory parameters before and after treatment in 112 patients treated at Pediatric Dermatology Unit at Institute of dermatovenerology, Clinical Center of Serbia from March 2005 to March 2010.

Material and methods:
All data were obtained from of patients hospital histories and collected data were analyzed by paired T-test.

Results:
Superficial TC was diagnosed in 63 and kerion in 49 patients. Tinea infection was the most frequent during the early winter and autumn. M. audonuinii was found in 51.92%, M.canis in 25%, T. mentagrophytes var. granulare in 15.39%, T. tonsurans in 3.85% and M. Gypseum in 3.85%. Treatment of all patients included oral itraconazole and topical antimycotics. Wood's lamp examination was positive on admission in 60.7% of patients and it became negative after 19.39 ± 7.50 day of treatment. During the treatment AST, ALT and direct-bilirubin were elevated above normal range in 7.5%, 3.3%, and 4.4% of patients respectively.

Conclusion:
Our results indicate that superficial tinea capitis is more frequent than kerion. The majority of infections were caused by Microsporum species. Systemic treatment lead to 100% cure rate, and itraconazole did not severely affected hepatic function in our patients.
PLENARY Session III

PHARMACOLOGY AND PATHOPHYSIOLOGY
SIGNIFICANCE OF CD38 MARKER DETERMINATION IN PATIENTS WITH B-CHRONIC LYMPHOCYTIC LEUKAEMIA

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Introduction:
CD38 is a trans-membrane glycoprotein expressed by malignant B lymphocytes in B-CLL patients and promotes their proliferation.

Aim:
Analysis of CD38 marker expression in the patients with B chronic lymphocytic leukaemia in relation to clinical parameters.

Material and methods:
The investigation included 77 patients with B chronic lymphocytic leukaemia, before applying the therapy. Peripheral blood mononuclear cells, which was previously heparinized, were separated from whole blood by centrifugation on a density gradient (Lymphoprep), labelled with commercial monoclonal antibodies and immunophenotyped by flow cytometry. Results: CD38 expression is bimodal in relation to clinical stages, while the middle value in stage B is statistically significant increased in comparison with both of the stage A and the stage C (p <0.05). There is a statistically significant positive correlation between the CD38 expression and number of lymphocytes in the peripheral blood (P <0.05). There is found no statistically significant positive correlation between the CD38 expression and percentage of pro-lymphocytes in bone marrow (p> 0.05). The percentage of CD38 expression was statistically significant higher in the group of patients with lymphocyte doubling time higher than 1 year in comparison to those below 1 year (p<0.05). Patients with higher CD38 expression showed a statistically significant reduction in serum IgG values (p<0.05), whereas such differences were not shown for IgA and IgM.

Conclusion:
Increased expression of CD38 correlates with increased number of lymphocytes in peripheral blood, lymphocyte doubling time and decreased production of IgG.

Keywords:
chronic lymphocytic leukaemia, CD38, membrane marker
META-ANALYSIS: THE EFFECT OF IBOGAINE AND 18-METHOXYCORONARIDINE ON DOPAMINE LEVELS IN BRAIN

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Introduction:
Ibogaine (IBO) and 18-methoxycoronaridine (18-MC) are studied as possible antiaddictive substances. They affect the dopaminergic system, the part of "reward circuit", where the increase of dopamine (DA) level causes pleasure and craving for another dose of narcotic.

Aim:
Exploring the effect of IBO and 18-MC on lowering of DA level in rats’ nc.accumbens (NAc) during different narcotics usage.

Materials and methods:
The percentages of DA level change were analyzed after the premedication with IBO or 18-MC with use of different narcotics. Data from the graphs given within studies in question were used. Survey was done by meta-analysis with RevMan 5 programme. Three 60-minutes consecutive time intervals, with special attention directed towards effects in 60th, 120th and 180th minute were analyzed.

Results:
The duration and intensity of IBO and 18-MC effect differ, depending on the used narcotic itself and prior exposition to it. The most intensive effect was achieved by 18-MC with nicotine application. IBO produced the longest effect with chronic use of cocaine, while the effect of 18-MC with chronic use of morphine was shorter for 60 minutes. The effect of 18-MC in acute morphine application was twice shorter than in chronic one. IBO had no effect on “drug-naive” rats after application of cocaine.

Conclusion:
IBO or 18-MC premedication in acute nicotine use and chronic cocaine and morphine use significantly decreases DA level. This effect can be used as a platform to explore the antiaddictive potential of IBO and 18-MC.

Key words:
Ibogaine, 18-methoxycoronaridine, dopamine, meta-analysis
USE OF PSYCHOTROPIC DRUGS IN ELDERLY NURSING HOME RESIDENTS

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Supervisor(s): Ass.Prof. Nataša Duborija Kovačević, MD, PhD
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Introduction: Psychotropic agents are commonly used in the elderly. They are frequently used in the absence of a definitive psychiatric diagnosis. Even when used cautiously for appropriate indications, psychotropic drugs may result in adverse effects. Many of them have been associated with falling and hip fractures.

Aim: Was to identify the prevalence rates of psychiatric disorders, to describe the use of psychotropic drugs in all long-term nursing home residents 65 years, and the incidence of their side effects.

Material and methods: The study was a cross-sectional assessment of the nursing home population in two nursing homes “Svjetlost” and “Duga” in Podgorica. Data were gathered on 97 individuals more than 65 years in March 2009. Data on residents’ demographic factors, health and medication use were collected from medical charts, and by interview with residents and medical personnel.

Results: The nursing home residents’ mean±SD age was 75.64 ±10.09 years, 69.80% were female, 30.20% were male. Dementia with associated psychotic or agitated behaviors was the most common psychiatric diagnosis (n=23, 23.08%), than depression (n=19, 19.23%), and psychosomatic disorder (n=15, 15.38%). Central nervous system acting drugs (ATC group N) made almost 1/3 (31.27%) of all used medications for observed period. The most frequently used class of psychotropic medications was antipsychotics (N05A; 26.6%), followed by anxiolytics (N05B; 24.7%), and antidepressants (N06A; 12.96%). Conventional antipsychotics were administered to 19.04% of residents (mostly haloperidol and chlorpromazine) and atypical antipsychotics to 7.56% (mostly clozapine and risperidone). The most frequently prescribed drug was diazepam (12.77% of all psychotropic drugs), followed by biperiden (10.64%), chlorpromazine (9.57%), maprotilin (8.51%), and haloperidol (7.44%). The major side effect of using antipsychotic drugs was extrapyramidal syndrome in 20.59% of cases, which required additional medications. Due to tiredness and weakness 20 residents experienced fall. In 30% caused fractures, among them 62.50% were hip fracture.

Conclusion: There is increasing prevalence of mental disorders among nursing home residents in Montenegro. In contrast of using drugs in outpatients settings, psychotropic agents are the most frequently used drug group in nursing homes. The most prescribed drugs are antipsychotics, than anxiolytics and antidepressants. There is increased risk for fractures, especially hip fracture. Olanzapine and risperidone as atypical antipsychotics should not be given to elderly patients with dementia, because of an increased risk of stroke.

Key words: nursing home, psychiatric disorders, psychotropic drugs, side effects
CARDIOVASCULAR DISEASES, PREVALENCE AND TREATMENT, IN ELDERLY NURSING HOME RESIDENTS

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Introduction: More than half of the population older than 65 years of age has some cardiovascular disease. Elderly patients experience adverse effects from drug treatment that are unique to their age group and that complicate management problems associated with polypharmacy and multiple comorbid conditions.

Aim: To analyze the prevalence of cardiovascular diseases, the use of cardiovascular drugs (ATC group C) and drugs for blood and blood forming organs (ATC group B) and patterns of antihypertensive drug therapy among elderly patients living in nursing homes.

Material and methods: The study was performed in March 2009 in two nursing homes in Podgorica, “Duga” and “Svjetlost”. Data were collected on 97 individuals from medical charts and directly from medical stuff and residents. One patient was excluded because it was 26 years old.

Results: Of all 97 subjects (mean age, 75.64 ± 10.09 years), cardiovascular diseases were the most common of all diagnoses (19.25%). Among them hypertension was diagnosed in 51.61% of patients (n=50). The prevalence was higher among women (ratio between women and men was 3.2:1). Other diagnoses were cardiomyopathy (n=25; 25.80%), syncope and collapse (n=6; 6.44%), angina pectoris (n=3; 3.25%). In Anatomical Therapeutic Chemical (ATC) Classification System, C group (cardiovascular drugs) was second in line of all used drugs (29.21%), after N group (31.27%). Angiotensin-converting enzyme inhibitors were the most common used agents (C09; 27.84%), followed by calcium channel blockers (C08; 21.52%), diuretics (C03; 20.25%), and - blockers (C07; 6.33%). In C group, the most prescribed medication was furosemide (15.19%), followed by lisinopril (13.92%), diltiazem (12.66%), captopril (7.59%), and nifedipine (6.33%). B group (blood and blood forming organs) was on the third place (12.03% of all used drugs), among them antitrombotic medicine (B01) was prescribed in 71.43% (mostly acetylsalicylic acid and ticlopidine). In less than one third of all patients hypertension was treated as monotherapy, but in 2/3 as polytherapy (combinations of ACE inhibitors or beta blocker with CCB or diuretics).

Conclusion: Cardiovascular diseases are the most important cause of morbidity in elderly. Hypertension is present in more than a half of all residents, and require polytherapy to be treated adequately. ACE inhibitors are the most common used drugs, probably due to their beneficial effect on dementia.
CCR5 GENE DELETION INCREASES PERIPHERAL MONOCYTOSIS

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Introduction:
CR5 gene encodes RANTES-chemokine receptor. Deletion of 32 bp causes receptor’s loss of function. People who are homozygote for this deletion are protected from virus HIV infection. There are also indications that lack of CCR5 receptor protects from arteriosclerosis by inhibiting influx of monocytes to arteriosclerotic plaque.

Aim:
1. What is the frequency of 32 bp deletion in population of healthy blood donors in Cracow; 2. Does monocytes number in population of healthy blood donor depend on presence of deletion; 3. Does presence of deletion have any influence on dendritic cells blood count in population of people with myocardial infarction or planned procedure of percutaneous coronary intervention (PCI); 4. Does concentration of M-CSF in blood of those patients modifies effect of deletion on dendritic cells number.

Material and methods:
DNA was isolated from blood drawn from healthy blood donors (n=90) and patients with arteriosclerosis (n=27 with myocardial infarction, n=27 with planned PCI). Amplification of specific DNA fragment for locus containing deletion was done by PCR reaction. Mutation presence was revealed by separating products of PCR reaction by agarose gel electrophoresis. ELISA was used to estimate M-CSF concentration in patients’ plasma.

Results:
1. The frequency of the heterozygotes with deletion in population of 78 volunteers from blood donation center was 10 (12.8%) and 0 homozygotes. 2. People with deletion have increased monocytes number in blood in comparison to people without deletion. 3) Deletion has no influence on dendritic cells number. 4. M-CSF concentrations are similar in patients with and without deletion.
COMPARISON OF ANTIOXIDANT EFFECTS OF SUPEROXIDE DISMUTASE AND HYDROGEN SULPHIDE IN ISOLATED SMALL VEINS

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Introduction:
Recent studies suggest that hydrogen sulphide (H2S) is a potent antioxidant that improves cardiovascular functions in several diseases, such as myocardial ischemia/reperfusion or infarction.

Aim:
The aim of the study is to compare the antioxidant properties of hydrogen sulphide to that of superoxide dismutase (SOD) on superoxide-induced vasomotor activity.

Material and methods:
Small veins of rats were mounted in a myograph filled with Krebs solution and gassed with 95% O2. A basal tone was established, then 60 mM KCl was used to induce pre-contraction. Then the vasomotor effects of the superoxide-generator pyrogallol (10-5 mM) were measured. The chamber was washed out and the vessels were pre-contracted and incubated with SOD (120 U/ml). The contractions to pyrogallol were obtained again. Subsequently, the effect of the H2S donor NaHS (10-5 mM) was measured.

Results:
In small veins KCl elicited a substantial vasomotor tone, which increased after pyrogallol administration (1.3 ± 0.2 mN). In the presence of SOD the pyrogallol-elicited contraction was significantly reduced (0.9 ± 0.2 mN). Nevertheless, in the presence of H2S the pyrogallol-induced contraction was similar to the control (1.3 ± 0.2 mN). Also, SOD significantly decreased the KCl induced vasomotor tone, whereas H2S did not affect it.

Conclusion:
In the present study H2S did not prevent the pyrogallol-induced contraction, whereas SOD significantly decreased it. These results suggest that the previously described antioxidant effects of H2S are unlikely to be mediated by its direct interaction with superoxide.

Key words: oxidative stress, antioxidant, isolated small vein, vasomotor tone
DETERMINATION OF LEAD CONTENT IN DIFFERENT TYPES OF COMMERCIAL TEAS

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Medical herbs and preparations based on plants have very broad application. Numerous biologically and pharmacologically active compounds that are found in medicinal herbs, makes consumption of tea drinks beneficial to human health. The presence of traces of heavy metals in tea may be harmful to human health due to their toxic and cumulative effects. The aim of this study was to determine the total content of lead in commercial teas, and the content of this metal in decoctions, infusions and macerates, which are prepared using standard procedures set by the manufacturer. The presence of lead in the tested samples was determined by using potentiometric stripping analysis (PSA), known as high sensitive microanalytical technique. The total content of lead, in teas ranged from 0.15 to 2.44 μg/g, while the content of lead in tea beverages ranged from 6 to 65 μg/L. Monitoring the presence of lead in tea is of particular importance because they may be a direct path input of this metal.
THE IMPORTANCE OF DMSA RENAL SCINTIGRAPHY FOR THE DIAGNOSIS OF ACUTE PYELONEPHRITIS IN CHILDREN – COMPARAIISON WITH CRP VALUES

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Introduction: Acute pyelonephritis (APN) is acute inflammation that expands into parenchyma. It is diagnosed, among other ways, by determining CRP values. DMSA renal scintigraphy is well-established method for detection parenchimal defects (APN foci) and their evolution.

Aim: To analyze the sensitivity of DMSA scintigraphy in the earliest phase of APN; to correlate CRP values with the extent of changes on scintigraphy findings.

Material And methods: Scintigraphy is performed 2 hours after i.v. injection of 99mTc-DMSA in posterior and both posterior oblique views. Abnormal finding included both global disfunction and RCD. Scintigraphy was correlated with CRP values.

Results: 101 children were examined, 56 girls (55.5%) and 45 boys (44.5%), age from 1.5 to 60 months, (med 10.0). Children were divided into three age groups: I: 1.5-10, II: 11-30 i III: 31-60 months. Test of the differnce of proportions found significantly higher proportion of pathologic findings in group II and III in comparison with I: I/II, t=2.51; I/ III, t=2.45. Scintigraphy findings were divided into 6 cathegories. Significant correlation is seen between scintigraphy and CRP by cathegories (R=0.276; p<0.005). OnewayANOVA determined the amplitude and mean CRP values by cathegories. It also showed the significant correlation between them (p<0.024) and correlation was interpreted.

Conclusion: DMSA scintigraphy showed the significantly higher sensitivity in APN diagnostics. The CRP can’t be the reliable parmeter of APN in infants, although the significant rise of CRP could be predictive factor of the type of parenchimal damage in suspected APN.

Key Words: DMSA scintigraphy, acute pyelonephritis, C-reactive protein, children
HISTOLOGICAL FEATURES OF PROTECTIVE EFFECTS OF THE COPRINUS COMATUS MUSHROOM IN CARBON TETRACHLORIDE INDUCED HEPATOTOXICITY

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Country: Serbia

Introduction: There are references pointing out that Coprinus comatus mushroom shows certain antioxidant effects. There is an increasing number of studies claiming certain hepatoprotective potential of numerous substances, yet to be proven as a useful supplement in the therapy of different diseases.

Aim: Researching histological features of the protective effect of C. comatus mushroom in CCl4-induced acute toxic hepatitis.

Material and methods: Experimental animals were randomly divided into four groups, each consisting of six rats: two experimental groups (who were given mushroom only and mushroom with CCl4) and two control groups (the negative one – without any treatment and the positive one – treated with CCl4 only). The experimental groups were being given water suspension of C. comatus powder during seven days. Following the application of CCl4 all animals were sacrificed and their liver slots were taken out and refined using standard histological techniques.

Results: CCl4 without the mushroom given in advance leaded to lymphocyte infiltration of the enlarged sinusoid capillaries with the occurrence of the microvesicular cytoplasmatic collections in the hepatocytes due to the fatty degeneration of the liver and acute toxic hepatitis. CCl4 applied with the mushroom induced occurrence of clear microvesicular cytoplasmatic accumulations of the fatty granules inside the hepatocytes, yet showing no signs of lymphocyte infiltration nor acute toxic hepatitis.

Conclusion: Seven-day-application of the C. comatus mushroom had a protective effect on the liver, leading to only reversible process (steatosis), contrary to the group treated with CCl4 only, where irreversible acute toxic hepatitis signs has developed.

Key words: Coprinus comatus, carbon-tetrachloride, hepatoprotective effect
NEW ANTITUBERCULOSIS DRUG

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Country: Serbia

The sick-rate of tuberculosis is growing. In our work we used diene synthesis to get potential antituberculosis drugs. We made the synthesis some hydrazones and hydrasidohydrazone of some alicyclic cetones and are preparing for in-vitro studies.
STUDY MEDICATION OF MITORETIN'S EFFECT IN EXPERIMENTAL HEMOPHTHALMIA

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Supervisor(s): Dr; Prof. Larisa M. Balashova, Dr; Prof. Vladimir P. Skulachev, Dr. Irina A. Spivak
Country: Russia

Aim:
This study investigates Mitoretin's effect in experimental hemophthalmia.

Material and methods:
An experimental hemophthalmia was performed in 12 eyes of 6 rabbits. Left eyes were untreated (control). Right eyes were treated with the instillation of 3 drops/day Mitoretin. The animals were sacrificed and the eyes were removed 12 hours, 5, 7, 14 and 30 days after surgery. A biomicroscopy of vitreous body and an ophthalmoscopy were carried out before an enucleation. Eye's tissues were processed for microscopy.

Results:
The resorption of hemophthalmia was observed in right eyes after 12 hours from the surgery. In control eyes the hemophthalmia was observed after 12 hours from the surgery. Infiltration of neutrophils was more obvious in control eyes. Retina had normal structure in treated eyes, while it was damaged in control eyes. Formation of new blood vessels near the optic nerve was observed mostly in control eyes.

Conclusion:
Our results suggest that Mitoretin's instillation can induce the resorption of hemophthalmia after 12 hours from surgery. Tissue's damages were more obvious in untreated eyes.
SURVEILLANCE OF ADVERSE DRUG REACTIONS

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Introduction:
The clinical trials of drugs count restricted number of patients, also they don’t include all categories of patients (children, old persons, pregnant women, patients with liver damage and renal insufficiency) and their duration is limited. Consequently, it’s impossible to discover all adverse effects of drugs before its registration.

Aim:
Comparing spontaneous reporting with active collecting of adverse drug reactions and classifying adverse drug reactions in types A, B or C.

Materials and methods:
The guide for data arrangement was standardized form for adverse drug reactions reporting, which was taken from official web site of Medicines and Medical devices Agency of Serbia. We compared data which were actively collected (personal contacts with physicians) and data which were spontaneously reported to the Department of Pharmacology, Toxicology and Clinical Pharmacology in Novi Sad during period of three months.

Results:
The percentage of spontaneously reported adverse drug reactions during our research was 6%, while actively collected were counting 94%. We found that majority of them (46%) are belonging to the type A, which are results of the pharmacological mechanism of drug. Second by frequency (21%) were hypersensitive reactions (type B). Type C was represented by two cases of metabolic disorders during medication with antipsychotics (8%). Remaining 25% were probably caused by interactions and polypragmasy.

Conclusion:
By active collecting of adverse drug reactions, we can find significantly more information then by spontaneous reporting, which contribute to the efficiency of National monitoring center for pharmacovigilance and the safer treatment of patients.

Key words: adverse drug reaction, pharmacovigilance, active collecting
PLENARY Session IV

BIOCHEMISTRY AND PHYSIOLOGY
THE INFLUENCE OF POLYOXOMETALATES ON Na+/K+-ATPase ACTIVITY

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Introduction: There is a great interest of application of polyoxometalates in clinical medicine, primary as anticancer and antiviral agents. Considering the key role of Na+/K+-ATPase in normal functioning of most animal cells, its pivotal roles in cancer cell migration as well as its toxicological significance, this enzyme was chosen as a model system for examination of interactions between biomacromolecules and tungsten-heteropolyoxo compounds: 12-tungstosilicic acid and 12-tungstophosphoric acid.

Aim: Examination of the influence of different concentrations of 12-tungstosilicic acid and 12-tungstophosphoric acid on Na+/K+-ATPase activity.

Materials and methods: The enzymatic activity of commercial porcine cerebral Na+/K+-ATPase was followed in the absence and presence of increasing concentration of 12-tungstosilicic acid and 12-tungstophosphoric acid (within the range 10^{-8} - 10^{-3} mol/L). The released inorganic phosphate from the enzymatic hydrolysis of ATP was determined by spectrophotometric method.

Results: Both investigated compounds present at the concentrations below 1 µmol/L have not showed the influence on activity of Na+/K+-ATPase. However, the both examined polyoxometalates at concentration above 1 µmol/L induced Na+/K+-ATPase inhibition on concentration-dependent manner. Inhibitor concentrations that reduced enzymatic activity for 50 % compared to control value (IC50 values) were 5.80 x 10^{-5} mol/L for 12-tungstophosphoric acid and 1.17 x 10^{-4} mol/L for 12-tungstosilicic acid. Complete inhibition of the enzyme was achieved at the concentration of 5 x10^{-4} mol/L of 12-tungstophosphoric acid and at twice higher concentration of 12-tungstosilicic acid.

Conclusion: The presence of examined polyoxometalates at the concentration higher then 1 µmol/L induced the concentration-dependent inhibitory effect on Na+/K+-ATPase activity. 12-tungstophosphoric acid showed twice higher inhibition effect than 12-tungstosilicic acid.

Key words: Na+/K+-ATPase, polyoxometalates, 12-tungstosilicic acid, 12-tungstophosphoric acid
INVESTIGATION THE PHAGOCYTOSIS AUGMENTATION EFFECT OF GLUCOCORTICOIDS AT GENE LEVEL IN HUMAN MACROPHAGES

Author(s): ENDRE KAROLY KRISTOF
Supervisor(s): Prof. Dr. Laszlo Fesus MD PhD, Dr. Gabor Zahuczky PhD
Country: Hungary

Introduction:
The daily clearance of 500 billion physiologically dying cells is performed safely principally by the Mononuclear Phagocyte System. The anti-inflammatory effect of glucocorticoids is mainly explained by transcription regulatory role on intracellular receptors. They have a positive action on the phagocytic capacity of human macrophages, but the underlying molecular mechanisms are not yet known.

Aim:
Our TaqMan Low Density Array measurements predicted the important role of several genes in the regulation of glucocorticoid augmented phagocytosis, since their expression level was elevated during the dexamethasone treatment. The goal of our investigations was to knock-down the five genes with the most remarkably enhanced expression (ADORA3, AXL, C1QA, MERTK, THBS1) in human macrophages by RNA interference and analyzing their phagocytic capacity.

Materials and methods:
The knock-down effect was controlled by RT-QPCR after RNA isolation. Apoptotic neutrophil granulocytes were isolated from human blood before phagocytosis assay was performed even in the presence and absence of AB serum and the incorporated cell-rate was measured by flow cytometry. To prove the role of MERTK, macrophages were pre-incubated with blocking antibodies immediately before neutrophils were added.

Results and Conclusion:
Powerful knock-down effect was experienced at each of the five investigated genes, but significant decrease in phagocytic capacity was observed only after knocking-down MERTK. Significant reduction of phagocytosis was also noticed after macrophages were pre-incubated with MERTK blocking antibodies when AB serum was not present during the assay. It proves that transmembrane thyrosin kinases play an essential role in the glucocorticoid augmented phagocytosis of human macrophages.
THE GENDER DIFFERENCES IN GLUCOSE SERUM MAINTENANCE DURING FORCED SWIMMING STRESS IN RATS

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Country: Bosnia and Herzegovina

Maintenance of glucose level during exercise is important factor of endurance exercise performance. Many factors are influencing this process. Recent studies showed that exercise improves glucose tolerance in rodent models and that training improves glucose homeostasis in rats during exercise. There is no data about gender differences in glucose homeostasis during exercise in rats. The aim of this study was to estimate the effects of forced repeated swimming stress on glucose serum levels in male and female rats. Study was performed on adult male wistar rats, divided into two groups: female (n=6) and male (n=6). Rats were exposed to forced swimming stress daily for duration of 20-40 minutes for 7 days. Immediately after the last swimming session rats were sacrificed and blood was drawn from abdominal aorta for glucose analysis. There were no statistically significant differences between glucose serum levels in female groups after swimming period (5,1-8,1 mmol/l) compared to glucose serum levels before swimming period (4,2-5,3 mmol/l). Glucose serum levels significantly increase after swimming period (3,0-4.8 mmol/l vs. 10,2-15,1 mmol/l). Swimming has been used extensively to identify the physiological, biochemical, and molecular responses to acute exercise stress. Previous studies showed change of glucose serum levels in adaptation to acute exercise, but most studies were performed without observation of gender dependent differences. Our results could be explained with possible stronger reaction of male rats on stress with consequential raise glucose serum level. We conclude that gender differences should be taken in consideration during studies on rat stress models.
MARKERS OF OXIDATIVE AND NITROSATIVE STRESS IN PLASMA OF PATIENTS WITH MULTIPLE SCLEROSIS ON THE TREATMENT WITH INTERFERON-Β

Author(s): MAJA STUKALOV, Jovica Filipović, Branislav Rovčanin, Dušan Kekić
Supervisor(s): Doc. dr Ivana Stojanović
Country: Serbia

Introduction:
Multiple sclerosis (MS) is inflammatory CNS disease, characterized by demyelinisation and neuron degeneration. It is thought to generate as the result of genetic and environmental factors interactions, it is still unclear which factors contribute to its unpredictable course.

Material and methods:
The study encompassed 26 patients with MS, divided into two groups. In the first one (MS) there were 15 patients without relapse in the last 6 months and not on IFN-β therapy. The second group of patients (MS+IFN-β (11 patients) received IFN-β therapy during 6 months in a dose of 8 million units subcutaneously and did not have a relapse. In plasma of patients NO2+NO3 and MDA concentrations and SOD activity were determined.

Results:
Plasma MDA level in MS patients is higher (36.08±7.05 µmol/L) compared to patients treated with IFN-β (28.01±6.49; p<0.01 vs MS; p<0.001 vs control) health individuals (10.8±2.11; p<0.001). Plasma NO2+NO3 concentration in MS patients was increased (87.98 ± 20.41 µmol/L; p<0.001) compared to control values (22.55 ± 5.01). MS patient plasma SOD activity is diminished (0.69±0.15 U/L prot.; p<0.01) in comparison with controls (0.88±0.11). IFN-β treatment increased SOD activities in plasma of MS patients (0.81±0.16; p<0.05 vs MS).

Conclusion:
There is an urgent need for finding new valid biomarkers which could offer the choice of therapy focused on a certain pathogenetical factor in each patient individually and be of benefit in monitoring the therapy effects. Beside antiinflammatory therapy, the use of antioxidants as adjuvant therapy should be considered in the treatment of these patients.

Key words:
multiple sclerosis, nitric oxide, oxidative stress, IFN-β
ANTIOXIDATIVE STATUS IN CORRELATION WITH SERUM PROTEINS AMONG PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

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Supervisor(s): Prof. dr Kristina Gopčević
Country: Serbia

Introduction:
Reactive oxygen species (ROS) play an important role in pathogenesis of tissue damage in many disorders, including acute myocardial infarction (AMI). Antioxidative enzymes protect the body from oxidative damage. Specific distribution of serum protein fractions can be a useful parameter for diagnostic confirmation of AMI.

Aim:
Estimation of antioxidative enzymes: superoxide-dismutase (SOD), catalase (CAT) and glucoso-6-phosphate dehydrogenase (G6PD) in sera of AMI patients and control groups. Also, the aim is to correlate levels of specific serum proteins which represent reactants of acute phase with previously mentioned enzyme activities.

Material and methods:
Activities of SOD, CAT, G6PD and protein concentration in sera were determined spectrophotometrically. Distribution of SOD isoforms were determined with zymography. Values of individual protein fractions were obtained obtained with densitometric analysis of bands provided with PAGE electrophoresis.

Results: SOD activity was increased statistically significant in group of AMI patients, and the SOD-Cu2+/Zn2+ isoform is dominant both in AMI and in control population. CAT levels were increased in control population and AMI patients. G6PD levels were increased in control population and decreased in AMI patients. Results of serum protein electrophoretic profiles showed increased levels of alpha1, alpha2 and beta globulins in AMI sera.

Conclusion:
Results show the existence of oxidative stress in patients with AMI and induction of antioxidative protective enzymes. Increased concentration of serum proteins in AMI patients is due to acute phase reaction which is present during AMI. Correlation exists between acute phase reaction and mobilisation of antioxidative enzymes as a synergistic response to AMI pathogenesis.

Key words: AMI, antioxidative enzymes, serum proteins
ENZYME MARKERS OF OXIDATIVE DAMAGE AS INDUCTORS OF MATRIX-METALLOPROTEINASES IN S ERA OF PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

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Supervisor(s): Prof. dr Kristina Gopčević
Country: Serbia

Introduction:
Acute myocardial infarction (AMI) is one of the leading causes of morbidity and mortality in the world. Significant role in AMI pathogenesis have reactive oxygen species, which provide myocardial oxidative damage. Some of myocardial damage markers are LDH, MDH, DNase I, CK, AST, troponin etc. Plenty of studies showed that matrix-metalloproteinases (MMPs) are included in AMI pathogenesis. One of proposed mechanisms of MMPs activation during AMI is oxidative stress, which is a result of ischaemic damage.

Aim:
To determine activities of enzymatic markers of myocardial damage (LDH, MDH, DNase I) and to correlate with MMP-2 and -9 activities in sera of experimental groups in early stage of AMI.

Material and methods:
Activities of LDH, MDH, DNase I were determined spectrophotometrically. Activities of LDH and MDH isoforms were obtained with direct electrophoretic zymography. MMP-2 and -9 were determined with reverse electrophoretic zymography.

Results:
In sera of AMI patients were detected elevated values of LDH and MDH. Dominant LDH isoform in AMI group is LDH1, but in control groups LDH2 isoform is dominant. Cytoplasmatic MDH (cMDH) is dominant isoform in AMI group, however in control groups MDH isoforms were not detected. DNase I activity is not elevated in AMI group. MMP-2 and -9 were detected only in group of AMI patients.

Conclusion:
Results showed the existence of oxidative damage in AMI individuals with increased expression of myocardial damage markers. The positive correlation exists between increased MMPs activities and oxidative myocardial damage during early stage of AMI.
THE RELATION BETWEEN ENDOTHELIAL DYSFUNCTION AND THE STIFFNESS OF PERIPHERAL HUMAN ARTERIAL VESSELS WITH AGING

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Supervisor(s): Prof Dr Dušan Mitrović
Country: Serbia

Introduction: 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.

Aim: 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.

Material and 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 tonus and structural changes on a peripheral vasculature. The examination was carried out on 30 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 a. brachialis and index of stiffness on a. carotis communis.

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: The decrease in the ability of peripheral arteries for endothelial dependent vasodilatation is in correlation with the increased stiffness of peripheral arteries. Endothelial dysfunction in men occurs about twenty years earlier than in women and results in earlier and higher arterial stiffness.

Key words: endothelium, nitric oxide, endothelial dependent vasodilatation, the test of reactive hyperemia, the index of stiffness.
TESTING OF TOXICITY OF FURFURAL ON HEPATOCYTES OF THE RAT

Author(s): STEVAN MILENKOVIĆ, Dalibor Stojanović
Supervisor(s): Prof. dr Dragana Veličković
Country: Serbia

Introduction:
Liver is the cause of death in the Western world, as a result of chronic alcoholism, chronic hepatitis, biliary disease. Most frequently cause, certainly, is alcohol next to him and many soft drinks that contain furfural, compound that lies at the base of disorder, which consequently lead to damage of normal liver function. Objective: To prove the suspicion of toxicity furfural on liver.

Material and methods:
The experiment was conducted on Wistar rats 6 weeks old. The experiment lasted 90 days on, with initial dose (20 mg / kg BW) progressively increased to 40 mg / kg BW. On the seventh day of last dose, animals were sacrificed. Liver after removing microscopic measured and studied.

Results:
Macroscopically, the liver was enlarged, softer, imbued with irregular yellow fields of the act, bordered by the dotted bleeding. In addition to cirrhosis was found pseudolobulary material parenchyma, thickening of the capsule and Gleeson trabekula liver damage. Were found and scattered eosinophils and fatty degenerated hepatocytes.

Conclusion:
After the research, observed a great correlation between oral aplication of furfural and degenerative changes of liver parenchyma.

Key words: toxicity, furfural, hepatocytes.
EFFECTS OF VALPROATE ON SEIZURE INCIDENCE IN GAMMA-HEXACHLORCYCLOHEXANE-TREATED RATS

Author(s): VESNA LUKIC, Jelena Lekovic  
Supervisor(s): Prof. dr Olivera Stanojlović, dr Dragan Hrncic  
Country: Serbia

Introduction: Valproate is one of the classical antiepileptic drugs with multiple mechanisms of action. Gamma – hexachlorcyclohexane (γ –HCH) is widely used pesticide and scabicide and seizures are one of the first manifestations of its neurotoxic effects. Aim: To determine valproate effects on incidence of γ -HCH induced seizures in rats.

Material and methods: Adult male Wistar albino rats were used in study. Increasing doses of valproate (50, 100, 150 mg/kg, i.p, n = 8 per group) or saline (0,9% NaCl, n=10) were injected 30 min prior to γ -HCH administration (8 mg/kg, i.p.) Animals were observed for seizure manifestations during next 30 min upon γ -HCH administration and incidence, one of the most important parameter of convulsive behavior, was evaluated.

Results: Valproate pretreatment decreased the incidence of γ –HCH- induced seizures in dose-dependent manner. The decrease was found to be statistically significant when used the dose of 150 mg/kg of valproate. However, the lowest and intermediate doses of valproate (50 and 100 mg/kg) had no statistically significant effect on incidence of seizures induced by γ -HCH .

Conclusion: Results of this study indicate that valproate decrease the incidence of γ -HCH induced seizures in rats.

Key words: Gamma – hexachlorcyclohexane, seizure, valproate, incidence, rats
IMMUNOCYTOCHEMICAL CHARACTERISTICS OF THE ENDOCRINE B AND D CELLS OF THE PANCREAS IN RATS TREATED WITH FURFURAL

Author(s):  NIKOLA TODOROV  
Supervisor(s): Prof. Snežana Cekić, MD, PhD  
Country: Serbia

Introduction: Furfural, unsaturated cyclic aldehyde, is a known hepatotoxic substance. In acute and chronic experiments with furfural, a change in the activity of some enzymes may occur.

Aim: To analyse immunocytochemical properties of B and D cells in animals treated with furfural for the period of 3 months.

Materials and methods: The white male Wistar rats 150-200 g body weight were used. There were 2 groups of animals: control and experimental. The experimental rats were treated with furfural. The immunocytochemical PAP procedure was used for the examination of the topography of B and D cells.

Results: By using monoclonal antibodies on insulin and somatostatin, the endocrine B and D cells of the pancreas were isolated. In the control group of animals B and D cells were localized only in the insula of their membranous part. In experimental animals treated with furfural, the hypogranulation of B and D cells was dominant with less cellular deposit.

Discussion: In the organism, hepatotoxic furfural is quickly oxidized into pyromucic acid which damages the parenchyma of the liver. Due to a functional relation between the liver and the pancreas, the effects of furfural are reflected on the pancreatic tissue and on the examined B and D cells.

Conclusion: Furfural reduces the synthesis and deposits of insulin and somatostatin in B and D cells.

Key words: immunocytochemical characteristics, endocrine B and D cells of the pancreas, rats, furfural
COMPARATIVE STUDY OF CYTOPROTECTIVE EFFECTS OF GLUTATHIONE, N-ACETYLCYSTEINE AND PROANTHOCYANIDINS IN TWO DOXORUBICINE-TREATED CELL LINES

Author(s): SANJA POPIN
Supervisor(s): Doc.dr sci med dr Karmen Stankov  
Dr sci med dr Gordana Bogdanovic
Country: Serbia

Aim:
The main aim of our comparative study was to investigate the potential cytoprotective effects of glutathione, N-acetylcysteine and proanthocyanidins in two doxorubicine-treated cell lines.

Methods and materials:
We have carried out the in vitro study on K562 human leukemia cell line, and normal Chinese hamster ovary CHO-K1 cell lines, treated by doxorubicin (DOX), glutathione (GSH), N-acetylcysteine (NAC) and proanthocyanidins (PAC) for 3 and 24 hours. Cytotoxicity, indicated by the inhibition of 50% of cells, was evaluated by MTT test.

Results:
Our results show that GSH, NAC and PAC diminish the DOX-induced cytotoxicity in both cell lines, in dose-dependent manner, and cytoprotective effects were similar in 3h and 24h treatment groups. The PAC effects were the most interesting, both in K562 cell line, where the PAC-induced cytoprotection was dose dependent, whereas in CHO-K1 cells, this effect was not linear, but bi-phasic, since PAC in concentration of 10 μg/ml, significantly potentiated the DOX-induced cytotoxicity.

Conclusion:
The comparative study between malignant and normal cell lines, showed the significant differences in response towards DOX-induced cytotoxicity, and GSH, NAC and PAC-mediated cytoprotection.

Key words:
malignant cells, cytotoxicity, doxorubicin, antioxidants.
DETERMINATION OF Pb AND Cd CONTENTS IN INFUSION SOLUTIONS AND SOLUTIONS FOR HEMODIALYSIS

Author(s): KATARINA MILINCIC, Bojana Zivkovic
Supervisor(s): Ass. Dragan Velimirovic
Country: Serbia

For treatment of severe clinical disease and the condition in medical practice, there are often used parenteral solutions for hemodialysis, solutions for correcting the imbalance of electrical and fluid replacement. These solutions can be directly or indirectly reach to the circulation of the blood by injection or after application through the body cavities. Therefore, it is necessary to be sterile, isotonic and non-toxic. The aim of the study was the investigation of consistency of toxic hard metals (Pb and Cd) in infusion solutions and solutions for hemodialysis. Contents of hard metals were determined by a highly sensitive technique, by potentiometric stripping analysis (PSA). Contents of Pb in infusion solutions (NaCl, hetasorb 6 %) ranged from 2.89 to 6.05 µg/L, whereas in solutions for hemodialysis contents of Pb and Cd were 27 µg/L and 4.17 µg/L, respectively. With regard to fact that these solutions enter the circulation of the blood directly, or indirectly in contact with blood and other corporeally fluids of patients, it is necessary to constantly investigate and determinate the contents of hard metals, considering their toxicic and cumulative effect. This is particularly important in cases where these solutions and systems are used for longer period of time (Hemodialysis) when toxic effects of the tested elements more pronounced and effects on clinical condition of patients.

Key words: infusion solutions, solutions for hemodialysis, Pb, Cd, potentiometric stripping analysis.
ACTIVITIES OF TRANSMINASES IN CON-A INDUCED HEPATITIS

Author(s): STEFAN SIMOVIC  
Supervisor(s): Doc. Dr Marina Mitrovic and Doc. Dr Ivanka Zelen  
Country: Serbia

Introduction: For the examination of both the cellular and the molecular mechanisms of hepatitis, Concavalin A (Con-A) induced hepatitis model was introduced in mice. This model demonstrated that the activation of T lymphocytes was required for the Con A-induced immune response and the liver damage, followed by a significant increase in the activities of both AST and ALT. The liver damage was associated with the massive infiltration and the activation of T lymphocytes, eosinophils, Kupffer cells and NK cells in the liver. Male BALB/c mice developed the liver damage after the intravenous administration of Con A.

Aim: To evaluate the degree of the liver damage we investigated the activities of AST and ALT in wild type (wt) and ST2/-/- mice.

Material and methods: Two tested groups of male BALB/c mice, ages 8 to 10 weeks: the control group - 5 wt mice and the experimental group - 5 ST2/-/- mice. The administration of Con-A was applied in the tail vein at a dose of 16mg/kg. 24 h after Con-A administration, we measured spectrophotometrically the activities of AST and ALT in sera.

Results: The activities of AST and ALT were significantly higher in the serum of ST2/-/- mice compared to the activities of these enzymes in the wt mice. The AST activity was 155.67 ± 24.42 U/L in the wt mice, while in ST2/-/- mice it was 567.67 ± 145.02 U/L (p <0.05). The ALT activity in wt mice was 53.33 ± 12.86 U/L, whereas in ST2/-/- mice it was 104.67 ± 3.21 U/L (p <0.05).

Conclusion: The increased activities of both AST and ALT in ST2/-/- mice indicated the existence of significantly higher damage of the liver in ST2/-/- mice.

Key words: Con-A hepatitis, ST2, AST and ALT.
PLENARY Session V

ENDOCRINOLOGY, NEPHROLOGY, HAEMATOLOGY, ONCOLOGY AND GASTROENTEROLOGY
HAEMATOLOGICAL TOXICITY OF GEMCITABINE/CISPLATIN VERSUS CISPLATIN/ETOPOSIDE IN NON-SMALL-CELL LUNG CANCER, STAGE IIIB AND IV

Author(s): Dajana Lendak, Nikola Rokvic  
Supervisor(s): Assist. dr Daliborka Bursac  
Country: Serbia

Introduction:  
Platinum-based doublet combinations are the standard for the treatment of non-small-cell lung cancer (NSCLC), stage IIIb and IV. Haematological toxicity is one of the most important problems during the therapy.

The aim of the study: 
The study was designed to compare the hematological toxicity of gemcitabine/cispaltin and cisplatin/etoposide, in patients with NSCLC, stage IIIb/IV.

Patients and methods:  
Sixty-seven chemotherapy-naive patients were enrolled in the study: 37 in the gemcitabine/cispaltin arm and 30 in the cisplatin/etoposide arm. 
Gemcitabine/cispaltin arm: gemcitabine (1000mg/m² 1. and 8. day) and cisplatin (50mg/m² i.v. 1. and 8. day), every 21 day - four cycles. Cisplatin/etoposide arm: cisplatin (60mg/m² 1. day) and etoposid (100mg/m² 1-3. days), every 28 days - four cycles. The study was retrospective (01.01.2008-31.10.2008). Toxicity was graded by Common Terminology Criteria for Adverse Events v3.0.

Results:  
Student’s t-test or χ2 test didn’t show significant difference between age, gender, histological type of carcinoma and habit of smoking among patients in both groups. In gemcitabine/cispaltin arm, anemia grade I occurred in 21 (57%) patients, and grade II in 14 (38%) patients. In cisplatin/etoposide arm anemia grade I – 20 (67%), grade II – 6 (20%) patients. In cisplatin/etoposide arm both thrombocytopenia and leucopenia was found in only one patient (3%), versus 10 (27%) patients in gemcitabine/cispaltin arm.

Conclusion:  
According to our results, there is no statistically significant difference in appearance of anemia, but both thrombocytopenia and leucopenia appear more frequently in gemcitabine/cispaltin arm.

Key words:  
non-small-cell lung cancer, toxicity, gemcitabine, cispaltin, etoposide
FREQUENCY OF IRRITIBLE BOWEL SYNDROM(IBM) AMONG MEDICAL SCIENCES STUDENTS

Author(s): Omid Rezahosseini, Ahmadreza Sayyadi, Saeed Sataee Mokhtari, Sanaz Abdollahi
Supervisor(s): Dr Seyed Mehdi Seyed Mirzaee
Country: Iran

Introduction:
IBS is a common gastrointestinal disorder with variable frequency and unknown pathophysiology. This disorder is one of the important causes of work absence and decreasing life quality. Students with this disorder may face those problems; we decided to evaluate the frequency of this syndrome among medical sciences students of our university.

Material and Methods:
In this cross-sectional study, we used a self-administered questionnaire designed according ROME-III Criteria which is tested and retested to confirm its reliability and consistency (α=0.93). The target population was students of medicine, dentistry, nursery and paramedical (1202 students). Data analyzed by SPSS 14 software and Chi-Square Test.

Results:
400 students returned the fulfilled questionnaire, 61.9% of them female and 38.1% male. Mean of ages was 21.27 and SD=2.6. Total frequency of IBS was 18.9% (8% Medical, 6.5% Dentistry and 4.4% Nursery and paramedical students); 57.5% of patients were female and 42.5% male. There was statistical significance between the IBS frequency and year of education, average of course marks and age (P<0.05), but there was no significance between IBS frequency, Sex and Place of Residency.

Conclusion:
Frequency of IBS among students who participated in this study was like previously reports of our country. But in attention to significant difference between IBS frequency and Year of education, and negative effects of IBS on life and education quality of them, it is important to find the reason(s) of its occurrence.

Key words: Irritable bowel syndrome, student, frequency
THYROID ANTIBODIES IN PATIENTS WITH DIABETES MELLITUS TYPE 1

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Supervisor(s): Milena Velojić Golubović
Country: Serbia

Diabetes mellitus type 1 (DM1) 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 euthyroid 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 DM 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 hormone 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. Also 12 pts (31.5%) had increased level of TSH, 5 pts (13.2%) had hypothyroidism and only one (2.7%) had hyperthyroidism. Four pts (10.5%) had suffer subclinical hypothyroidism. 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.
ANALYSE OF LIPID PARAMETERS IN EARLY POST-MENOPAUSAL WOMEN

Author(s): NEMANJA PETROVIĆ
Supervisor(s): Asist. Dr Jovanka Novaković-Paro
Country: Serbia

Introduction: With the extension of longevity of human life, human menopause is gaining in importance to health, illness and quality of life. With regards to cardioprotective and vasoprotective effects of estrogen, due to estrogen deficiency in menopause, many organ systems encounter function disorder. Hormonal changes during the menopause affect lipid parameters by enhancing the ateriosclerotic lipid profile.

Aim: The objective of this study was to analyse the lipid parameters in early post-menopausal women.

Material and methods: The research was conducted as a retrospective-prospective study that included 100 healthy early post-menopausal women. The data for the study were obtained through anamnesis, physical examination, anthropometric measures, calculations using the formula and blood tests done on an empty stomach. All tested women had to meet the following requirements: at least 12 months of amenorrhea; without any disease or use of any medication known to interfere with lipoprotein metabolism. For the statistical data processing basic descriptive parameters were used. Results were given in tables and graphics.

Results: 91% of the investigated group of women had lipid metabolism disorder. In terms of lipid phenotype, hyperlipoproteinemia IIa dominated (52%). High risk total cholesterol values had 45% of the investigated, and high risk LDL cholesterol had 58%. High risk triacylglyceride had 10%. Acceptable value of HDL cholesterol had 41% of the examined.

Conclusion: The results indicate significant changes in lipid profile in terms of aterogenic lipid profile and impose a need to monitor the lipid status in women in early post-menopause as well the need to apply preventive measures and medical treatment with the aim of preventing cardiovascular disorders.

Key words: Post-menopause, Lipid parameters, Hyperlipoproteinemia
IMPORRTANCE OF CORRELATIONS OF MICROALBUMINURIA AND ACTIVITIES OF ECTOPEPTIDASES AS EARLY MARCERS IN DIABETIC NEPHROPATHY

Author(s): RANĐELOVIĆ MARIJA, Petrović Aleksandar 
Supervisor(s): dr Branka Mitić, prof. Vidojko Đorđević 
Country: Serbia

Introduction: Diabetic nephropathy (DN) is the single most common cause of terminal renal failure in adult patients who begin active treatment of dialysis. Microalbuminuria is used as the most important predictor for the development of DN and points to the presence of glomerular lesions at an early stage of renal damage. Existence tubulointerstitial changes, renal complications that diabetes may precede glomerular changes because several tubular proteins and enzymes are detect before the appearance of microalbuminuria.

Aim: The aim of the study was to determine whether the determination of activities ectoenzymes in serum and urine of patients with diabetic nephropathy may be an early marker of diabetic nephropathy appear, before microalbuminuria.

Material and methods: The study included 32 patients mean age 57.14 ± 11.9 years, (10 patients with type 1 diabetes and 22 patients with type 2 diabetes mellitus), and 20 healthy persons, as control group. All patients were hospital or treated at the outpatient Clinic of Nephrology, Clinical Center in Nis. In addition to basic biochemical analysis and examination of urine, in all investigated persons determined by the APN enzyme activity, PC-1, NAG, and DPP IV in serum and urine spectrophotometric method.

Results: Urinary activity of APN was significantly higher (p<0,01) in both groups of patients with type 1 and type 2 diabetes and microalbuminuria, and urinary NAG activity and DPP IV in patients with type 2 diabetes and microalbuminuria (p<0,01 i p<0,05) compared with the control group. However, in patients with type 2 diabetes and microalbuminuria, observed significantly lower levels of serum DPP IV activity, as well as significantly lower serum APN activity in patients with type 2 diabetes and makroalbuminuria compared with the control group (p<0,05).

Conclusion: Increased urinary enzyme activity of APN, NAG and DPP IV in patients with diabetes mellitus type 1 and type 2 may have diagnostic importance of early markers and be a predictor of functional outcome and response to therapy before microalbuminuria in patients with diabetes occur.

Keywords: diabetic nephropathy, microalbuminuria, ectoenzyme
LIPOSOMAL FORM OF INTERFERON IN TREATMENT OF TTV-HEPATITIS

Author(s): VERONIKA PISKOVATSKA
Supervisor(s): prof. Vladislav Jurlov
Country: Poland

Interferon is widely used in treatment of viral hepatitis due to double mechanism of anti-viral, immune regulation properties and antiproliferative effect.

Aim:

Materials and methods:
45 patients with hepatitis, TTV-infected were investigated. Liposomal form of recombinant alpha-2b-interferon was administered orally to all patients in course dose 20-40 millions IU. In all patients estimation of TTV-DNA in venous blood using PCR, standard biochemical blood tests, abdominal ultrasound examination, immunology tests were carried out before and after treatment.

Results:
All patients complained of dyspeptic symptoms, weight loss and pain in right hypochondrium. In all patients high levels of viral replication were found with median 1,14*10^6 copies per 1 ml of venous blood. Biochemical signs of inflammation, cytolysis, cholestasis, deficiency of liver biosynthetic function were observed. Ultrasonic signs of liver and spleen enlargement, induration and widening of bile ducts were discovered. Immunology tests showed high concentration of circulating immune complexes, low titer of natural antibodies, high immune regulative index. After treatment all patients have marked decrease of pain syndrome, signs of dyspepsia, asthenic syndrome. Decline of viral load was observed with median 0,54*10^6 copies (p<0,05). Manifestations of biochemical syndromes were less expressed (p<0,05). Ultrasonic signs of hepatosplenomegaly regressed. Immunologic tests showed decline of hyperantigenemia, normalization of natural antibodies titer.

Conclusion:
Results of laboratory and instrumental investigations show therapeutic effectiveness of liposomal form of interferon in TTV-hepatitis patients, which is accompanied by reliable clinical improvement.
NUTRITIONAL ANEMIA IN MEDICAL STUDENTS.

Author(s): PIYUSH KALAKOTI
Supervisor(s): Rubeena Bano
Country: India

Introduction:
Nutritional anemia is very much prevalent and largely undiagnosed among students in Professional Institutes. Various socio-demographic characteristics like age, sex, social class, dietary habits, and infections are the etiological factors for nutritional anaemia.

Aim:
To study nutritional anemia and its’ correlates among the Medical Students of Rural Medical College, Loni.

Material and methods:
The study was done on 100 MBBS students. Hemoglobin estimation was performed by Sahli’s Haemoglobinometer and observations were interpreted as per the WHO criteria. The data was collected on a pre-designed and pretested questionnaire. The data was analyzed by SPSS Statistical software and chi-square test of significance was applied to assess the significance level by calculation of p-value of the observations.

Results:
In the present study on 100 Medical students, 32.0% students were anaemic, out of which 44.0% were girls and 20.0% boys. 25.0% students had mild anemia. Majority (81.8%) of anaemic students were undernourished as per their Body Mass Index.

Conclusion:
Hemoglobin estimation of students at the time of entrance to Medical Colleges should be done. Iron and folic acid tablets and deworming drugs in therapeutic doses should be provided to anemic students. The students should be motivated and educated to take balanced diet, rich in green leafy vegetables and fruits as nutritional anemia is totally preventable.

Key words: Nutritional Anemia, Hemoglobin level, Body Mass Index
APOPTOSIS RATE AFTER SELECTIVE THERMOLYSIS OF HEPATOCARCINOMA CELL LINES TREATED WITH BOVINE SERUM ALBUMIN CONJUGATED CARBON NANOTUBES

Author(s): IORGA OTILIA, Fustos Tiberiu, Cozar Octavian  
Supervisor(s): Associate Professor MD. Cornel Iancu, MD Mocan Lucian  
Country: Romania

Aim:  
We wanted to demonstrate the superior apoptosis rates of albumin carbon nanotubes systems (BSA-MWCNT) in comparison to the frequently used DNA conjugated multiple wall carbon nanotubes (DNA-MWCNT) when thermal ablation was applied to the treated hepatocarcinoma cells.

Methods and materials:  
We conjugated multiple wall carbon nanotubes (MWCNT) with bovine serum albumin (BSA). We used 2 groups of Hep G2 cell lines, one treated with DNA-MWCNT and the other one treated with BSA-MWCNT. The conjugated nanotubes were administered in different concentrations and were incubated for different periods of time. We irradiated the treated liver cancer cells for 2 minutes using 2W of power laser at 808 nm. The confocal microscopy was used to verify the internalization of the nanotube systems.

Results:  
The conjugation of the BSA and the carbon nanotubes was confirmed by atomic force microscopy analysis and their ability to internalize within the Hep G2 cell lines was proven using confocal microscopy. The apoptosis rate of the Hep G2 cells treated with 50 mg/l of BSA-MWCNT post-irradiation was of 88.24% at 60 seconds while at 30 minutes it increased up to 92.34%. The results for the other group that was treated with 50mg/l of DNA-MWCNT were of 64.32% at 60 seconds and of 70.78% at 30 minutes.

Conclusions:  
As we know it, this is the first demonstration of improved selective thermal ablation of liver cancer cells using BSA-MWCNTs by comparing it to the efficiency of DNA-MWCNTs.
EXPERIMENTAL APPROACH OF PANCREATIC CANCER CELL LINES USING BIOFUNCTIONALIZED SINGLE WALL CARBON NANOTUBES

Author(s): FUSTOS TIBERIU MIHAI, Iorga Otilia, Cozar Octavian  
Supervisor(s): Associate Professor MD. Cornel Iancu, MD. Mocan Lucian  
Country: Romania

Aim: In our study we have tested the nanophotothermolytic effect of the laser irradiation on human pancreatic cancer cell lines (PANC-1) treated with single wall carbon nanotubes (SWCNT).

Materials and methods: The PANC-1 cell lines were divided into 3 groups. The first group was the control group and was not treated with nanoparticles. The second group was treated with SWCNT functionalized with DNA (DNA-SWCNT), while to the last one we administered SWCNT functionalized with epidermal growth factor (EGF-SWCNT). The PANC-1 cells were treated with 1mg/l, 5mg/l, 20mg/l and 50 mg/l of nanoparticles and were incubated afterwards for 30 minutes, 1 hour, 2 hours, 3 hours, 5 hours and 24 hours. PANC-1 cells were further irradiated using a laser source.

Results: We observed an increased apoptotic rate for the EGF-SWCNT group at all concentration levels and for all the incubation intervals. The apoptotic rate after irradiation for the concentration of 1mg/l of EGF-SWCNTs was 87.24% at 3 hours, 94.9% at 5 hours and 100% at 24 hours. For the 1 mg/l DNA-SWCNT treated groups at 3 hours the apoptotic rate was of 29.11%, at 5 hours of 37.5% and at 24 hours of 52.2%. The irradiation of the first group had no effect on the apoptotic rate.

Conclusions: We concluded that the irradiation of PANC-1 cell line treated with EGF-SWCNT is a viable method of cancer treatment in vitro, inducing selective apoptosis with a low citotoxicity level.
INTRAVITREAL INJECTION WITH BEVACIZUMAB (AVASTIN) IN THE MANAGEMENT OF EXUDATIVE AGE RELATED MACULAR DEGENERATION

Author(s): ANDRONIC ADRIAN BOGDAN, Dicu Andra, Cănulescu Cristiana, Tăban Corina, Basturescu Simona, Vacaru Viorel
Supervisor(s): Professor M.D. Liliana Voinea
Country: Romania

Introduction:
Age related macular degeneration (ARMD) is responsible for the main cause of diminished visual acuity (VA) among individuals older than 65 in developed countries. Severe loss of VA is caused by exudative ARMD.

Aim:
Researching the efficiency and safety of intravitreal injections with bevacizumab through the use of fluorescein angiography (FA), VA and optical coherence tomography (OCT).

Materials and methods:
We conducted a retrospective study on a group of 50 patients, 54 eyes, with exudative ARMD, treated previously with 1.25 mg (0.5 ml) intravitreal bevacizumab and kept under observation 6 months. We applied the T test (Repeated Measure Design) having as dependable variable the VA.

Results:
The average VA improved by 1 line, on standardized visual chart, for incipient lesions (90% of the patients improved or remained stable while just 10% lost 1 line). Changes in OCT were significant for incipient forms.

Conclusions:
We observed an improvement of average VA by 1 line, an improvement in the FA and no important adverse effects. In conclusion, bevacizumab (Avastin) should be considered a preferential treatment in patients with exudative ARMD.

Key words: ARMD, exudative, bevacizumab, VA, OCT
A STUDY ON THE RISING PREVALENCE OF AUTISM SPECTRUM DISORDERS CALLS FOR RESEARCH ON CAUSES AND CURES

Author(s): ANDRONIC ADRIAN BOGDAN, Cânulescu Cristiana, Dicu Andra, Basturescu Simona, Tăban Corina
Supervisor(s): Professor M.D. Iuliana Dobrescu
Country: Romania

Introduction:
Autistic spectrum disorders (ASD) can cause a wide range of symptoms, grouped into three categories: problems with social interaction, impaired communication and repetitive patterns. The number of diagnosed cases of ASD has increased over the past two decades and scientists are referring to it as an”autistic epidemic".

Aim:
Studying the rising prevalence of ASD and the possible etiopathogeneses that lead to it.

Materials and methods:
We conducted a retrospective study on a group of 3005 patients with ASD, admitted in the Child’s and Adolescent’s Psychiatry Clinic,”Al. Obregia” Hospital, between January 1990 and April 2010.

Results:
The ASD prevalence increased from 66.19‰ in 1990 to 235.16‰ in 2009. This represents a 3.5 rise in a period of 19 years. Also, a shift in the male/female sex ratio has been noted, from 4/1 described in 1943 to 1.46/1 nowadays.

Conclusions:
The several hypotheses trying to explain this soaring evolution: more specific diagnostic criteria, better informed parents addressing the healthcare system, the genetic theory, the toxic-pharmacological theory and others are up for more extensive research.

Key words:
ASD, prevalence, sex ratio, autistic epidemic
ULTRASOUND MONITORING OF VASCULAR SYSTEM IN ORDER TO CREATE ARTERIOVENOUS FISTULA FOR HAEMODIALYSIS

Author(s): JELENA MILOSAVLJEVIC, Miljana Dancetovic, Jelena Mitrovic  
Supervisor(s): Doc. Dr Radojica Stolic  
Country: Romania

Introduction and aim: Doppler ultrasound check-up significantly increases a possibility of initial functioning of arteriovenous fistula. The aim was the preoperative evaluation of vascular system of the extremity for creation of arteriovenous fistula for haemodialysis.

Material and methods: 87 patients were examined, 52 (59,8%) male and 35 (40,2%) female, age of 61±11,1 years. There were performed the routine biochemical analyses, demographical structure and important clinical characteristics.

Results: In 72,1% of functioning fistula there was made a terminal-lateral anastomosis, compared to 57,8% of initial non-functioning fistula, there was found a statistically significant difference p = 0,008. Radiocephalic fistula was created in 62,3% of functioning fistula, in non-functioning, the distal fistula was created in 38,5%. Difference in peak of the systolic speed of the radial artery between this two groups (50 ± 12,42 vs. 40 ± 6,9 cm/sec); (p = 0,0026), has statistically significant value. Regarding hemoglobin (97 ± 16,1 vs. 88 ± 18,3 g/l); p = 0,006) and the level of urea (22,6 ± 12,7 vs. 23,9 ± 9,8); p=0,02 , there was found a statistically significant difference between the groups.

Conclusion: Preoperative evaluation of blood vessels with Color Doppler ultrasound represents a meaningful predictive parameter of functioning of arteriovenous fistula.

Keywords: Color Doppler ultrasound, Haemodialysis, Arteriovenous fistula
SERRATED POLYPS OF THE COLON – FREQUENCY AND PROGNOSIS

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Country: Serbia

Introduction:
The malignant potential of serrated polyps of the colon is disputed. However, their clinical course and biological behavior may vary between the patients in spite of the similar histological characteristics.

Aim:
The aim of our study is to estimate the incidence of serrated polyps and to evaluate their malignant potential.

Methods and materials:
141 (n=141; 100%) patients with colonic polyps were diagnosed in the Department of Surgery of Medical University - Sofia, from January to June 2010.141 patients underwent colonoscopy in gastroenterology wart with high definition (HDTV) colonoscopy and 178 polyps were found.178 biopsies of examined polyps were explored in the Department of Pathology.

Results:
1. Serrated polyps of the colon are 17 (n=17;12%) of all. Five of the patients had multiple polyps. In two of the patients polyps were localized in ascending colon, in three in descending colon, in five in sigmoid colon and in two – in rectum.
2. From all patients with serrated polyps 17(n=17;100%) those with transition to carcinoma / with carcinoma in situ were found in 3(n=3; 17,65%) patients.
3. 14 (n=14; 9,93%) of the patients had polyps with transition to carcinoma / carcinoma in situ .

Discussion:
Serrated polyps of the colon have different oncological status, which requires different behavior of medical professionals. Further investigations will reveal significance of these polyps in pervasion of cancer of the colon.
EFFECT OF THE USE INSULIN PUMP TREATMENT ON MICROALBUMINURIA LEVEL IN PATIENTS WITH TYPE 1 DIABETES

Author(s): SLADJANA SMRZLIC, Nada Santrac, Ognjen Bojovic, Ana Zekovic, Savic Tamara, Helga Denc, Ivana Jovanovic, Stefan Juricic, Zeljko Garabinovic, Maja TOSIC, Marija Jovanovic, dr Ljubica Stosic
Supervisor(s): Assistant Professor Katarina Lalic
Country: Serbia

Introduction: Diabetic nephropathy is the leading cause of mortality and morbidity in patients with type 1 diabetes. The most valid parameter development of diabetic nephropathy is microalbuminuria, and many studies have shown that poor glycemic control is one of the most important factors leading to the progress of diabetic nephropathy.

Aim: Examine the effect of insulin pump therapy in patients with type 1 diabetes on improving the level of microalbuminuria and improvement glycemic control.

Material and methods: Study included 79 patients with type 1 diabetes. To all patients both in the conventional therapy and the insulin pump therapy we measured levels of Hb1Ac (immunoassay method), levels of microalbuminuria (immunonephelometry) and body weight.

Results: Using insulin pump therapy has achieved a very significant reduction Hb1Ac (p<0.001). Also, the value of microalbuminuria was statistically lower in group patients on insulin pump therapy compared to patients on conventional therapy with 4 doses of insulin (p<0.05) and as a percentage view, the reduction is even 44% on the current therapy. At the same time, even at 37% of patients there was normalization of microalbuminuria (p<0.05) which is associated with improvement glycemic control. Also, proteinuria was established in 7 patients on treatment with 4 doses of insulin and there was a regression in the range macroalbuminuria on therapy using insuli pump.

Conclusion: The results suggest that insulin pump therapy is more effective in achieving optimal glycemic control. In addition, pump therapy has proved effective in reducing the values of microalbuminuria, and in some cases the normalization value of this marker for diabetic nephropathy.
ASSOCIATION BETWEEN SUBCLINICAL HYPOTHYROIDISM AND PREVALENCE OF RETINOPTHY, NEPHROPATHY AND GLYCATED HEMOGLOBIN LEVEL IN CHILDREN AND ADOLESCENTS WITH TYPE 1 DIABETES MELLITUS

Author(s): PARNAZ DANESHPAZHOOH, mahsa shariat, nooshin khalili boroujeni  
Supervisor(s): PARNAZ DANESHPAZHOOH  
Country: Iran

Aims: This study was performed in order to compare the prevalence of retinopathy, nephropathy and glycated hemoglobin level “HbA1C” between the Type 1 Diabetes Mellitus patients with subclinical hypothyroidism and euthyroid Type 1 Diabetes Mellitus patients.

Material and methods: In this analytical cross-sectional study conducted from April 2008 until August 2009, a total number of 100 type 1 diabetic patients were screened for thyroid function by measuring serum thyroid stimulating hormone and free thyroxin concentrations in Isfahan Endocrine and Metabolism Research Center, Iran. Overall 99 patients were qualified to continue the study. 19 type 1 diabetic patients with subclinical hypothyroidism and 80 euthyroid diabetic patients were matched for age, duration of disease and sex. There was no difference (mean) in terms of low density lipoprotein, high density lipoprotein, body mass index and blood pressure between the two groups.

Results: The mean age of subjects was 12±4.5 years, with a diabetic history of 5±1.7 years. Among those with subclinical hypothyroidism 6 patients had microalbuminuria and 1 had macroalbuminuria. Microalbuminuria and macroalbuminuria were found in 18 and 3 euthyroid patients respectively (p>0.05). The average HbA1C level was 8.3% in the subjects with subclinical hypothyroidism and 7.6% in the euthyroid group (p>0.05). Non-proliferative diabetic retinopathy was diagnosed in 3% of patients with subclinical hypothyroidism and 2% of the euthyroid group. In none of the groups studied, was proliferative retinopathy detected (p>0.05).

Conclusions: In this study the prevalence of retinopathy, nephropathy and the HbA1C level were examined. Subclinical hypothyroidism was not associated with a greater prevalence of diabetic nephropathy and retinopathy and higher levels of HbA1C compared to euthyroid diabetics. However, more studies with larger sample sizes are recommended to verify this association.
THE HER2 OVEREXPRESSSION IN BREAST CANCER: ASSESSMENT AND CLINICAL SIGNIFICANCE

Supervisor(s): RADULOVIC OLGA
Supervisor(s): Dr. Z. Milosevic, associated professor
Country: Serbia

The human HER2 gene encodes the HER2 protein, a transmembrane receptor with tyrosine kinase activity. In 20%-30% of breast cancers the HER2 gene is amplified during the malignant transformation and tumor progression. Consecutively, the overexpression of the HER2 protein on the breast cancer cells surface occurs. The methods for HER2 overexpression assessment in clinical practice are done. Data of HER2 protein expression in breast cancer tissues (HerceptTest, DakoCytomation, Denmark) of 625 women aged 57.4±11.9 years were selected from the Hospital registry of Institute of oncology and radiology Serbia. The following results were obtained: absent to faint membrane staining in less than 10% of the tumor cells (Score 0 or HER2 protein negative tumors) in 127 pts (20%); faint incomplete membrane staining in more than 10% of the tumor cells (Score 1+ or HER2 protein negative tumors) in 292 pts (47%); weak to moderate complete membrane staining in more than 10% of the tumor cells (Score 2+ or HER2 protein weakly positive tumors) in 105 pts (17%); strong complete membrane staining in more than 10% of the cells (Score 3+ or HER2 protein strongly positive tumors) in 101 pts (16%). HER2 overexpression is a basis for new, efficient anticancer therapy of HER2 strongly positive tumors with trastuzumab, a recombinant monoclonal antibody targeted against HER2. Since the breast cancer is the most common cancer in women and the primary cause of death by cancer worldwide, the knowledge of clinical implications of molecular behavior of cancer is essential for both, medical and biological students.
INFLUENCE OF METABOLIC CONTROL ON BODY WEIGHT OF INFANTS IN PATIENTS WITH TYPE 1 DIABETES

Author(s): SAVIC TAMARA, Sladjana Smrzlic, Ana Zekovic, Ognjen Bojovic, Dragan Opacic, Bojan Naumovic, Marija Jovanovic
Supervisor(s): Doc dr Aleksandra Jotic
Country: Serbia

Introduction: Pregnancy in patients with type 1 diabetes (T1D) is significantly associated with adverse outcomes for both mother and the newborn, especially the increased risk of fetal macrosomia.

Aim: The aim of our study was to analyse changes in fasting and postprandial glucose, HbA1c levels, body weight (BW) before, and increment of BW during pregnancy in patients with T1D and newborn’s birth weight.

Material and methods: Study included 40 pregnant women with T1D on intensive insulin therapy (IIT): conventional intensive insulin therapy and insulin pump therapy. Fasting, postprandial glycemia, HbA1c levels and BW were measurement before conception and during pregnancy.

Results: Fasting, postprandial glycemia and HbA1c levels were significantly lower in the third trimester compared to the conception in both therapeutic regimens of IIT (7.45 +/- 0.4 vs. 6.1 +/- 0.3 mmol/l, p<0.01; 9.1 +/- 0.5 vs. 6.8 +/- 0.4 mmol/l, p<0.01; 8.48 +/- 0.44 vs. 6.90 +/- 0.46%, p<0.01). The total daily dose of insulin was significantly higher during the third trimester of pregnancy (39.5 +/- 13.0 vs. 60.5 +/- 19.5 U/day, p<0.01) in both therapeutic regimens of IIT. Linear regression analysis revealed that the dominant influence on BW of newborn has weeks of gestation on delivery, the increment of BW of patients during pregnancy, as well as the level of HbA1c in the third trimester of pregnancy (p<0.01).

Conclusion: Our results indicate that the optimal glycemic control in the third trimester, with a moderate gain of BW in women with T1D in pregnancy may prevent the development of fetal macrosomia and consequently unwanted outcomes of pregnancy, both for mother and newborn.

Key words: T1D, pregnancy, fetal macrosomia, metabolic control.
ACE-INHIBITORS AND POTASSIUM BALANCE IN PATIENTS WITH RENAL DISFUNCTION

Author(s): MILENA JEVTIC, Milan Jovanovic
Supervisor(s): prof. dr Sonja Radenković
Country: Serbia

Introduction:
ACE-inhibitors constrain the converting of inactive angiotensine I to highly active angiotensine II. This mechanism enables lowering arterial blood pressure. The use of ACE-inhibitors with patients suffering from renal insufficiency can cause hyperkaliemia.

Aim:
The aim of this study is to investigate the change in balance of potassium in the group of patients suffering from renal insufficiency an arterial hypertension both were treated with the ACE-inhibitors.

Materials and methods:
There are 50 patients of both sexes, 42-77 years old. The test that were performed were measuring the level of potassium in serum, level of potassium in urine, excretion of potassium during the period of 24 hours, as well as monitoring the level of creatinin in serum and urine.

Results:
A noticeable difference between the group of values of serum-potassium in clinical and the once in control group were obtained(4,6±0,1 mmol/l and 4,3±0,2 mmol/l) (p=0,05) . Similary, a remarkable distination in surveling the level of potassium in urine has also occurred(24,3±4,53 mmol/l and 33,2±8,36 mmol/l) (p=0,01) .

Conclusion:
The result of analysis have shown that there are changes in potassium balance amoung the patients with arterial hypertension and those suffering renal insufficiency. Furthermore, patients having the change of renal funtion excreted the smaller amounts of potassium, and that is directly releted to two causes. The first one reason is lower level of glomerular filtration. And the second one is the lower level of activity of aldosteron on distal renal tubules.

Key words:
ACE-inhibitors, potassium balance, arterial hypertension.
DECOMPENSATED LIVER CIRRHOSIS AS A REASON FOR ADMITTANCE IN INTENSIVE CARE UNIT

Author(s): TATJANA RAĐEKA
Supervisor(s): Ass. dr Aleksandra Sokić Milutinović
Country: Serbia

Introduction:
Liver cirrhosis is a chronic irreversible process induced by prolonged damage and loss of hepatocytes. Decompensated liver cirrhosis (DLC) is related to a high mortality rates. These patients require intensive care treatment especially when hepatic encephalopathy or varriceal bleeding occur.

Aim:
The aim of this study was to analyze etiology, treatment outcome, incidence of hepatic encephalopathy and varriceal bleeding in patients with DLC admitted in intensive care unit

Material and methods:
Retrospective study included 128 patients (107 males, 21 females, average 56 years) with decompensated liver cirrhosis admitted in intensive care unit in Emergency Center of Clinical Center of Serbia in a period between 1st Jan-31st Dec 2009.

Results:
Decompensated alcoholic liver cirrhosis was detected in 87 (68%) patients, while cirrhosis after hepatitis B or C infection was present in 19 (14%) patients. Treatment outcome was successful in 73%, with mortality rate of 27%. Main reasons for admittance in intensive care unit were hepatic encephalopathy (41%) and bleeding from upper parts of gastrointestinal tract (35%). Etiology of DLC and indications for admittance together with present clinical signs of decompensated liver cirrhosis did not determine or affect an outcome.

Conclusion:
In intensive care units patients with DCL are mostly males with alcoholic liver cirrhosis treated due to the presence of hepatic encephalopathy or gastrointestinal bleeding. Neither etiology nor clinical signs and indications for admittance affect the outcome in patients with DLC.

Key words:
decompensated liver cirrhosis (DLC), intensive care units
THE ANABOLIC EFFECT OF STATINS AND OSTEOSPOROSIS

Author(s): JANA MIRKOVIC, Marija Mirkovic, Nikola Petkovic
Supervisor(s): Doc.dr Zlatica Petkovic
Country: Serbia

Discovery of statins as bone anabolic agents has spurred a great interest among both basic and clinical bone researchers. Dose optimization and/or discovery of bone-specific statins or their bone-targeted delivery offers great potential in the treatment of osteoporosis. Osteoporosis is one of the most common diseases nowadays. According to the WHO criteria, 13% to 18% of women aged 50 or older had osteoporosis and another 37% to 50% had low bone mass. The method to measure the quantitative aspect of bone mineral density (BMD) or bone mineral content (BMC), dual energy X-ray absorptiometry (DEXA), is currently considered as the “gold standard” for the diagnosis of osteoporosis, according to the World Health Organisation definition. Most of the current therapies available for its treatment are limited to the prevention or slowing down of bone loss rather than enhancing bone formation.

Key words: osteoporosis, quantitative ultrasound osteodensitometry, cholesterol, statins
MYELITIS IMITATED INTRAVASCULAR LARGE B-CELL LYMPHOMA

Author(s): VLADIMIR SISOVSKY (1,2), Michal Palkovic (2)
Supervisor(s): Prof. Pavel Babal, M.D., Ph.D., Prof. Ludovit Danihel, M.D., Ph.D.
Country: Slovakia

Introduction:
Intravascular large B-cell lymphoma (IVLBCL) is a rare, extremely aggressive, subtype of extranodal diffuse large B-cell lymphoma characterized by the presence of lymphoma cells only in the lumina of small vessels. The intravascular growth pattern has been hypothesized to be secondary to a defect in homing receptors on the neoplastic cells. Most of variable symptoms results from occlusions of small vessels by tumour cells in a variety of organs. The disease lends itself to studying the basis biology of lymphocyte migration.

Aim:
To describe the IVLBCL, which can clinically to imitate myelitis.

Material and methods:
Formalin-fixed and paraffin-embedded necropsy tissue specimens with various organs were besides conventional histological stains evaluated by histochemistry, by light microscopy, for the expression of chloracetatetesterase in cytoplasm and of leukocyte antigens CD45, CD45RO and CD20 in cell membrane of large lymphoid cells in lumina of small vessels.

Results:
80-years old man, with paraparesis of lower limbs and sfincters’ insufficiency, macrocytic anaemia, thrombocytopenia, expected myelitis, treated by corticoids, died after 18 days of hospitalisation of cardiac failure. At dissection we found numerous bleeding and necrosis in the brain and in the large bowel. In the microscopic features dominated large lymphoid cells present only in the lumina of small vessels in several organs. We identified tumour cells by described methods as B-cell lymphoma.

Conclusion:
At first sight visible the gross features of IVLBCL are mostly those of haemorrhage, thrombosis and necrosis in a wide range of tissues. Real deposits of tumour may not be visible to the naked eye.
PLENARY Session VI

DENTISTRY AND PSYCHIATRY
INFLUENCE OF FLOWABLE MATERIALS ON MICROLEAKAGE OF NANOFILLED AND HYBRID CLASS II COMPOSITE RESTORATIONS WITH LED AND QTH LCUS

Author(s): SEPIDEH ASSAR
Supervisor(s): Dr. Mostafa Sadeghi
Country: Iran

Introduction:
This study was used to evaluate the influence of flowable composite and flowable compomer as gingival liner on microleakage in Class II composite restorations and compare a light-emitting diode (LED) unit with a quartz tungsten halogen (QTH) unit for light-activating composite resins.

Materials and methods:
Mesioocclusal and distoocclusal Class II cavity preparations were made in 72 sound extracted premolars. The buccolingual width was 2.5 mm and the gingival margins of all the cavities were placed 1.0 mm apical to the CEJ. The boxes were prepared 1.5 mm deep axially, making 144 slot cavities. Teeth were randomly divided into the following two groups (n = 72). Flowable materials were injected into the gingival floor of the cavity to a thickness of 1.0 mm. Each increment was cured for 20s. One-half of the subgroups in each group were cured with QTH and the other half with LED light curing units (LCUs). After 1 week of incubation at 37°C, the specimens were thermocycled, immersed in 0.5% basic fuchsine dye for 24h and sectioned, microleakage was evaluated at the gingival margin by two examiners. The data was analyzed by Kruskal-Wallis and Mann-Whitney U tests.

Results:
The groups utilizing flowable liners had significantly less microleakage (P < 0.05). There was no significant difference between utilizing flowable composite or flowable compomer and between each similar subgroup when polymerized with either the LED or the QTH LCUs.

Conclusions:
A layer of flowable materials at the gingival floor of Class II composite restorations may be recommended to improve the marginal seal of a restoration.
ANTIBACTERIAL EFFECTS OF PERSICA AND MATRICA HERBAL MOUTHWASHES ON COMMON ORAL MICROORGANISMS: AN IN VITRO STUDY

Author(s): SEPIDEH ASSAR  
Supervisor(s): Dr. Mostafa Sadeghi, Shokrollah Assar  
Country: Iran

Introduction:  
The purpose of this in vitro study was to compare the antibacterial effects of Persica and Matrica herbal mouthwashes with Chlorhexidine 0.2% (CHX) on common oral microorganisms.

Materials and Methods:  
The disc diffusion method was used to measure inhibition zone of tested mouthwashes against Streptococcus mutans, Streptococcus sanguis, Streptococcus salivarius, Streptococcus sobrinus, Klebsiella pneumonia, Escherichia coli, Pseudomonas aeruginosa and Eikenella corrodens. The paper discs containing mouthwashes were put on medium which cultured with bacteria; blank disks containing distilled water were used as control group. Three samples of each mouthwash were cultured in three times. Totally, with computation of negative control discs, 240 cultures were performed. After 18 hours incubation, inhibition zones were measured in millimeter and compared with each other. Data were analyzed by descriptive (mean and standard deviation) and analytical (One Way ANOVA and Tukey) statistical methods using SPSS-16 software; P<0.05 was considered as a significant difference.

Results:  
Herbal mouthwashes significantly produced smaller zones of microbial inhibition when compared to CHX mouthwash against all of the bacteria tested. Persica could not inhibit bacterial growth, except for Klebsiella pneumonia. Also, there was not statistically significant difference among three samples of mouthwashes and three cultures of each mouthwash.

Conclusions:  
Based on the results of this study, herbal mouthwashes are less potent than the CHX in an in vitro inhibiting of the growth of tested bacteria. Further an in vivo/in vitro are needed to substantiate present findings.

Key Words: herbal mouthwash, Persica, Matrica, Chlorhexidine, oral microorganisms, antibacterial activity
ORAL HEALTH OF SIX- YEARS OLD CHILDREN IN THE CITY AREA OF KOSOVSKA MITROVICA

Author(s): ĐORĐE BLANUŠA
Supervisor(s): Dr Ass. Zoraida Milojković
Country: Serbia

Introduction:
Today, dental caries remains one of the most common diseases. So, preventive dentistry became one of the most important parts of modern dentistry, which can guarantee the success in oral health.

Aim:
The aim of study was to declare caries etiological factors at first, than to confirm the oral status of primary teeth and the status of the first constant molars of six- years old children in city area of Kosovska Mitrovica, and than to explain to parents and their children the importance of oral hygiene and oral health.

Material and methods:
At the beginig of our examination, we dispensed opinion polls to the parents. It was consisted out of 13 questions about oral hygiene, their children nutrition and about parents knowledge in oral health. After we got parents' approval, we controled 40 six- years old childrenen following the WHO principles. We paid more attention to first constant molars. At the end, we delivered a speech about oral hygiene and oral health to the children and to their parents.

Results:
Analysing the opinion polls, we determined the main caries etiological factors. We analysed the status we got, determined “dmtf” index of primary teeth, and distinguished the first constant molar status. Some of the most interesting cases are demonstrated.

Conclusion:
According to professional results, we can determine that the oral health of six- years old children in the city area of Kosovska Mitrovica is concerned and, at the same time, the parent's knowledge about the importance of oral health of their children is really low.

Key words: Caries, Oral health, First constant molars.
THE RESTORATION OF ENDODONTICALLY TREATED TEETH BY FIBER-GLASS REINFORCED COMPOSITE POSTS AND CAST POSTS AND CORE

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Supervisor(s): Ass. dr Radivoje Radosavljević
Country: Serbia

Introduction: FRC (fiber-glass reinforced composite) posts are introduced as alternative for many conventional materials, as cast posts are. Endodontically treated teeth are known to present a higher risk of biomechanical failure than vital teeth do. The choice of an appropriate restoration for endodontically treated teeth is guided by strength and esthetics.

Aim: The aim of this examination was to compare the therapy treatment quality between endodontically treated teeth restored by FRC posts and endodontically treated teeth restored by cast posts and core.

Material and methods: Material in this study were fiber-glass reinforced composite posts, and cast post and core, for definite restoration endodontically treated multi-rooted teeth. FRC posts were cemented into the root canal by Multilink Automix (Ivoclar Vivadent, Schaan, Liechtenstein) dental cement. Multilink primer A and B were used for root dentin and Monobond S for post treating, in accordance to manufacturer’s instructions. Multicore HB was used for core. Cast posts and core were cemented by Zinc-phosphate cement.

Results: Derived results which were referred to advantages of nonmetallic posts system comparing to conventional metallic system, are following: Faster proceeding of fixed prosthetic supplyings, maximum retention with little removal of dentin from the root canal, esthetic compatibility with definitive restoration and surrounding tissue, easy retrievability and distribution of functional stress even along the root surface.

Conclusion: Easy of use, safety and reliability of nonmetallic posts, as quoted advantages and reasonable cast, are presenting the group of nonmetallic system attributes. Thanks to the development of the nonmetallic posts and their long lasting clinical research, they got more recommendations in the clinical practice. In comparison to former conventional materials and post and core systems, FRC posts demonstrate significant preference for new technological accomplishments.

Key words: Endodontically treated teeth, Fiber-glass posts, Cast posts and Core.
COMPARISON OF SALIVARY IgA, AND MUTANS STREPTOCOCCI BETWEEN CHILDREN WITH EARLY CHILDHOOD CARIES AND CHILDREN WITHOUT CARIES

Author(s): DENIĆ DRAGANA
Supervisor(s): Ass. Prof. Andrijana Cvetković
Country: Serbia

Introduction:
Early childhood caries (ECC) is a particularly virulent form of dental caries affecting the primary teeth of infants and toddlers. The aim of this study was to examine the relationship between level of whole IgA in saliva, and mutans streptococci (MS) in saliva from children with early childhood caries (ECC) and children without caries.

Materials and methods:
In this study, 30 children with ECC, and 30 children without caries, mean age 39±5 months were examined. The mean dmfs index for group children with ECC was 7.16±2.41 (mean ± SD). A commercial method CRT® bacteria-tests (Ivoclar Vivadent AG, Liechtenstein), were used to evaluate mutans streptococci levels in unstimulated saliva. Quantitative analysis of whole salivary IgA was performed using the method of dot blot immunoassay, who was standardized using highly specific reagens (Nordic, Tilburg, The Netherlands).

Results:
The levels of MS in saliva were directly related to the presence of ECC. Children with ECC had a large number of colonies formed of MS in saliva (CFU>105/ml) than caries-free children. All Children with ECC had higher levels of whole salivary IgA than caries-free children (3.51 µg/ml ±0.88 : 8.32 µg/ml± 1.92; mean ±SD). The children’s ECC was positively correlated with levels of MS (p<0.01) in saliva, and whole salivary IgA (p<0.01).

Conclusion:
Results indicate that there is a significant increase in IgA levels in saliva at children with ECC, which can be associated with present infection and clinical disease.

Keywords: Early childhood caries, Saliva, Mutans streptococci, IgA.
OCCLUSAL SPLINTS AS AN ASPECT OF REVERSIBLE PROSTHETIC THERAPY

Author(s): MILETIĆ MARIJA
Supervisor(s): Prof. doc. Mitić Ankica
Country: Serbia

Introduction: More than 50% of the population suffers from temporomandibular dysfunction. Here there are certain symptoms: pain, disorder concerning moving the lower jaw and relationships between jaws. At the Dentistry Department of the Faculty of Medicine in Kosovska Mitrovica a research was done on determining therapy for these kinds of disorders.

Aim: The objective of the work is to determine whether occlusal splints as an aspect of therapy are efficient in alleviating and eliminating symptoms of temporomandibular dysfunction.

Materials and methods: The research was done on 25 patients. Interoral x-ray pictures of all 25 patients showed dislocation of discus articularis, the measurements showed that the results of mouth opening were below normal ones, and in certain number of them the movement was painful. Then ten of the patients underwent a physical therapy, and the remaining 15 were given individual splints to wear mainly at night. The splints were made of transparent acrylic material.

Results: Three months afterwards, people treated with physiotherapy were diagnosed with improvement in functions of temporomandibular joints and muscles of the jaws, but measurement results of mouth opening were always below normal ones. But patients who used splints as a therapy had a normal position of temporomandibular complex, without changing occlusal surface of natural teeth and their positions, the results of mouth opening were normal.

Conclusion: Results showed that prosthetic therapies by splints eliminates occlusal disturbances that lead to these disorders and enable recuperation and regeneration of joint tissues, normalization of muscular activity and reduction of pain and other symptoms.

Key words: TMZ, dysfunction, therapy
ANALYSIS OF POLYMORPHISM IN SURVIVIN GENE PROMOTER AS A RISK FACTOR FOR DEVELOPMENT OF ORAL CANCER

Author(s): BORIS ĆALIĆ
Supervisor(s): Jelena Milašin, PhD
Country: Serbia

Introduction:
Oral squamous cell carcinoma (OSCC) represents about 90-95% of all oral cancers. OSCC has a relatively low rate of five-year survival. Great efforts were made to find markers that would help to understand the development of OSCC. Survivin is a member of the family of apoptosis inhibitors and cell cycle regulators. Polymorphism at position -31 (mutation C>G) leads to increased expression of survivin that might increase the risk for different types of tumors.

Aim:
(1) determine the frequency of genotypes for the C-31G polymorphism of the survivin gene in a group of people with OSCC and in healthy control group, (2) to determine the frequency of wild-type allele (C) and mutant allele (G) in those groups, and (3) determine whether there is an association of C-31G polymorphism of survivin with the risk of OSCC.

Materials and methods:
DNA isolated from buccal mucosa, was subjected to PCR/RFLP analysis to determine the genotypes. The results were statistically analyzed with chi-square test.

Results:
The observed genotype frequencies were as follows: 15% of CC in OSCC, 13% in control-group, 41% of CG in OSCC, 55% in control-group, 44% of GG in OSCC and 32% in control-group. The frequency of wild-type allele (C) was 35% in OSCC versus 41% in control group, while the frequency of mutant variant (G) was 65% in OSCC and 59% in controls. Statistically significant difference in frequencies were found.

Conclusion:
There is an association between the polymorphism C-31G survivin and increased risk for OSCC.

Key words: OSCC, gene polymorphism, survivin, PCR-RFLP
ANXIETY AND DEPRESSION AS THE CONSEQUENCE OF ABUSE OF PSYCHOACTIVE SUBSTANCES

Author(s): ZELJKO GARABINOVIC, Ivana Zivkovic, Ognjen Bojovic, Ana Zekovic, Aleksandar Bogicevic, Bojan Naumovic, Dragan Opacic, Marija Jovanovic, Sladjana Smrzlic

Supervisor(s): Ass.dr Milica Pejovic Milovancevic
Country: Serbia

Introduction: The usage of psychoactive substances can lead to damage of physical and mental health, which can be combined with socially unacceptable consequences. The symptoms that appear in patients considering social behavior can lead to hardening of the basic diagnostic process of proving the presence of substance abuse related disorders.

Aim: The aim of our study was to prove the presence of anxiety and depression symptoms in patients which have substance abuse related problems. Also the aim was to represent the results by using statistical correlation and to evaluate the possible connection of substance abuse disorders with the current state of the patient’s social behavior.

Materials and methods: The research has been done on 132 patients with substance abuse disorders in The Institute for Mental Health. Social-demographic survey, Beck’s depression inventory and Beck’s anxiety inventory were used for data gathering. The data was analyzed with statistic descriptive methods and by the use of Pearson correlation test.

Results: The study showed that a significant number of patients showed symptoms of anxiety (75.8%) and depression (49.3%). Data showed that there is a statistically significant connection of the mutual presence of these two disorders.

Conclusion: Mutual presence of anxiety and depression disorders with the combination of substance abuse related disorders showed a high statistical importance. These disorders may lead to difficulties within the diagnostic process of substance abuse related disorders.

Key words: anxiety disorder, depression, substance abuse.
GENDER DIFFERENCES AMONG MEDICAL STUDENTS’ KNOWLEDGE ON SUBSTANCE ABUSE

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Supervisor(s): Prof. dr Ivan Dimitrijevic
Country: Serbia

Introduction:
Substances abuse is one of the leading lethal causes among the youth. The modern society and technology development have led to storming increase of computers, Internet and mobile phones use. Worldwide, specialized institutions for treatment of newer addictions appear.

Aim:
The aim of this study was to collect data and compare medical students’ knowledge on substance abuse by gender.

Materials and methods:
Target population was 100 third-year medical students of Belgrade University, mean age 22.57 years. Subjects were divided equally into male and female group. "Multiple-choice" questionnaire was applied.

Results:
Subjects answered correctly 57% of questionnaire. Approximately, 28% of students find addiction vice, or fault, not a disease. Worse results, with greater individual differences, were observed among male respondents. Female subjects responded two-thirds of the questionnaire more successfully than male - mainly questions about tobacco, sedatives and synthetic drugs. Both sexes were equally informed on inhalants and substance detection. Around 50% of subjects did not know alcohol effects. Barely half of respondents were familiar with the consequences of excessive mobile use, while only a third of them considered that it could lead to addiction. Apart from mobile use, respondents were well informed about newer addictions.

Conclusion: This research showed that medical students have moderate knowledge on addiction. Gender differences are great. Young people recognize poorly the danger of mobile use and betting, as well as the risk of alcohol abuse. Continuous monitoring is necessary along with appropriate education of young people in order to prevent substance abuse.
SUICIDE ATTEMPT AND SCALE OF LIFE EVENTS

Author(s): JELENA ILIĆ
Supervisor(s): Ass. dr Miodrag Doroški
Country: Serbia

Introduction:
The analysis of suicide attempt was carried out through socio-demographic characteristics of patients, attendant negative life events, as well as family history.

Aim:
The goal was to examine the percentage of employment amongst patients, frequency of relapse, presence of positive family history, as well as the percentage of patients who are living alone and the frequency of certain negative life events.

Material and methods:
As material we used history of illness from 75 patients who were hospitalized in the Institute of psychiatry in Novi Sad during the period from 31. October 2004. - 31. October 2008. Their analysis was carried out, and was followed by statistical processing of data.

Results:
From the aggregate number of patients 76, 36 percent are unemployed. Relapse occurs in 37, 33 % of cases analyzed. The positive family history in relation to any psychiatric ailment and suicide attempt occurs in 34, 67%, and that same percentage of patients live alone. Most frequently before the suicide attempt there is a conflict situation in the family in 45, 33%, in 13, 37% it is bad financial situation, in 10,67% the conflict is joined with an organic ailment, and in 9,33% of cases it is the break up of an emotional affair.

Conclusion:
The suicide attempt is more frequent amongst those unemployed. The relapse occurs in more than a third of cases examined. There are a lot of patients who live alone, as well as those with positive family history. Before suicide attempt there is usually a conflicting situation in the family, bad financial situation, conflict joined with a disease and a break up of an emotional affair.
PLENARY Session VII

GYNECOLOGY AND OBSTETRICS
EMERGENCY CONTRACEPTION-KNOWLEDGE, ATTITUDES AND USE AMONG STUDENTS OF MEDICAL FACULTY NOVI SAD

Author(s): JELENA RADOSAVLJEVIĆ
Supervisor(s): Doc. dr Artur Bjelica
Country: Serbia

Introduction:
Emergency contraception is a way of preventing the occurrence of unwanted pregnancy that women can apply in the first several days after unprotected sexual intercourse. Today, two basic methods of emergency contraception are in use – hormonal preparations and the application of intrauterine device with copper.

Aim:
The aim of the research was to determine the level of knowledge, attitudes and prevalence of the use of emergency contraception among students of IV and V year of the Medical Faculty of Novi Sad.

Material and methods:
The research was conducted by polling a total of 130 students (83 males and 47 females) of the IV and V year of the Medical Faculty of Novi Sad. The differences in the answers were analyzed both in the frame of a gender group and between the genders.

Results:
The fact that 96.1% of students have heard about emergency contraception is very encouraging, and it speaks in favor of good information about the existence of this form of contraception. Statistically significant differences were found in the knowledge of the efficiency and time of using emergency contraception among students of IV and V year. It was also found that the students usually have a positive attitude towards the use of contraception and only 13.1% opposed its use. Emergency contraception is reportedly used by 32.3% of the students.

Conclusion:
Although the level of awareness about this issue among the students of Medical Faculty of Novi Sad is satisfactory, it is necessary to conduct continuous education with the aim of improving knowledge and acquainting with the latest trends in this domain.

Keywords: Emergency contraception; students; information; use; attitude.
BIRTH OF MACROSOMIC INFANTS IN 'DR. SALVATOR VUIA' CLINICAL HOSPITAL OF OBSTETRICS AND GYNECOLOGY FROM ARAD

Author(s): RUXANDRA SFETCU, Furau Cristian, Dascau Voicu, Furau Gheorghe
Supervisor(s): Assoc. Prof. Dr. Furau Gheorghe, MD, PhD,
Country: Romania

Introduction:
Fetal macrosomia is a known intrapartum risk factor for fetal injury and maternal morbidity. Has been defined in several different ways, including birth weight of 4000-4500 g or greater than 90% for gestational age after correcting for neonatal sex and ethnicity. Fetal macrosomia is encountered in up to 10% of deliveries. Factors associated with fetal macrosomia include genetics; duration of gestation; maternal obesity; presence of gestational diabetes; and class A, B, and C diabetes mellitus. Obstetric attitude for prenatal diagnosis remains controversial.

Material and method:
There were studied 608 deliveries with macroscopic fetuses during a period of two years in "Dr. Salvator Vuia" Clinical Hospital of Obstetrics and Gynaecology from Arad. The parameters followed were the pregnancy, parity, maternal age, sex and fetal weight, age, pregnancy, presence / absence of risk factors, the way of birth, Apgar score.

Results:
The frequency of macrosomic infants was 8.78% (608 of 6922 births). In most of the cases macrosomic infants occurred in presence of identifiable risk factors. Most of the pregnancies were at term or postterm. In most cases of Prenatal diagnosis was preferred cesarean birth.

Conclusion:
The frequency of cases in our study is similar to that of literature. Macrosomia may place the mother and fetus or neonate at risk for adverse outcomes. Antenatal risk factors reportedly predict macrosomia at birth. Identification of these at-risk pregnancies may allow intervention to reduce the risk, to provide appropriate counseling, and to implement appropriate plans for monitoring and follow-up care during pregnancy and after delivery.
FREQUENCY OF PARTIAL AND COMPLETE MOLAR PREGNANCY OF WOMEN IN KOSOVO AFTER BOMBING WITH DEPLETED URANIUM

Author(s): DANCETOVIC MILJANA, Milosavljevic Jelena, Mitrovic Jelena
Supervisor(s): Prof. Dr Goran Relic
Country: Serbia

Introduction:
Molar pregnancies are the most common types of gestation trophoblast diseases. Histopathological, in this group include more diseases, like invasive mole, horiocarcinom and tumor of placentar slot. The etiology of these diseases, among other things, it emphasizes the importance of the radiation.

Aim:
Exploring frequency of molar pregnancy (partial and total) among women in Kosovo after the bombing with depleted uranium.

Materials and methods:
Retrospective study covered the period January 1st 2000. - December 31st 2006. Data were collected from the protocol of Gynecology departments in Kosovska Mitrovica.

Results:
The complete number of deliveries in that period was 4349. Molar pregnancies in total were 24 (0.55 %) or 1:181 deliveries. Bearing in mind the whole number of pregnancies - 5183 (including abortions and extrauterine pregnancies), the frequency of molar pregnancies amounted 0.46 % or 1:216 of total pregnancies. We’ve noticed the higher frequency of molar pregnancies compared to data from literature.

Conclusion:
Having in mind the multiple etiology of these diseases, further monitoring is necessary. In order to more objective research, it is necessary to conduct further prospective studies, to introduce methods for early diagnosis and to take adequate system of health care.

Keywords:
molar pregnancy, depleted uranium
OBESITY IN PREGNANCY

Supervisor(s): doc.dr S.Plesinac
Country: Serbia

Introduction:
Obesity in pregnancy carries significant risk of complications such as pregnancy-induced hypertension or gestational diabetes mellitus, which show greater tendency to report in a group of obese pregnant women, which also leaves the consequences and the fetus. Body mass index (BMI) is commonly used parameter through which you can estimate that obesity is a major threat to health.

Aim:
The aim of our study was to examine the impact of obesity on the course and outcome of pregnancy

Material and methods:
In randomised prospective study involved 70 pregnant women, divided by the value of their BMI, increased or the optimal, in two groups. In both groups we measured the frequency of hypertension, gestational diabetes mellitus, macrosomia of fetus and intrauterine growth restriction We also track the frequency of spontaneous abortions and Caesarean section in both groups of pregnant women.

Results:
Our results show that the number of spontaneous abortions was significantly higher in the group of patients with a value higher than optimal BMI (29% vs. 21%). In the same group are more likely to occur in pregnancy hypertension (48% vs. 33%), gestational diabetes mellitus (26% vs. 8%), macrosomia of fetus (20% vs. 4%) and intrauterine growth restriction (17% vs. 4%).

Conclusion:
The conclusion of our research is that there is an explicit association with maternal obesity and risk factors in pregnancy that is reflected in a higher incidence of maternal and fetal disease, related to gestational period.

Keywords: obesity, body mass index (BMI), pregnancy, complications
OVARIAN RESERVE IN SMOKING PATIENTS

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Supervisor(s): Prof dr Eliana Garalejic
Country: Serbia

Introduction:
Infertility is hard and serious medical problem because in high percentage consist damage of reproductive organs. In situations without other solution we use procedures of assisted reproductive technology (ART).

Aim:
The aim of our study was to examine the effects of nicotine on ovarian reserve

Material and methods:
Our research study was carried on 340 patients who were submit on IVF procedure in 2009 year in GAK “Narodni front”. The patients were divided in 2 groups depend of smoking habit. We analysed result of IVF procedure, level of FSH, number of ovarian follicles after stimulation, number of oocytes after punction and number of embrions in this procedure.

Results:
The average age of the surviving patients was 33,25, from 25 to 37 years. From overall number of patient (340), 65% (220) are non smokers and 35% (120) are smokers. When we observing efficacy of IVF procedure, pregnancy rate was 28,82% (98), 67 in group of non smokers (30,54%), and 31 in group of smokers (25,83%) (p>0,05). The average number of follicles after stimulation in non smoking group was 7,12, in first smoking group 6,36, second 5,61 and third 5,36 (p<0,05). The average number of oocytes after punction in non smoking group was 8,80, in first smoking group 8,60, second 8,57 and third 7,53 (p>0,05). The average number of embrions in this procedure in non smoking group was 3,17, in first smoking group 3,17, second 3,04 and third 3,28 (p>0,05). The basal level of FSH in non smoking group was from 0,20 to 15,97, and average value was 6,99 UI/L, as in smoking group was from 2,5 to 15,5, and average value was 8,09 UI/L (p>0,05).

Conclusion:
Although we show significant effect of nicotine only on follicles number, we always have to observe smoking as factor with bad effects on human health.

Key words: infertility, ovarian reserve, nicotine
STATISTICAL EVALUATION OF THE FREQUENCY OF DIFFERENT TYPES OF BREECH DELIVERY COMBINED WITH THE PREINATAL RESULT ON BIRTH

Author(s): BOJANA MILOSEVIC, Aleksandar Bogicevic, Ognjen Bojovic, Ana Zekovic, Nikolina Banjanin, Ranko Gvozdenovic, Ljubica Jovanovic, Bojan Naumovic, Zeljko Garabinovic, Helga Denc
Supervisor(s): prof md Milos Petronijevic
Country: Serbia

Introduction: Breech presentation is a type of a position where a fetus is in a longitudinal position, with the possibility of the incensement of number of complications. In most cases the result in these situations is the necessity for operational birth end, and it is combined with many complications.

Aim: Aim of this report is to show the frequency of different types of breech delivery combined with the preinatal result on birth.

Materials and methods: This retrospective study included the evaluation of medical documentation for 113 patients. The research involved the pregnant women with breech presentation of fetus. Gathered data has been analyzed by descriptive and analytic statistic, such as ANOVA test and Chi-square test.

Results: The research showed that there has been 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 Cesarean Section (SC). The way of delivery compared to parity showed statistically significant difference (X²=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: In order to increase the prevent perinatal mortality and morbidity, it would be significant to follow pregnancy properly and 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
INFLUENZA H1N1 IN PREGNANCY: DIAGNOSIS AND THERAPY

Author(s): Bika Izabella, Daniela Škrivanj
Supervisor(s): Prof. dr Mirjana Bogavac, Doc. dr Vesna Turkulov
Country: Serbia

Introduction:
The influenza is a very highly contagious disease of viral etiology. Most frequently it ends with complete recovery, but sometimes it can lead to many complications, even with lethal outcome.

Aim:
Research of frequency and characteristics of influenza A H1N1, furthermore research of complications as well as testing the success of therapeutic methods applied among general population and pregnant women.

Materials and methods:
The scientific research was made in the last quartal of the year 2009, in the Clinic for Infective Diseases in Novi Sad and the monitored subjects were patients that were hospitalised with the clinical diagnose influenza.

Results:
All patients included in the research have had manifested clinical diagnose influenza, with the remark that in pregnant women, general clinical manifestations were more expressed. The diagnostic methods applied were not different among research groups, except pulmonal X-ray, that was made in 99% of the general population, which in pregnant women was not made in one single case. Important difference was as well found in antiviral therapy-oseltamivir, which was used in 66% pregnant women, while in general population it was used in 97%.

Conclusions:
Results of the research indicate that the clinical manifestation of influenza A H1N1 was not different in pregnant women in comparison to the general population. Pregnancy as a specific condition, indicated certain differences in diagnostic and therapeutical methods.

Key Words:
Influenza A H1N1, pregnancy, complications, therapy
QUALITY OF LIFE IN WOMEN WITH URINARY INCONTINENCE

Author(s): TIJANA VUJANIC, Andreja Vlajankov
Supervisor(s): doc. dr Ljiljana Mladenovic-Segedi
Country: Serbia

Introduction:
Urinary incontinence is any involuntary leakage of urine. Health-related quality of life is multidimensional concept which combines patient-assessed measures of health, including physical, role and social functions, emotional or mental state. Quality of life has become a topic of great interest in any evaluation of the impact of a disease, particularly for benign conditions. Urinary incontinence impacts quality of life by affecting daily living activities, sexual and interpersonal relationships, psychological well being and social interactions.

Aim:
To asses the quality of life in women with urinary incontinence.

Materials and methods:
47 female patients with urinary incontinence were enrolled. To estimate the severity of urinary incontinence symptoms it was used the Urinary Distress Inventory (UDI-6), which is part of Pelvic Floor Distress Inventory – short form 20 (PFDI-20). To estimate the quality of life in women with urinary incontinence it was used the Urinary Impact Questionnaire (UIQ-7), which is part of Pelvic Floor Impact Questionnaire – short form (PFIQ-7).

Results:
According to UDI-6, 12.8% of patients had low severity of symptoms, 68.1% had moderate and 9.1% of patients had great severity of symptoms of urinary incontinence. At the same time, according to UIQ-7, 44.7% of estimated patients had considerable decreased quality of life, 31.9% had moderate, 17.0% had low and 6.4% had very low decreased quality of life.

Conclusion:
About 87% of patients had moderate to great severity of symptoms of urinary incontinence. Urinary incontinence in more than 50% of estimated patients had significantly negative impact on quality of life.

Keywords:
urinary incontinence, quality of life, women.
DIAGNOSTIC RELIABILITY OF BIOPSY IN THE EARLY DISCOVERY OF PRECANCEROUS AND CANCEROUS LESIONS ON THE CERVIX

Author(s): MARIJA DIKIC
Supervisor(s): Aljosa Mandic
Country: Serbia

Introduction: Definite diagnosis of cervical intraepithelial changes is made after the pathohistological review of material obtained from the application of one of the excision techniques.

Aim: Compare and analyze the obtained pathohistological results of the bioptate and conizate

Materials and methods: The research included 130 female patients to whom, after a cytological smear using the Papanikolaou method, a colposcopically aimed biopsy was done. On the basis of the pathohistological results of the bioptate, a suitable excisional technique was used on the patients: a conization using knife, laser, or loop electrosurgical excision procedure. On the basis of the pathohistological review of the bioptic material and the conizate, the degree of precancerous lesion is determined in each of them. In the statistic processing of the data, a paired samples t-test is used.

Results: Most of the precancerous and cancerous changes were diagnosed in the age group of 31-40 years 45,4%. There was a discrepancy between the result of the biopsy and conization with 58,5% of the patients. With about 6% of the patients, an invasive carcinoma was not verified by biopsy. With the application of the t-test, it was confirmed that there is a statistically meaningful difference between the pathological diagnosis obtained by the examination of the bioptate and the diagnosis that is made by the pathohistological examination of the suitable conizate.

Conclusion: The most common discrepancy in the pathohistological result of the bioptate and the conizate was confirmed with the group of patients above the age of 30, with a higher degree of dysplasia on the cervix. Slight dysplastic changes diagnosed by biopsy require a conservative approach due to the fact that the mostly negative result on the conus after excision techniques was in this group. It is necessary to insist on one of the excision techniques as a diagnostically and therapeutically acceptable method with women over the age of 30 and with a higher degree of dysplasia on the bioptic material.
OPERATIVELY FINISHED BIRTHS AT CLINIC FOR GYNECOLOGY AND OBSTETRICS IN NOVI SAD

Author(s): JELENA ILIĆ
Supervisor(s): Ass. dr Nenad Ćetković
Country: Serbia

Introduction: The number of annual vaginal births, the number and the percentage of Caesarean cuts as well as vacuum extractions and forcipes in Clinic for gynecology in Novi Sad were analyzed.

Aim: The goal was to determine the shifting of the absolute number of births, the presence of Caesarean cuts, vacuum extractions and forcipes in comparison to the overall number of births, as well as to compare the shifting in numbers of Caesarean cuts and vacuum extractions during two separate ten year periods and compare the shifting in numbers of Caesarean cuts and vacuum extractions during the observed period.

Material and methods: As material, we used data from the data base of patients who gave birth in the institute for gynecology in Novi Sad during the period from 1985-2005. The acquired data was first analyzed and than it was statistically processed.

Results: The average number of births is 5758. The number of performed Caesarean cuts compared to the overall number of births is constantly rising since the year 1985 including the year 2005 and ranges from 7,68% to 25,98%. The percentage of vacuum extractions is decreasing from 5, 37% to 0,59%, and the forcipes carried out range from 0,14% to 0% in the year 1996. The number of Caesarean cuts is on the rise during every ten year period, also the rise in the second period is greater than during the first ten year period. The number of vacuum extractions decreases, during both ten year periods as well as when the first period is compared to the second ten year period. By comparing the number of Caesarean cuts and vacuum extractions one can see that the number Caesarean cuts is constantly increasing while the performing of vacuum extraction is decreasing.

Conclusion: The annual average number of births in the gynecology Clinic of Novi Sad is 5758. The number of performed Caesarean cuts is constantly rising, and the number of instrumental births, during the observed period is constantly decreasing while in the case of forcipes the use of that method has ceased.
COLLAGEN TYPE IV IN CELL BASEMENT MEMBRANE OF HUMAN NORMAL AND MALIGNANT ENDOMETRIUM

Author(s): VLADIMIR SISOVSKY (1,2), Michal Palkovic (2), Martin Kopani (2)  
Supervisor(s): Prof. Ludovit Danihel, M.D., Ph.D., Prof. Jan Jakubovsky, M.D., DSc.  
Country: Slovakia

Introduction:  
Collagen type IV (Col4) protein, 550 kDa, a major component of cell basement membrane (BM) that is responsible for mechanical resistance. BM is highly specialized extracellular matrix structure, which play an important role in anchoring epithelial cells and separating them from the adjacent stroma.

Aim:  
To evaluate a relationship between the morphological appearance of normal endometrium and endometrial carcinoma, and the degree of Col4 expression in BM.

Material and methods:  
Using immunohistochemistry and light microscopy we investigated the Col4 expression in BM of endometrial epithelial cells from a total of 30 archived formalin-fixed and paraffin-embedded human biopsy (hysterectomy and curettage) tissue specimens with normal proliferative endometrium and compared it to the expression pattern in endometrial carcinoma.

Results:  
The Col4 expression was high in normal proliferative endometrium, but it was gradually going down with the grade of histological differentiation of endometrioid histological subtype of endometrial carcinoma (less aggressive phenotype). In histological subtypes of endometrial carcinoma with aggressive phenotype the Col4 expression was the lowest.

Conclusions:  
There is high expression of Col4 in normal endometrium. Malignant changes of endometrium are accompanied by a decrease in Col4 expression in cell BM. Altered composition and assembly of BM may influence carcinoma cell growth and invasion. Its evaluation by immunohistochemistry is a relatively cheap and simple method usable for clinical practice. Supported by the grant 2007/28-UK-05 MZ SR.
PLENARY Session

VIII

SURGERY, RADIOLOGY AND ANESTHESIOLOGY
THE FIRST AID ORGANIZATING IN MESS MEETINGS ON OPEN AREA

Authors: GRIGORIJEO JOVANOVIĆ, Predrag Milicević  
Supervisor(s): Ass. Dr Vladimir Manojlović  
Country: Serbia

Introduction:  
According to Nikola Rott there are tree types of no organized meetings; audience, crowd and flock. All of these are distributed on: predicted and non predicted

Aim:  
To show how is organized first aid in mess meetings on open area through survey and analysis, and how predict effectual number of medical technicians.

Material and methods:  
Retrospective study is done in 400 mess meetings on open area (100 organized meetings, 100 audience, 100 crowd and 100 flocks), in region of Vojvodina. Study was continued from 01.10.2005 until 01.10.2009.

Results:  
In Organized groups headache was 58%. Intoxication was 21%; mechanical traumas were 12% and other hurts was 9% of all injuries.In audience mechanical traumas were 98% . Other injuries were 2%.In crowd burnings were 44%; intoxication were 28%, headache 21%, mechanical traumas 5% and other injuries 2%.In flocks mechanical traumas were 98% . Other injuries were 2%, but unconsciousness was 1,64%.

Conclusion:  
First aid in my country have high rate of organization. Continuously recording of injuries in mess meetings and medical materials which were used have important rate in predicting of necessary medical materials as well number of expected injuries in next mess meetings of the same type.

Keywords: First aid, organization, mess meetings.

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CORRELATION BETWEEN CHRONIC MUSCULOSKELETAL PAIN AND DEPRESSION

Author(s): MILAN GLUHOVIĆ, Tijana Vasiljević  
Supervisor(s): Prof. dr Miroslava Pjević, Prof. dr Ksenija Bošković  
Country: Serbia

Introduction:  
Number of patients with chronic pain (CP) in the world is increasing and it represents one of the main reasons of morbidity in the world. The occurrence of depression in some patients with CP contributes to the severity of the pain and makes therapy more difficult and expensive.

Aim:  
Determine the existence and prevalence of depression in the group of patients with chronic musculoskeletal pain (CMP), as well as the impact of ineffective analgesic treatment on the degree of depression.

Material and Methods:  
A prospective study of 84 patients, 42 patients of the Clinic for medical rehabilitation with a history of CMP and 42 healthy subjects, without history of CMP or depression. A Brief pain inventory-BPI, and Beck depression inventory–BDI, were used for evaluation of pain and degree of depression. For the evaluation of the analgesic treatment we used Pain management index-PMI.

Results:  
A statistically significant difference in the prevalence of depression between examined and control group was established. Moderately strong and strong pain had 83.4% of patients, 75.3% took medications from neoopioid group and in 51.3% the pain was not effectively regulated according to PMI. The daily activities of patients were significantly retarded. A correlation between the negative PMI and the degree of depression of patients was established.

Conclusion:  
The study determined the significant prevalence of depression in the observed series of patients. Patients with a negative PMI are in the greater risk of developing depression than those with a positive PMI or PMI equals zero. There is a need for the introduction of a permanent evaluation of pain and periodic evaluation of depression as integral part of management of CP and better knowledge of both health workers and patients about the proper and timely treatment of CP.
BYPASS AORTO-BIFEMURAL-PARTICULAR SITUATIONS

Author(s): RATIU ROXANA, Thomas Lane, Mereuta Oleg, Irimia Elena Ramona
Supervisor(s): Dr Muresan Adrian
Country: Romania

Introduction:
Continuous science’s development has allowed the aorto-bifemural bypass to become a challenge for vascular surgeons, especially if by overcoming the classic operative patterns the extraanatomic bypass can be avoided.

Materials and methods:
We present four cases of patients operated in 2008 in the Surgical Clinic 1, Tirgu Mures, hospitalized throughout appointment. Three cases had complete Leriche syndrome (confirmed by examination of peripheral arteriography) and one case presented a history of obstructed aortobifemural bypass (preformed three years ago). The lack of associated organ disorder (hypotension, which could become a contraindication of performing the intervention) leaded at the decision of performing the aortobifemural bypass, at the expense of axilofemural. Will describe the technique of the intervention.

Results:
The postoperative evaluation of patients was favorable, without early and late complications, patients being discharged 10 days postoperatively.

Conclusion:
The peculiarity of the 4 cases is represented by successfully performing the aorto-bifemural bypass in modified from the classic pattern conditions (preparation of the aorta above the celiac trunk, its clipping for 12 minutes, cutting diaphragm’s pillars, passage of the graft through retropancreatic tunnel) and last, but not least, favorable evolution of patients with their discharge 10 days postoperatively.

Keywords: bypass, anatomical, classic.
HYPONATREMIA IN PATIENTS WITH TRAUMATIC HEAD INJURY

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Supervisor(s): MD E.S. Kazemzadeh
Country: Iran

Hyponatremia is a frequently observed electrolyte abnormality in the patient with traumatic head injury. We attempted to clarify the incidence of hyponatremia in each type of traumatic head injury. We also assessed the effect of hyponatremia on the outcome of head injuries. Retrospective analysis of 771 patients with traumatic head injury between January 2003 and December 2006. The incidence and outcome were evaluated. Of 771 patients with THI, hyponatremia was recorded in 111 (14.4%) patients. Hyponatremia wasn’t statistically associated with need of surgery (p=0.987), death (p=0.646), and GCS lower than 8 (p=0.450). Hyponatremia is so common in the patients with THI. It seems that hyponatremia has no effect on outcome of the patients with THI. Further studies are needed to establish the definite mechanism and outcome of hyponatremia after THI.
DIGITAL PHOTOPLETISMOGRAPHY IN THE DIAGNOSTICS OF DEEP VENAL THROMBOSIS

Author(s): Mila Lazic
Supervisor(s): Assist. Mr. sc. med. Dragan Nikolic
Country: Serbia

Introduction: Deep venal thrombosis (DVT) of lower extremities is a usual state in general population, and if not treated, it may lead to fatal lung embolism; thus DVT diagnosis is essential. Ascendant contrast venography (ACV), as well as Duplex echophaslebography (DEF) are "golden standard" methods in diagnostics of DVT of lower extremities. Photopletismography is a non-invasive optic technique used as a simple clinical method for determination of the venal function.

Aim: To establish the role of digital photopletismography (D-PPG) in the diagnosis of deep venal thrombosis (DVT) compared with the "golden standard" colour-flow duplex imaging (CFDI).

Materials and methods: Prospective study of 100 out-patients, (103 legs) referred to the Clinic for Vascular and Transplantation Surgery in Novi Sad with clinically suspected DVT of lower extremities. Each patient was evaluated with CFDI and D-PPG.

Result: In 37 extremities DVT was established by CFDI. All patients with venous refilling time (RT) larger than 20 s and venous pump (VP) larger than 35 had regular CFDI. Taking RT values less than 21 s as optimum cut-off point, D-PPG reached the sensitivity of 100%, negative-predictive value of 100%, specificity of 47% and positive-predictive value of 51%. Using VP values less than 36, as optimum cut-off point, the sensitivity of 100%, the negative predictive value of 100%, and the specificity of 35% and positive-predictive value of 46%.

Conclusion: The cited results confirm that the use of D-PPG is a useful screening tool in the diagnostic of clinically suspected DVT of lower extremities. A positive test requires further confirmation of one of the "golden standard" methods in the diagnostics of DVT, while negative test effectively excludes DVT.

Key words: Digital photopletismography (D-PPG; Light-reflection rhenography (LLR); Deep venal thrombosis (DVT); Venous refilling time (RT); Colour-flow duplex imaging (CFDI).
MULTIMODAL TREATMENT OF HCC

Author(s): BADANOIU DINU PAUL, Conghilete Florin, Badanoiu Lavinia, Badanoiu Ana
Supervisor(s): Prof.Univ.Dr. Irinel Popescu
Country: Romania

Liver cancer is the most common cancer in the world and its incidence is increasing worldwide. In 80% of cases, HCC is a complication of cirrhosis and is the main cause of death among these patients in Europe. Staging systems for treatment allocation must consider tumor extension and severity of the underlying liver function impairment. The BCLC staging system for HCC is the most widely used in Western countries, particularly for treatment allocation. In our clinic, a number of 355 patients were treated between 2001-2009, using different techniques in the management of HCC: resection, liver transplantation, ablation, transarterial chemoembolization, systemic chemotherapy and radiotherapy. The median age of patients was 61. 97 women and 258 men, 254 with cirrhosis and 102 without cirrhosis. Most of the patients (167) had a tumor between 3cm and 6.5cm. The etiology of liver cirrhosis in 50.2% was HCV. 243 patients with cirrhosis and 145 without cirrhosis had resection, 25 with cirrhosis and 23 without had a transplant, 85 with cirrhosis and 83 without cirrhosis had ablative techniques. There is no universally accepted staging system for HCC. Management of HCC requires a multidisciplinary approach like liver surgery, hepatology, pathology, radiation oncology, radiology, oncology. The current treatment of HCC is multimodal. Therapeutical modalities and their combination must be tailored to each patient. There has been a major progress concerning the survival rate and quality of life. The new trends are represented by targeting therapies and identification of new markers of early diagnoses of HCC.
THE ADVANTAGES OF SONOELASTOGRAPHIC DIAGNOSIS IN BREAST TUMORS

Author(s): FLORIN CONGHILETE, Dinu Badanoiu, Elena Gabriela Voiculescu, Razvan Scaunasu, Emanuela Pocioralisteanu

Supervisor(s): Stefan Voiculescu

Country: Romania

Ultrasound elastography is an imaging technique that allows a noninvasive estimation and imaging of tissue elasticity. Elasticity imaging has been reported to be useful for the diagnosis and characterization of various tumors, which are usually stiffer than normal tissues. Preliminary data in breast tissue elastography have shown that the technique allows correct differentiation of most benign and malignant masses (Tsukuba Score). The elastography is indicated for the evolution of echo hypodense masses (under 2.5cm), microcalcification zones, structural/vascular distortion zones and axillary adenopathies. With a good reproducibility, a 98.5% sensibility, a 93% specificity and a 87% - 94.7% predictive value, sonoelastography associated with Doppler echography or breast echography it is a good way of diagnosis. From a trial which was made in 2010 on 586 patients echographic examined, 39 of them were classified with BIRADS (Breast Imaging Reporting and Data System) 3 score and 25 of them with BIRADS 4 score. After elastographic evaluation of the same number of patients 41 of them were classified with BIRADS 2 score, 15 with BIRADS 5 score and only 7 of them were BIRADS unconsidered score that means 1.19% of the total number of patients. So, the sonoelastography is a suplimentar mode of evalution which increases the diagnostic value of breast echography and it can reduce significant the lesions ponders of uncertain nature, therefore the necessary of breasts biopsies.
COMPUTERIZED TOMOGRAPHY INDEX FOR EVALUATION THE SEVERITY OF ACUTE PANCREATITIS

Author(s): JELENA KOSJER
Supervisor(s): Prof. dr Katarina Šarčev
Country: Serbia

Introduction: Acute pancreatitis is an acute inflammation of the pancreas, followed by the abdominal pain and five times or more increased values of the pancreatic enzymes in blood and in/or in the urine, and which finally ends up in most cases as restitucio ad integrum.

Aim: Examine diagnostic value together with the precision of computerized tomography (CT) index, according to the National protocol for the treatment of acute pancreatitis.

Material and methods: 82 patients, male and female were examined, and over 18 years old, hospitalized and treated at the Clinics for Abdominal, Endocrine and Transplantation Surgery of the Clinical Centre of Vojvodina, in the period from June to December, 2009. Dynamic CT diagnostic using intravenous and oral multislice computerized tomography, Sensation 64, Siemens®.

Results: Clinical importance of CT index, is numerically assessed, values from 0-4 and is described as follows: A- index 0- normal pancreas, B- index 1- focal or diffuse enlargement of the pancreas, minor intrapancreatic fluid collection, C- index 2- some of previous changes, plus initial peripancreatic inflammation, D- index 3- some of previous changes, plus an extrapancreatic fluid collection, E- index 4- some of previous changes, plus extensive peripancreatic fluid collections. Distribution of acute pancreatitis in regards with sex structure, shows that it is more frequent in male population, however comparing the age of both sex, the results are approximately the same. Distribution of patients regarding CT index was as follows says that 33 patients have mild acute pancreatitis (groups A and B ), while 49 patients have severe acute pancreatitis (groups C, D and E).

Conclusion: CT index gives us the reliable informations about the severity of acute pancreatitis, based on morphology changes. CT index represents „gold standard“ in making differences between acute interstitial edematous pancreatitis and acute necrotizing pancreatitis.
A NEW WAY TO ASSESS THE SEVERITY OF PATIENTS WITH ACUTE PANCREATITIS

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Country: Ukraine

The aim of our research was the determination of prognostic significance of convenient and accessible for use in clinical practice evaluation criteria of AP in comparison with the most common evaluation systems of the AP severity. We studied a sample of 96 patients with AP. All patients were divided into 4 groups depending on the severity, determined by the scale of APACHE II. For comparing we selected patients from the second (a serious condition or state of medium severity, without danger to life), the third (a serious condition with life-threatening for patient) and fourth (critical state, survival questionable) groups. The additional survey included the identification of serum lipid peroxidation (LPO) that were evaluated on the content of diene conjugates (DC) and malondialdehyde (MDA), which were determined by standard methods. Antioxidant system (AOS) is represented by the study of catalase (CAT) and superoxide dismutase (SOD). The degree of inhibition of motor function of the intestine was estimated by its mioelectrical activity recorded by universal enterogastrograph “Gastroskan-GEV”.

Results. Serum LPO products increased. Electoenterograms characterized by a decrease in amplitude. Changes in enzymatic antioxidant defense were in decreasing of SOD activity and increasing on the 1st day of CT activity. As diagnostic markers of the AP severity we can use accessible and informative indicators: DC, MDA, CT and SOD, as well as results of mioelectrical activity of the small intestine. That allowed us to raise effective forecasting of the disease unfavorable course from 61,6% to 91,3%.
MAGNETIC RESONANCE CHARACTERISTIC OF PROSTATE CARCINOMA – CORRELATION WITH PROSTATE-SPECIFIC ANTIGEN (PSA) AND GLEASON SCORE (GS)

Author(s): ALEKSANDAR RAGAJI, Mladen Bjelan  
Supervisor(s): prof. dr Miloš Lučić, dr med. Milena Spirovski  
Country: Serbia

Aim: Determining the capabilities of the combined MR techniques, including morphological MR imaging and postcontrast and/or dynamic postcontrast MR study, in the diagnosis of prostate cancer.

Materials and methods: Retrospective analysis of MRI findings and MRI recordings was performed on all respondents whom in the period from 1.01.2004. to 31.12.2009. had performed pelvic MR examination for suspected prostate cancer or biopsy proven prostatic cancer in Diagnostic imaging center of Institute of Oncology Vojvodina in Sremska Kamenica. The study included 35 patients with elevated PSA values, which had histopathological diagnosis of prostate cancer, before or after MR imaging was performed. The survey was conducted on a Siemens Avanto MRI device, the magnetic field strength of 1.5 T, using the "phased array" coils for pelvis. Obtained morphological parameters were compared with PSA values as well as the GS obtained pathohistological processing.

Results: The expected low intensity signal in prostate cancer T2W sequence was registered in all 35 (100%) of respondents. Intensive early postcontrast intratumoral signal intensity enhancement was registered in 19/22 patients (86.36%). Small level of correlation was established between values of PSA level and maximum tumor diameter (r=0.31; p>0.05). Negligible level of correlation was established between increased poscontrast signal intensity and GS (r=0.13; p>0.05).

Conclusions: T2W sequence is optimal for the detection and localization of prostate cancer. Intensive early postcontrast intratumoral signal intensity enhancement with rapid "wash-out" phenomenon can be used as a diagnostic marker to detect prostate cancer or approval. The maximum tumor diameter measured on T2W sequences is not a sufficient parameter to determine statistically significant correlation with the level of PSA. GS does not necessarily correlate with postcontrast and/or dynamic postcontrast characteristics of tumors.

Key words: MRI, prostate cancer, PSA, Gleason score
POSTOPERATIVE COMPLICATIONS OF CAROTID ENDARTERECTOMY (CEA)

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Supervisor(s): MUDr. V. Sihotsky, PhD.; MUDr. P. Staško
Country: Slovakia

Introduction:
Carotid endarterectomy is currently the most common vascular reconstructive surgery with a recognized benefit for symptomatic and asymptomatic patients with symptoms of cerebro-vascular insufficiency. Indicative criteria for CEA are well known and firmly defined.

Aim:
The main objective of this experimental study is to determine the number of symptomatic and asymptomatic patients with severe postoperative complications (death, stroke, myocardial infarction) and their percentage in these groups.

Materials and methods:
We analyzed the gate reports of 212 patients operated in Clinic of Vascular Surgery VÚSCH, in the years 2005-2008. Each patient was specifically examined, its condition was determined prior to surgery for symptomatic or asymptomatic and its clinical and postoperative neurological complications were evaluated. Especially, were evaluated patients with severe postoperative complications.

Results:
There were 90 symptomatic patients at average age of 65.86 years. 8 patients (8.89%) suffered serious complications after surgery (3 deaths and 5 strokes). Death occurred in three patients, men at average age of 69.67 years. Stroke occurred in 4 men, average age 64 and one female patient, aged 59 years.
There were 122 asymptomatic patients at average age of 65.23 years. In 5 patients (4.09%) serious complications uprised after surgery (5 strokes). Two men with stroke had an average age of 60.5 and 3 women of 65 years.

Conclusion:
We have experienced serious complications in symptomatic patients, especially among men (87.5%) average age of 66.43 years. In asymptomatic there were more women (60%), average age 65 years. CEA is considered a safe method.
RELATIONSHIP BETWEEN PHYSICAL ACTIVITY AND PSYCHOLOGICAL WELL-BEING EARLY AFTER STROKE

Author(s): ROSALIE KROEDERS, Toby Cumming, Julie Bernhardt
Supervisor(s): Toby Cumming, Julie Bernhardt, prof Lodder
Country: Netherlands

Introduction:
Depression and anxiety are common consequences of stroke and have been the targets of a variety of pharmacological and non-pharmacological interventions. Increasing physical activity in the acute phase of stroke may contribute to improvement of mood.

Materials and methods:
In an observational study, physical activity was quantified at two time points post-stroke: within 2 weeks and at 1 month. A dual-axis accelerometer device (the Position Activity Logger 2) provided continuous data from 8am-5pm on both intensity of physical activity and body position (lying, sitting, standing, walking). Psychological well-being was assessed using the Irritability, Depression and Anxiety scale at the same time points.

Results:
A total of 19 stroke patients were assessed acutely, and 7 could be followed up at one month. Patients were very inactive: in the acute phase, the median percentage of the day spent standing or walking was 2%. Depression and anxiety in the acute phase were not associated with lower activity levels; they were strongly associated with a past history of depression. Changes in activity and mood over time in the 7 patients who were followed up are also reported.

Conclusion:
The degree of patient activity in the acute phase of stroke is extremely low. It is likely that such a small amount of variability in physical activity prevented the identification of any relationship with mood in this small sample. We have demonstrated, however, that accelerometer-based continuous physical activity monitoring can be feasible after stroke. This may be a useful approach for detecting whether activity and mood are related in chronic stroke survivors who have returned home.
EVALUATION OF THE TRANSCRANIAL PARENCHYMAL SONOGRAPHY IN PATIENTS WITH AND WITHOUT VASCULAR DEPRESSION

Author(s): IVANA JOVANOVIC, Stefan Juricic, Sladjana Smrzlic, Ognjen Bojovic, Bojana Milosevic, Bojan Naumovic, Dragan Opacic, Marija Jovanovic
Supervisor(s): Prof. dr Aleksandra Pavlovic
Country: Serbia

Introduction:
Individuals with cerebral small vessel disease (SVD) often have symptoms as a result of vascular depression and extrapyramidal syndrome. Recent studies showed that Parkinson's disease can be recognised by the existence of hyperechogenicity evaluated by the use of transcranial parenchymal sonography of Brainstem raphe (BR) hypoechogenicity and substantia nigra (SN).

Aim:
The aim was to evaluate and statistically examine TCS findings in patients with cerebral small vessel disease with depression and without it.

Material and methods:
In this retrospective study we evaluated functional, neurological and cognitive statuses, depression scale scores, TCS and magnetic resonance findings between 20 healthy controls and 40 patients with SVD.

Results:
A intermediate level of depression was diagnosed in 25% and moderate to severe in 43% of patients with small vessel disease. The hypoechogenicity of the brainstem raphe was registered in 50% of patients. Substantia Nigra was found to be Hyperechogenic in 45% of patients which was combined with a variety of signs of neurologic damage.

Conclusions:
This study showed that hypoechogenic Brainstem raphe can be correlated with depression, functional status and lesion severity among the patients with small vessel disease. It also showed that echogenicity was increased within the substantia nigra among patients with altered neurological, emotional and cognitive status.

Key words:
small vessel disease, transcranial parenchymal sonography, vascular depression, brainstem raphe, hypoechogenicity, substantia nigra, hyperechogenicity
CLINICAL EVALUATION OF PATIENTS WITH MITOCHONDRIAL MYOPATHY

Author(s): ALEKSANDAR BOGICEVIC, Bojana Milošević, Marija Despotović, Nikolina Banjanin, Ognjen Bojovic, Ana Zekovic, Nikola Banjanin, Ljubica Jovanovic, Bojan Naumovic, Željko Garabinovic, Helga Denc, Ivana Jovanovic, Nada Santrac
Supervisor(s): Doc.dr Vidosava Rakocevic-Stojanovic
Country: Serbia

Introduction:
Mitochondrial myopathies (MM) are a heterogenous group of diseases, characterized by defective oxidative phosphorylation, histological structural abnormalities in skeletal muscle, and neurological symptoms. Clinical phenotypes can present as Kearns-Sayre syndrome (KSS), mitochondrial myopathy with epilepsy, lactic acidosis and stroke-like episodes (MELAS), Leber’s hereditary optic neuropathy (LHON), myoclonus epilepsy and ragged-red fibers (MERRF) and chronic progressive external ophthalmoplegia (CPEO). “Ragged” red fibers (RRF) detected in muscle biopsies are the hallmark of MM.

Aim:
To determine the clinical and histological characteristics of MM.
Material and methods: Retrospective analysis of 18 patients admitted to the Institute of Neurology, Faculty of Medicine, at the Clinical Center of Serbia in Belgrade from January 1, 2005 to December 31, 2009.

Results:
First symptoms were presented at 28±15 years, with ptosis as the most common first symptom (at 67% of our patients). 72% of our patients had increased serum lactic levels 9 minutes after light exercise. EMNG showed myopathic lesions in mimical muscles and upper extremities muscles, without denervating activities, in all 18 patients. In 33% of patients, brain MRI showed lacunary multi-ischemic changes which were associated with increased lactic acid levels. Presence of RRF was detected at all muscle biopsies.

Conclusion:
Increased lactic levels, EMNG, MRI, as well as the presence of RRF represent key factors in the diagnosis of MM.

Key words:
mitochondrial myopathy, “ragged” red fibers, oxidative phosphorylation
PLENARY Session IX

HISTOLOGY, PATHOLOGY AND JUDICIAL MEDICINE
CHROMOGENIC IN SITU HYBRIDIZATION IN DEFINING STATUS OF HUMAN EPIDERMAL GROWTH FACTOR RECEPTOR 2 IN BREAST CARCINOMA

Author(s): Ljiljana Nedić
Supervisor(s): Tatjana Ivković – Kapicl
Country: Serbia

Introduction:
Gene for receptor of human epidermal growth factor 2 (HER2) encodes glycoprotein that functions as a growth factor receptor. Amplification / increased expression of HER2 is seen in 10-34% of invasive breast cancer. In addition of forecasting, HER2 status is of predictive importance, as HER2 positive patients respond to anti-HER2 therapy. HER2 status in breast cancer examined using immunohistochemic and in situ hybridization.

The Aim: To show in detail the principle of determination of HER2 status in breast cancer using chromogenic in situ hybridization (CISH), and to highlight the importance and benefits of HER2 testing by this method.

Materials and methods:
It is analyzed 411 HER2 CISH findings identified in samples of breast cancer during the three-year period, in the Institute of Oncology of Vojvodina. For all investigated cases, primarily treated with immunohistochemic method, HER2 status was undefined, 2nd score. In the detection of HER2 gene amplification with CISH method was used Zymed Spot-Light® HER2 CISH™ kit. Findings are interpreted: amplification is not present: 1-5 signal points in more than 50% of tumor cells or amplification present: 6 or more signal dots per nucleus in over 50% of tumor cells.

Results: Of 411 samples examined, the 209 has not been established HER2 gene amplification. It is proven in 73 cases low and 127 high amplification. Two samples were inadequate for testing.

Conclusion:
CISH is a relatively easy method that can be detect the presence of HER2 gene amplification in all cases with immunohistochemically HER2 score 2nd. CISH is a modern method of in situ hybridization that accurately determine HER2 status in breast cancer, allowing for proper selection of patients for the application of anti-HER2 therapy.

Key words: HER2, breast cancer, chromogenic in situ hybridization, immunohistochemistry.
AGE-RELATED REMODELING OF THE WALL STRUCTURE OF HUMAN CORONARY ARTERIES

Author(s): Ilija Golubović
Supervisor(s): Prof. dr Gorana Rančić
Country: Serbia

Introduction:
The present knowledge of age-related remodeling of human coronary arteries is relatively deficient, particularly of age-related remodeling in the fetuses. The morphometric data concerning the changes in coronary wall structure could help in better understanding of the role of coronary arteries in cardiovascular diseases.

Aim:
The aim of the study was to analyse the structure of LAD wall and to estimate numerical parameters of the width of intima, media and adventitia in different age groups by using morphometric methods and to observe possible age-related differences between the groups.

Materials and methods:
Study was conducted on coronary arteries of human fetuses obtained by autopsy, gestational age between 30 and 40 week and coronary arteries of cadavers of both sex aged 45-80 years that were divided into younger and older adult groups. 4 μm thick tissue sections were stained with hematoxylin-eosin and method by Spicer. Images were obtained with digital microscopic camera. Morphometric analysis of the wall structure was performed using ImageJ software.

Results:
Thickness of intima increases progressively with age, as opposed to thickness of adventitia which progressively decreases from fetal to the older adult group. Thickness of media significantly decreases in older adult group comparing to fetal and younger adult group.

Conclusion:
Age-related remodeling is present in human coronary artery, and is characterized by increase in the thickness of intima and reduction of thickness of the media and adventitia with aging.

Key words:
age-related remodeling, coronary artery wall structure, morphometry
MORPHOMETRIC ANALYSISYS OF LIMPH FOLLICLES IN DIFFERENT TYPES OF CHRONIC TONSILLITIS

Author(s):   IVANA MITIĆ, Vladan Milošević, Stefan Stanković  
Supervisor(s): Asist. Vladimir Petrović  
Country:    Serbia

Introduction:  
Palatine tonsil, as the organ of immune system, significantly contributes to general and local immunity of the organism. Both, humoral and cellular immune response occur in palatine tonsil. Chronic inflammations of palatine tonsil are common pathological conditions. Chronic tonsillitis can be classified as chronic hypertrophic tonsillitis (CHT) and recurrent tonsillitis (RT).

Aim:  
Aim of the paper was to show possible differences in area and number of lymph follicles by determining the area of lymph follicles and germinal centers and numerical density of lymph follicles in CHT and RT.

Material and methods:  
As a material we used tonsils, which were taken after tonsilectomy, from patients aged 10-29 years: 5 tonsils with RT and 5 tonsils with CHT. The measuring of area and numerical density of lymph follicles was performed on 5µm thick serial paraffin tissue slices, which were stained on hematoxylin-eosin. For measuring the area of lymph follicles and germinal centers we used Image J software, and for the determination of numerical density of lymph follicles we used M42 lattice.

Results:  
Area of lymph follicles and germinal centers is higher in CHT (p<0.05), while value for numerical density of lymph follicles is lower in CHT compared to RT (p<0.05).

Conclusion:  
Difference in the value of area of lymph follicles and the numerical density of lymph follicles in CHT and RT is the most probably caused by different reaction pattern of B and T lymphocytes on antigen stimulation.

Keywords: chronic tonsillitis, lymph follicle, area, numerical density.
MORPHOLOGICAL AND MORPHOMETRIC CHARACTERISTIC OF RIGHT GASTROEPIPLOIC ARTERY

Author(s): TIJANA RAKIĆ, Saša Rajšić
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Introduction:
The right gastroepiploic artery is used as graft in surgical revascularization of myocardium. It is the muscular type of the artery, it posses distinctive tendency to spasm, which represents its negative characteristic.

Aim:
The aim was description of basic morphological and morphometric characteristics of right gastroepiploic artery and their comparison to with the same parameters of coronary arteries. The particular aim was the evaluation of the artherosclerosis level of these arteries in native condition.

Materials and method:
Five samples of this artery from patients in their forties and older were used. The method of light microscopy is used, along with histochemical techniques. The following parameters are analyzed: thickness of the intima, the media and the wall of the artery, the intima-to-media ratio, and the thickness and the number of the fenestrations of the internal elastic membrane.

Results:
These results were compared to the group of coronary arteries. The low thickness of the intima (28.8 ± 33.1 mm) and the intima-to-media ratio (0.177 ± 0.283 mm) are consistent with the low grade of the atherosclerosis. The thickness of the media (181.1 ± 41.4 mm) and the thickness of the wall (321.3 ± 69.2 mm), match well the same parameters of the coronary arteries.

Conclusion:
These characteristics of the analyzed artery recommend the use of the right gastroepiploic artery as a graft in the surgical practice.

Key words: right gastroepiploic artery, graft, tunica intima, tunica media
SIGNIFICANCE OF THE FINE NEEDLE ASPIRATION CITOTOLOGY IN THE DIAGNOSIS OF THYROID GLAND NODULAR LESIONS

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Introduction: 
Fine Needle Aspiration Cytology (FNAC) is important diagnostic test for the evaluation of goiter, carcinoma of the thyroid and preoperative diagnosis of Solitary Thyroid Nodule (STN). It’s used as a screening method for the selection for surgery and its use considerably lowered the number of surgeries.

Aim: 
To determine diagnostic relevance of FNAC and its role in thyroid gland diseases

Material and methods: 
Research includes 69 randomly chosen cases of thyroid nodules that underwent thyroid surgery at the Oncology Institute of Vojvodina in May 2008./May 2009. and which had records of preoperative thyroid FNA. Biopsy was performed under ultrasound control. Aspirated material was air-fixed, stained by May-Grünwald-Giemsa and Papanicolau method, and examined with light microscope. Thyroid tissue samples, attained by surgical resection, were fixed in formalin, molded in paraffin, stained with Haematoxylin and Eosin and examined with light microscope.

Results: 
In a examined population females were significantly numerous, average age was 49. In 62, 32% patients were diagnosed by FNA as having benign lesions of the thyroid, 13,4% as having suspicious of benign neoplasm, in 14,49% carcinoma (11,59%) or suspicious of malignant neoplasm. Two cases were false negative: histopathological analysis has shown follicular and papillary carcinomas. Correlation test had shown statisticaly significant connection between FNAC and histopathologic findings (p < 0,001).

Conclusion: 
Results confirmig that FNAC is rapid, secure and cost-effective procedure in the diagnosis and evaluation of patients with thyroid nodules. The main goal is to distinguish nodules that require surgery from those that don’t.
POSTNATAL DEVELOPMENT OF MOUSE EYE

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**Introduction:**
Newborn mouse organs are underdeveloped, and within first weeks of life they are restructuring and growing. Sensory organs, among others visual, gain their function by gradually maturing. The growth of certain eye tissues can be quantified using morphometric method.

**Goal:**
The aim of this study was to determine histological characteristics and to evaluate volumetrically postnatal eye development.

**Material and methods:**
The research included 30 mice strain NMRI - three for each of ten selected postnatal terms (1 to 19 days). Animals were sacrificed in ethereal anesthesia, and then fixed in buffered formalin. Then disc-shaped frontal cuts of the skulls were made in the region of eyes. This tissue was dehydrated and molded in paraffin, then cut and stained H&E. Individuals aged 1, 11 and 19 days were used for volumetric calculations. Measuring was performed in software ImageJ and processing of data in Microsoft Excel.

**Results:**
First day nuclear layers of the retina aren’t differentiated and make a diffuse mass, and other layers are less defined and separated. All layers of retina are formed at around the eleventh postnatal day. Eyelids are completely closed on the first day, and the dynamic process of their opening ends on the seventeenth day. Lens grows faster than retina, and both tissues are growing most intensively within the first two weeks.

**Conclusion:**
There are many similarities between mouse and man in the process of maturing eyes, regardless of the period of ontogenesis in which these processes occur.

**Key words:** eye development, mouse, morphometry
HISTOMORPHOLOGICAL AND IMMUNOBIOLOGICAL CHARACTERISTICS OF BREAST CANCER IN WOMEN UNDER AGE 40

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Country: Serbia

Introduction:
Most human cancers, including breast one, increase in frequency with aging. Breast cancers that occurs in younger women have more aggressive biological behaviour than breast cancers that occurs in older women.

Aim:
To explore the histomorphological and immunobiological differences of breast cancers between patients under 40 and patients that are 40 years or older.

Material and methods:
The study included 224 women with primary invasive ductal carcinoma of the breast, treated at the Oncology Institute of Vojvodina, from 2007. to 2009. The patients were sepparated in two groups: first group consisted of patients uder 40, and second group consisted of patients that are 40 years or older. Tumor size, lymphonodal status, oestrogen and progesterone status and HER2 status were resumed from pathohistological findings of examined patients. With examination of hematoxylin-eosin stained breast cancer tissue we defined histological grade, presence of lymphocyte infiltration in tumor stroma and tumor necrosis.

Results:
28 women included in the study were under 40, and 196 women were age 40 and older. Characteristics of breast cancers in younger patients were: histological low grade cancers with extensive necrosis, lymphocyte infiltration and negative oestrogen and progesterone receptors. No significant difference was found between the patients age and tumour size, presence of axillary lymph node metastases nor HER2 expression.

Conclusion:
In this study we founded significant association between poor prognostic and predictive indicators and younger age. For younger patients is characteristic more aggressive biological tumor phenotype.

Keywords: breast cancer, age groups, clinical-pathological indicators, biological markers.
LUMEN SIZE AND WALL THICKNESS PARAMETERS OF CORONARY ARTERIES IN DIFFERENT GESTATION AGE HUMAN FETUSES DETERMINED USING PLANIMETRICAL METHOD

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Introduction:
Contemporary researches, and diagnostic procedures in a series of medical disciplines, more often apply some of morphometrical techniques. Planimetry represent the determining of numerical surface parameters of a structure and can be performed using planimeter, counting points of test system and with the help of digital image.

Aim:
The aim of this study was to determine average numerical parameters of lumen size and wall thickness of three main subepicard coronary arteries of human fetuses in different gestation age, using planimetrical methods.

Materials and methods:
In this study were used molds made from samples of the initial, subepicard segments of coronary arteries stem taken from the hearts of 15 fetuses. For measuring was used digital image analysis system MicroImage 3.0 (Olympus, Tokyo, Japan). In order to process the obtained numerical values were used methods of descriptive statistics.

Results:
The highest values of media thickness were found in the 40th week of gestation. The largest range of coronary artery lumen and the largest value of short lumen diameter of coronary arteries were found in the 35th week of gestation age.

Conclusion:
The results obtained from computerized planimetical method data points out the correlation between increased media thickness and gestation age of the fetus. The results also indicate the increase and then decrease of lumen size that is associated with thickening of the media, as well as increased blood flow needs of the fetus.

Key words:
Planimetry, coronary arteries, human fetuses.
MORPHOMETRIC IMAGE ANALYSIS OF SQUAMOUS METAPLASIA AND SQUAMOUS CELL BRONCHIAL CARCINOMA

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Supervisor(s): Doc. Dr Žaklina Mijović
Country: Montenegro

Introduction:
The sequence of precursor lesions for squamous cell carcinoma may be metaplasia-dysplasia-CIS.

Aim:
The aim of this study was morphometric image analysis of squamous metaplasia and squamous cell bronchial carcinoma.

Material and methods:
Formalin-fixed, paraffin-embedded bronchoscopic mucosal samples from 12 patients with squamous metaplasia and 15 patients with squamous cell bronchial carcinoma were retrieved from pulmonary pathology archives at Institute of Pathology, University of Niš. Serial histologic sections of 4 µm thickness were prepared for staining with hematoxilin and eosin and analyzed using a computer system LUCIA M 3.51 ab (Nikon) at objective 40x. The binary images were manually edited. Three nuclear variables were estimated: equivalent diameter, nuclear area and volume of equivalent sphere. In each case a hundred nuclei were measured. A statistical analysis was performed using Mann-Whitney test.

Results:
All measured three nuclear variables: equivalent diameter, nuclear area and volume of equivalent sphere were found to be significantly different between squamous metaplasia and squamous cell bronchial carcinoma (p<0.001). The values of nuclear variables of squamous cell bronchial carcinoma were significantly larger than in squamous metaplasia.

Conclusion:
Morphometric image analysis may be helpful ancillary tool in distinguishing squamous cell bronchial carcinoma from squamous metaplasia in bronchoscopic biopsy specimens.

Key words: Morphometry, squamous cell bronchial carcinoma, squamous metaplasia.
COMPARISON OF CYTOLOGICAL AND HISTOLOGICAL FINDINGS OF HUMAN TERM PLACENTA

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Supervisor(s): prof. dr Dušan Lalošević  
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Introduction: Cytodiagnostic is a method which helps to estimate the condition of organ by observing its cells on cytosmear. Placenta is a unique organ, composed of tissue which belongs to the two different organisms and has many complex functions. Studies about placental tissue provide abundance of information about pregnancy course and pathological processes responsible for complications during pregnancy.

Aim: To compare cytological and histological findings of human term placenta and determinate the most appropriate method for preparing cytosmears.

Materials and methods: Material used in this study represented five segments of five placentas. Placentas had normal morphological characteristics and were obtained after the elective cesarean section, done in term under sterile conditions. The cytosmears and histological preparations were made of placental segments. Smears were made by impression-method, towage-method and method with cytobrush. For histological preparations, the tissue was fixated, dehydrated, moulded and cut on microtome. Smears and preparations were stained with Giemsa stain and H&E.

Results: On cytosmears, decidual, amniotic, trophoblastic, blood cells, chorionic villi and syncytial knots were found. There were no fibrinoids nor microcalcifications found on cytosmears, which existed on corresponding histological preparations. The number of all types of granulocytes was regular on every cytosmear/ histological preparation pair.

Conclusion: All elements, which may be indicators of some placental diseases, can be seen on cytosmears, except fibrinoid. The method with cytobrush, among applied ones, provides the best quality cytosmear so that histological findings could be completed with cytological ones.

Keywords: human term placenta, cytosmear, histological preparation, cytodiagnostics.
NEUROENDOCRINE DIFFERENTIATION IN THE TISSUES OF THE HUMAN EMBRYO IN LATE EMBRYONIC PERIOD OF DEVELOPMENT

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Supervisor(s): Prof. Ivan Nikolić, MD, PhD, Prof. Vera Todorović, MD, PhD
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Introduction:
Chromogranin A is the acid soluble glycoprotein found in most secretory granula of the neuroendocrine cells. It is used as a nonspecific marker of their neuroendocrine differentiation. Regulatory peptides are identified in the neuroendocrine system during the 6th to 12th week of growth.

Aim:
To examine the presence of chromogranin A, its structure and localization in the tissues and organs of the human embryo in the 7th and 8th week of growth.

Material and methods:
The material consisted of five human embryos (2 in the 7th week and 3 in the 8th week of growth). They were fixed in Bouin’s solution, and after the routine treatment moulded in paraffin. Vertical sections (5 µm thick) were stained using the immunohistochemical PAP technique for the purpose of obtaining chromogranin A.

Results:
The immunoreactivity of chromogranin A has been identified in the structures of the diencephalon, in the spinal and vegetative ganglia, and nerve fibers of the hearth base, trachea and bronchi, digestive and urogenital system. The immunoractivity of chromogranin A has been identified in the epithelial cells of adenohypophisis, thyroid and adrenal glands, gastrointestinal system, pancreas, metanephros canals and in the ovarian epithelium as well.

Discussion and conclusion:
The wide distribution of the immunoreactivity of chromogranin A in the tissues of the embryo points to the significance of the neuroendocrine system in the process of differentiation and regulation of growth in late embryonic period.

Key words:
chromogranin A, neuroendocrine system, human embryo
DIAGNOSTIC SIGNIFICANCE OF PLEURAL EFFUSION CYTOLOGY

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Country: Serbia

Introduction: Pleural effusion is fluid building up in the pleural cavity. Such effusion represents the symptom of pleura or lung disease or any other system disorder. The cells being present in pleural effusion can help in identification etiology of this pathological symptom.

Aim: Demographic features of the patients with pleural effusion and the analysis of pleural effusion in the examined population. Correlation between cytologic and pathohistologic findings with the review of reliability of pleural effusion cytology as diagnostic method.

Material and methods: Retrospective study included the patients where pleural punction and / or biopsy were done in the period from July 2007 to July 2008 at the The Institute For Pulmonary Diseases of Vojvodina in Sremska Kamenica. The information was collected from the pathohistological protocols and classified according to the pathologist- cytologist final opinion.

Results: 1171 samples of pleural effusions were analyzed, 788 (68%) male and 383 (33%) female. The questioned group average age was 59.8. The most present one was mixed cellular content in 32.19% cases (377 samples) and lymphocyte type of effusion in 17,8% (200) of all samples. The youngest average group (47,22) had eosynophil-granulocite type of effusion while macrophage type of effusion was the most frequest at the oldest group, with the average age of 63.52. Malignant effusion type was found in 174 (14.86%) samples, and the leading one in ethiology of this effusion type was adenocarcinoma found in 130 (75.58%) samples. Sensitivity of the cytological analysis on pleural effusion in malignant tumor diagnosis was 22%, specificity 98%. The total accuracy of the method is 89.3%.

Conclusion: Pleural effusion is found at the patients at the age over 70, mostly male. Mixed cellular content is the most present and lymphocyte type effusion and macrophage type follow. Malignant type of effusion is mostly caused by non – small cell lung carcinoma.

Keywords: pleural effusion, relieability, cytology, demografic features
PROTECTIVE EFFECTS OF THE MUSHROOM COPRINUS COMATUS

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Supervisor(s): Lalosevic D., Sasa Vukmirovic
Country: Serbia

Introduction:
It is mentioned in the scientific literature that the products of the mushroom Coprinus Comatus proved to have anti-oxidant effects in experiments made on animals, and the positive therapeutic effect of that mushroom as an additional treatment of diabetes is being quoted more and more.

Aim:
Study the effects of seven-day per os administration of the mushroom Coprinus Comatus on the weight changes and its hypoglycemic effects, accompanied with the analysis of pathohystological changes on the pancreas, liver and kidneys of the experimental animals compared to the control group.

Material and methods:
Using a random division system, the rats were divided into two experimental groups (one treated exclusively with the mushroom and one treated with alloxan after being pre-treated with the mushroom) and two control groups (a negative one- with no treatment and a positive one- alloxan treated only), with 6 rats in each group. In the period of seven days the experimental groups were treated with a suspension of the commercial powder Comprinus Comatus, the dosage being 1.67gr per PERSON. The hypoglycemic effects were reported with animals after inducing/ causing the experimental hyperglycemia with glucose, alloxan and adrenalin. After sacrificing the animals, pancreas, kidney and a liver extract were taken from each group and processed with a standard histological technique.

Results:
A seven day per os treatment of rats with Coprinus Comatus suspension significantly reduced the body weight of the animals compared to the control groups, depending on the dosage. Hypoglycemic effects were evident only in the glucose load test-GTT, and in the hyperglycemia test, induced by alloxan or adrenalin there were no relevant
DRUNKEN STATE IN FATALLY INJURED DRIVERS OF MOTOR VEHICLES

Author(s): GORDANA DJUROVIC
Supervisor(s): Slobodan Savic
Country: Serbia

Introduction:
Consumption of alcohol may be an important causative factor in traffic accidents, particularly in categories of drivers and pedestrians.

Aim:
Analysis of frequency and other important medicolegal characteristics of drunken state in drivers of motor vehicles.

Material and methods:
We analysed autopsies performed in the Institute of Forensic Medicine Belgrade during 2008 and 2009. Data were obtained from autopsy protocols, results of toxicological examinations, and police reports about circumstances of traffic accidents.

Results:
Out of all 84 fatally injured drivers, drunken state was proved in 31 (36,9 %). The majority of them were males (30 or 97 %), while only one female driver was under influence of alcohol. The most often drunken drivers were in the third life decade (10 or 32,2 %). In the most cases the injured alcoholised drivers died immediately after the accident (83,8 %). In most of them blood alcohol concentration (BAC) was higher than 2 ‰ (58,1 %), most frequently (12) BAC varied between 2,1 and 2,5 ‰, and the highest determined BAC was 3,85 ‰. The majority of accidents occurred between midnight and 6 a.m. (54,8 %), mostly during working days (77,4 %). The most frequent ways of occurring of traffic accidents were driving side away from road and strike from behind to other vehicle on the road.

Conclusion:
The obtained results point out to great importance of drunken state in drivers of motor vehicles as a causative factor in traffic accidents in our population. The potentially effective preventive measure could have been absolute prohibition of alcohol consumption for all drivers.
COMPARISON OF CHEMICAL AND ISCHEMIC PRECONDITIONING ON ISCHEMIC-REPERFUSION INJURY OF SMALL INTESTINE

Author(s): MARETTA M, Bujdoš M, Gajdos J, Tóth Š
Supervisor(s): Pomfy M, Tóth Š, Varga J, Staško P,
Country: Slovakia

Introduction and aim:
Ischemic–reperfusion injury (IRI) of small intestine is a frequent complication of various diseases and some specific surgical interventions, e.g. intestinal transplantation. The aim of this experiment was to find out the impact of ischemic and chemical preconditioning on injury of small intestine caused by ischemia followed by reperfusion injury.

Methods & materials:
Male Wistar rats (n=40) were divided into 3 groups. In the first group was performed ischemic preconditioning (IPC, n=15). In the second group was performed chemical preconditioning, we applied i.v. glutamine (ChPC, n=15). The 1 hour ischemic attack followed by 30 minutes of preconditioning in both groups was carried out. Samples of jejunum were taken in time 1, 4, 8, 12 and 24 hour of reperfusion (T1, T4, T8, T12, T24). IRI without preconditioning was performed in control group (K, n=10). The histopathological injury was scored by Park/Chiu histological scoring scale. Quantification of Paneth cells, goblet cells, EC-cells were studied by the routine histological (H&E), histochemical (Alcian blue and Phloxine-Tartrazine) technique.

Results:
Results of our experimental work suggest that ischemic preconditioning could have positive impact to small intestine ischemic–reperfusion injury. The positive effect of i.v. glutamine application was revealed. The glutamine application form showed higher protection and proliferation capacity than ischemic preconditioning, particularly in earlier periods of reperfusion.

Conclusion:
Both types of preconditionings decreased the damage of small intestine during ischemic-reperfusion injury. Their effects come up in different time. Their combination can be appropriate for application in clinical use.

This work was supported by the grants APVV-0252-07 and VEGA 1/0369/09.
VOLUME FRACTION OF MORPHOLOGICAL COMPARTMENTS OF BOTH HEALTHY AND CHRONICALLY DISEASED PALATINE TONSIL

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Supervisor(s): Prof. dr Verica Avramović
Country: Serbia

Introduction:
Palatine tonsil contributes significantly to both local and general immunity. Chronic tonsillar disease are common pathological conditions, with chronic hypertrophic tonsillitis (HHT) and recurrent tonsillitis (RT) being considered as two different entities.

Aim:
The aim of this study was to determine the size of morphological compartments of palatine tonsil in different state of chronic tonsillitis based on volume fraction.

Material and methods:
The used material wased consisted of tonsils obtained by tonsilectomy of patients of both sex, age 10-29, with 5 tonsils being RT and 5 being HHT. Five tonsils taken from casavers of accidentally deceased persons of both sex, age 19-27, were used as a control group. Stereological measurements were conducted on sections with 5µm thickness, which were coloured with chomatoxilin-eozine. Multzpurpose lattice M42 was used for stereological analysis.

Results:
Volume fraction of lymphatic follicles in normal tonsil is higher in RT (p<0,001); Vv of lymphatic follicles in HHT is significantly higher comparing to RT (p<0,002). Vv of interfollicular lymphatic tissue of both normal tonsil and the one with RT is higher then the same parameter concerning interfollicular lymphatic tissue in HHT. Values for Vv of the crypt epithelium and subethelial lymphatic tissue do not show statistically significant difference between the two examined groups.

Conclusion:
The results show that the volume fraction of both lymphatic follicle and interfollicular lymphatic tissue of the tonsil significantly differs between RT and HHT, which is, pessilly, a consequence of different pathogenetic mechanisms in these two conditions.

Key words: human palatine tonsil, chronic tonsilitis, stereology, volume fraction.
INTERPRETATION OF DARK NEURONS IN EXPERIMENTAL MODEL
OF ISCHEMIA, NEUROINTOXICATION AND BRAIN INFECTION

Author(s): CAPO IVAN, Natasa Hinic, Dusan Stefanovic
Supervisor(s): Prof. dr Dusan Lalosevic, Asis. dr Sasa Vukmirovic
Country: Serbia

Introduction: Findings of dark neurons is still a big controversy. Do they represent a simple artifact or neuropatological findings?

Aim: The aim is to explain the appearance of "dark" neurons in experimental animal models of ischemia, intoxication and infection of brain tissue.

Material and methods: The experiments included three experimental models. Neuroischemia: where in postmortal fixed rat brain after 10', 30', 45', 1.5h, 3h, 6h, 12h, 24h histologically was examined the appearance of dark neurons; intoxication: after 28 days of oral administratio AlCl3 in rats analyse changes in the brain; neuroinfection: where hamsters perorally given culture larvae T. canis and after 4 weeks analyse neuropatological findings in the brain. All brains were processed by standard histological techniques and stained with H&E, Walton and Cresil violet methods.

Results: Neuroischemia: in the group fixed brain specimens after 10 and 30' found only insignificant number of dark neurons increases until the time of fixation, their number was increasing, and after 12 and 24 hours dark shape assumed virtually all neurons. Neuroinfection: laminar flow is characterized by deterioration of nerve cells and the concentration of dark neurons in V lamina of cerebral cortex. Neuroinfection: in the area granulomatous pathohistological lesions and other changes observed increased concentration of irreversible stages of dark neurons.

Conclusion: The same histopathology characteristics of dark neurons in all experimental models can be attributed to arteficial ischemia, which is exposed to every tissue during histologic processing. Massiveness appearance of dark neurons depend on the length of exposure to the ischemia and the previous state of tissue patophysiological especially if pretreatment was at a destructive knox. Any harmful knox that lead to pathophysiological changes in vivo cause increased sensitivity of cells to arteficial ischemia and the development of dark neurons.

Key words: dark neurons, ischemia, neurointoxication, neuroinfection;
NEPHROTOXICITY OF BIRTHWORT (ARISTOLOCHIA CLEMATITIS)

Author(s): DEJAN MILJKOVIC  
Supervisor(s): prof. dr Dusan Lalosevic  
Country: Serbia

Introduction:  
Aristolochia clematitis (birthwort) is representative of genus Aristolochia which main toxin is aristolochic acid, and it is very nephrotoxic and cancerogenic.

Aim:  
The aim of this study was to investigate nephrotoxicity of plant Aristolochia clematitis in laboratory mice of NMRI type.

Material and methods:  
Experimental animals were divided in four groups – three groups that received different concentration of birthwort infusion (40g/1000ml, 20g/1000ml, 10g/1000ml) and one control group that received only water. Using metabolic cages after 24-hours we collected diuresis of each experimental and control group. The urine was measured and the general analysis was performed. Only six out of one hundred and twenty mice died, while others were sacrificed. The kidneys and the entire urogenital system of each individual were extracted and fixed in 10% formalin. After adequate dehydration, tissue was moulded in paraffin and cut on the microtome. Sections were stained with hematoxylin and eosin (H & E).

Results:  
Diffuse interstitial nephritis in acute phase of inflammation can be observed on every histological section of kidneys. All experimental animals had characteristic infiltrations around glomeruli, composed of clusters of lymphocytes and plasma cells. Also we noticed changes in tubule parenchyma. There is a difference in quantity of excreted urine between mice in all experimental groups that received infusion and control mice.

Conclusion:  
The changes on kidneys caused by birthwort with its toxic effects could be demonstrated in the initial stages of Balkan endemic nephropathy (BEN) and Chinese herb nephropathy.

Key words: mice, Aristolochia clematitis, nephrotoxicity, diffuse interstitial nephritis
GLOBUS PALLIDUS OF HUMAN BRAIN AND IRON OXIDE DEPOSITS

Author(s): VLADIMIR SISOVSKY, Olia El Hassoun, Martin Kopani, Andrea Barcikova
Supervisor(s): Prof. Jan Jakubovsky, M.D., DSc., Maria Caplovicova
Country: Slovakia

Introduction:
In the human brain, iron plays a decisive role in the process of aging and neurodegenerative diseases. It is one of the biogenic elements that play an essential physiological role in all organisms.

Aim:
To examine the physical and chemical properties, and the distribution of iron oxides in the globus pallidus of the human brain.

Material And Methods:
Formalin-fixed and paraffin-embedded human necropsy tissue specimens with globus pallidus of normal brain were besides conventional histological stains evaluated by histochemistry with using Prussian blue reaction, by light microscopy and by scanning electron microscope, for the iron oxides presence and distribution in interstitium of brain tissue.

Results:
A positive reaction for Prussian blue iron staining was found in the vicinity of small blood vessels in the extracellular space, some intracellular iron deposits were also found. Besides iron and oxygen, magnesium, silicon, calcium and phosphorus were demonstrated. Magnetite/maghemite particles were revealed via electron diffraction. No signs of neurological disease were found.

Conclusion:
From the results can be drawn that iron oxide deposits in the globus pallidus can be marker of age. The presence of biogenic iron oxides may be useful for the magnetic resonance imaging as normal contrast agent and may be utilized as therapeutic chelating compounds.
PLENARY Session X

ANATOMY
MORPHOLOGICAL INVESTIGATIONS OF INTERATRIAL HEART SEPTUM - PROSPECTIVE STUDY

Author(s): RAJSIĆ SAŠA, Rakić Tijana
Supervisor(s): prof. dr Gordana Teofilovski - Parapid, prof. dr Slobodan Saveč
Country: Serbia

Introduction:
Interatrial hearth septum has an anatomic and functional role in separating right from left atrium. During the intrauterine period of life a physiological communication between heart atria is realized through foramen ovale which is getting closed till the end of the first year after delivery, though in some individuals this closure does not happen at all.

Aim:
To establish persistence and clinical importance of patent foramen ovale in our population.

Material and methods:
Gender, cause of death, age of deceased, as well as anatomic and functional condition of foramen ovale have been analyzed in the sample of 1302 autopsy protocols from the Institute of Forensic Medicine in Belgrade from 2007.

Results:
Anomaly of interatrial septum of human hearth in our research is noted in 4 of 141 cases (2.84%) of both genders (1 male and 3 female) age between 44 and 82 (average age 62).

Conclusion:
The relatively low frequency of anomalies of foramen ovale in the performed research could be explained by the fact that research did not include the whole population but only forensic autopsy material. Another possible explanation is that existing patent foramen ovale was overlooked during the autopsy examination. In spite of its relatively low frequency, patent foramen ovale could be very important in both positive and negative sense.
PECULIARITIES OF THE VERTEBROBASILAR JUNCTION ON THE BRAIN BASE IN HUMAN ADULT CADAVERS

Author(s): JASMINA RANDELOVIĆ, Milena Trandafilović
Supervisor(s): Prof. Ljiljana Vasović M. D.
Country: Serbia

Introduction:
In the literature, the meaning of geometry of arterial bifurcations is emphasized after researching their three-dimensional models in away that hemodynamic influence in a cases with local changes of vessels geometry, like local dilatations or arterial curvatures, is stressed.

Aim:
The aim of this work was to get on a cadaveric material size of this angle, diameter of vertebrobasilar system arteries and vertebrobasilar junction level.

Material and methods:
The material represents 41 cases of arteries of vertebrobasilar system. Cases were examined during the forensic autopsy and then basis of the brain with vessels were photographed. On each case, convergation angle of vertebral arteries and calibar of vertebral arteria on left and right side and basilar arteria are measured by using ImageJ programme.

Results:
The convergation angle of intracranial segment of vertebral arteries varies from 1° to 107.31° in adult cases. The outer diameter of the right vertebral artery varied between 0.74-5.24 mm and the same diameter of the left vertebral artery varied between 2.05-5.57 mm. The outer diameter of the basilar artery varied between 2.89-6.45 mm.

Conclusion:
The right vertebral artery domination is established in 53.66% of cases. Investigation proved low positive correlation between values of the basilar artery diameters and vertebral arteries diameters separately, as well as between values of the vertebral arteries convergence angles and levels of the vertebrobasilar junctions, independent of sex, age or cause of death.

Key words: vertebral artery, basilar artery, vertebrobasilar junction, convergence angle.
MICROSURGICAL ANATOMY OF THE VERTEBRAL ARTERIES AND THEIR EXTRAMEDULLAR BRANCHES

Author(s): MILORAD ROVČANIN, Jelena Ristić
Supervisor(s): Vuk Đulejić
Country: Serbia

Introduction:
The vertebral arteries (VA), most often represent branches of the subclavial arteries. Usually the VA end in the area of the fossa postpontina, by merging with each other.

Aim:
To show the anatomic characteristics of VA and their branches

Material and Methods:
32 intact brains were used, out of which 30 were adult, and 2 fetal. The vascular system was pigmented and microdysected. An ocular micrometer was used to measure the diameters of the vessels.

Results:
We’ve found that the terminal part of the VA has a diameter between 1.5mm and 5.2mm. The front spinal artery (ASA) in 45.45 percent of cases forms out of two rutes, one from the left and the other from the right VA. In other cases there were also two rutes but they didn’t directly merge. The diameter can be from 210µm to 1000µm. Anterolateral arteries are always present. Their number can be from 3 to 10, however the difference in number on the left and right side isn’t statically important. Average diameter is 197µm. They usually don’t form directly from the VA. The posterior spinal artery exists on both sides of the medulla oblongata. It’s diameter was from 280µm to 870µm. It forms form the VA in 84.09 percent of cases.

Conclusion:
1. VA have a diameter of 1.5-5.2mm.
2. ASA have a diameter from 210µm to 1000µm. It usually forms from two rutes
3. Anterolateral arteries have an average diameter of 197µm.
Human sternum is a flat bone. It is composed of the three parts: manubrium, body and the xypoid process. It has a central position on the anterior chest wall, making the articulations with the clavicle and the first seven ribs cartilages. Objective of the research was to determine the morphometrical parameters significant for designing of the so called parametrical model of the sternum. The investigation was performed on 15 sterna from osteological collection of the Medical Faculty Niš, Department of Anatomy. The following morphological parameters were measured: 1. Length of the sternum 2. Manubrium breadth (2a Maximal manubrium breadth and 2b Minimal manubrium breadth) , 3. Length of manubrium, 4. Breadth of manubrium , 5a. Length of the sternal body, 5b. Breadth of the sternal body, 5c. Thickness of the sternal body and derived parameters manubrium index (MI) and body of the sternum index (IC) were measured. Measurements were performed by using the sliding caliper with nonius. Minimal value of the sternal length was 13.07cm and maximal 15.47cm. Mean values of the maximal manubrium breadth were 4.64cm, minimal manubrium breadth 3.07cm, length of manubrium 4.75cm; the breadth of manubrium was the highest at the level of the manubrio-sternal junction and was average 1.14cm; Maximal body length was 12.9cm and minimal 8.35cm; mean value of the body breadth was the highest between the incisures of the IV and V rib cartilages and the least between the V and VI incisures. The body thickness was highest on the inferior margin of the VI rib cartilage and the least at the inferior margin of the VII incisure. Mean value of manubrium index (IM) was 0.82 cm and 0.31cm for the corpus of sternum index (IC). Parametric model represents a morphological approach to the geometry modeling of the sternum as a base of CAD technology which serves for 3D modeling and the preoperative planning of the damage bone reconstruction.

**Key words**: sternum, morphometry
THE EVALUATION OF THE SYNTHESIS OF NEUROPEPTIDE Y IN THE CA-1 REGION ON THE RAT BRAIN AS THE REACTION ON THE REPEATED AND NON REPEATED ISCHEMIC STIMULI

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Supervisor(s): Prof. dr Laslo Puskas, Doc. dr Sinisa Babovic
Country: Serbia

Introduction: During the duration of the stimuly that damages the nerve cell, various proto-oncogenes activate and produce substances that may lead to lowering of the nerve tissue damage. One of these proto oncogenes is neuropeptide Y.

Aim: To evaluate the formation of neuropeptide Y in CA-1 region of the rat brain after different ischemic stimuli

Material and methods: The formation of neuropeptide Y was evaluated after repeated and non repeated ischemic attacks. We used the Pulsinelli ischaemic method, where laboratory rats have been treated and divided in two groups: The first (by ligature of four blood vessels i.e. coagulation of vertebral artery, with bilateral ligature of carotid arteries), and the second group (by ligature of four blood vessels i.e. coagulation of vertebral artery, with bilateral repeated ligature of carotid arteries). The formation of neuropeptide Y was determined by the use of avidin – biotin peroxidase immuno-histochemical method.

Results: On the cross section of the rat brain that was not exposed to the ischemy (control), neuroipeptide Y was not observed. On rats with non-repeated ischemia conducted, the highest expression of neuropeptide Y could be observed. In the group of rats which a r epeated ischaemic attack been done, a small amount of neuropeptide Y was found.

Conclusion: The amount of the formed neuroipeptide Y depends from type of the ishemy. After the non-repeated ishemy a high amount of neuroipeptide Y is being formed, and after the repeated ishemy of the brain, neuroipeptide Y showed lower expression.

Key words: Neuropeptide Y, Pulsinell method, ischemia, CA-1 region, rat
ANALYSIS OF THE DIFFERENCE OF LEVEL OF EXPRESSION OF C-FOS PROTEIN AND NEUROPEPTIDE Y IN THE DENTATE GYRUS ON RATS BRAIN AFTER TRANSITORY AND TOTAL ISCHEMIC ATTACKS

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Supervisor(s): Prof. dr Laslo Puskas
Country: Serbia

Introduction: Ischemia of the central nervous system leads to a cascade of synthetic processes among which the synthesis of neuropeptide Y and c-fos protein are part. These substances may lead to the elevation of the resistance of the rat nervous tissue. Objective: To determine the differences of the level of expression of Neuropeptide y and c-fos protein in the Dentate Gyrus of rat brain after single and repeated ischemic attacks.

Material and methods: The amount of formed Neuropeptide Y and c-fos protein was analyzed after one and after two repeated ischemic attacks conducted by use of the Pulsinelli method. Laboratory rats have been treated and divided in two groups: as the total ischemic group (by ligature of four blood vessels i.e. coagulation of vertebral artery, with bilateral ligature of carotid arteries) and as ischemic tolerant group of rats (by ligature of four blood vessels i.e. coagulation of vertebral artery, with bilateral repeated ligature of carotid arteries). After sacrifice of the experimental rats, the expression of Neuropeptide Y and c-fos protein in their brain tissue was determined by the use of an immuno-histochemical method.

Results: By comparison of the analyzed neuropeptide y and c-fos protein between these two groups as well with the control group of rats, it was determined that the expression of the neuropeptide y has been lower in the total ischemia group then in the ischemic tolerant attack group of rats, and that overall the expression of neuropeptide y was lower than the expression of c-fos protein.

Conclusion: This research showed that that the expression of neuropeptide y is highest in the dentate gyrus of the ischemic group of rats, that the expression is lower in the tolerant group and lowest in the control group of rats as well that in every of these groups c-fos protein showed higher level of forming.

Keywords: brain ischemia, gyrus dentatus, rats, c-fos protein, neuropeptide Y
THE COMPARISON OF THE MEASUREMENT OF THE TIBIAL SLOPE BY THE DIRECT AND THE INDIRECT WAY

Author(s): STEFAN JURICIC, Ivana Jovanovic, Marija Jovanovic, Ognjen Bojovic, Bojana Milosevic, Ana Zekovic, Bojan Naumovic, Dragan Opacic, Sladjana Smrzlic

Supervisor(s): ass. dr Lazar Stijak

Country: Serbia

Introduction:
The tibial slope is located on the proximal end of a tibia. In order to perform direct measurement, it is necessary to prepare soft tissue of the knee.

Aim:
The aim of this research was to compare different ways of measurement of the fibial slope, the direct and the indirect way.

Materials and methods:
In this research we examined 51 tibias on two different ways and after that statistically compared the difference of measurement of the bones. We also examined the difference and correlation of tibia slope on medial and lateral condyles for both types of measurement.

Results:
On the lateral condyle we did not prove the statistical difference of these two types of measurement, but we found a statistically significant difference for the medial condyle. Comparison of all values found by this two types of measurement showed in high statistical significant correlation for both condyles (p<0,01).

Conclusion:
This study showed that with help of specific equipment it is possible to confirm the tibial slope directly on tibias, without significant difference of indirect measurement.

Key words: tibial slope, ACL (anterior cruciate ligament), medial condyle, lateral condyle
PLENARY Session

XI

INFECTIOUS DISEASES, EPIDEMIOLOGY, SOCIAL MEDICINE, ENVIRONMENTAL MEDICINE AND MICROBIOLOGY
SOURCES OF STRESS IN MEDICAL STUDENTS SECOND- AND THIRD YEAR AND STRESS EVENTS SCALE

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Supervisor(s): Prof. dr Sladjana Jović, ass. dr med. Sunčica Starović – Jajčetić
Country: Bosnia and Hercegovina

Background/Aim:
The aims of this study were: 1) to indentify medical students self reported sources of stress, as well as ranking of these situations on the stress scale according to intensity of their impact on students, 2) to indentify students coping strategies.

Methods:
The study included 125 (86,2%) of 145 second- and third- year School of Medicine students, Foca, University of East Sarajevo, Republic of Srpska (Bosnia and Hercegovina), 48 males (38,4%), and 77 females (61,6%). Students participated in the survey by completing an authorized questionnaire where they evaluated situations that cause stress, according to the intensity of their impact, on the scale from 1 to 10, and ranked them on an individual stress scale. Data were statistically analysed with Mann- Whitney U test.

Results:
The stressors producing the highest ratings for perceived stress were: Death in the family, Illnes in family, Examinations and grades/Fear of hunger, Separation from family, Loneliness, Separation from a loved person, Financial problems, War conflict. The mean score of stressors influence in female students was higher than in the male students. There was a statistically significant difference between genders for four stress events.

Conclusion:
Obtained stressful life events scale is specific for student population from the analyzed area and gender- determined differences were statistically significant for certain stressors. Possible strategies for reducing stress in medical students should be considered in the light of these findings.

Key words:
Stress, stress- scale, medical students, coping strategies.
RUSH IN INFECTIOUS MONONUCLEOSIS – QUESTIONS AND ANSWERS

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Country: Serbia

Introduction:
Rash can be one of the symptoms in acute infectious mononucleosis. Ancient medicine connected appearance of rash with usage of synthetic penicillin, but also with EBV itself. There are a lot of case reports that reports appearance of rash with usage of other groups of antimicrobials.

The aim of the study:
We correlated clinical, laboratory signs and administration of antimicrobials in acute Epstein-Barr virus infection with appearance of rash.

Patients and methods: This is retrospective and partially prospective study (1.12.2006-1.12.2008) on 109 hospitalized patients, with acute infectious mononucleosis, 25 with rash and 84 without it. In all patients EBV infection was confirmed by ELISA IgM EBVVCA or/and Paul Bunnell test.

Results:
Student's t-test didn't show significant difference between age, gender, duration of symptoms, leucocytes count, absolute lymphocytes count, and ALT, AST among patients with or without rash. \( \chi^2 \) test didn't show any significant difference among patients who were treated with synthetic or pure penicillin, macrolids and cephalosporins of the first and the second generation. If we compare all these antimicrobials, we have significant difference between them and cephalosporins of the third generation. Only one patient expressed rash without any antimicrobials.

Conclusion:
According to our results, rash appeared independently of clinical course of disease. There are many patients who were treated with synthetic penicillin who didn’t express rash. All antimicrobials can be connected with rash, but cephalosporins of the third generation seems to produce rash less frequently then the others.

Key words:
infectious mononucleosis, rash, antimicrobials.
PHARMACOECONOMY AND GASTROENTERITIS INFECTION TREATMENT

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Supervisor(s): Doc. dr Sandra Stefan-Mikić
Country: Serbia

Introduction:
There are no strict guidelines for treating bacterial infections in our country. Antibacterial drugs are a personal choice of the physician, which is not always in accordance with the recommended therapy in the countries with a developed pharmacoeconomic practice. This study reviews the difference in implementation of everyday gastroenteritis infection therapy and the therapy conducted according to pharmacoeconomic guidelines.

Aim:
The therapeutic efficiency of the antibacterial drugs used in treating gastroenteritis has been assessed as well as the pharmacoeconomic justification of the application. Efficiency and the price of the physicians’ therapy of choice and the therapy according to the pharmacoeconomic guidelines in developed countries were compared.

Material and methods:
A study was conducted at the Infectious Disease Clinic of the Vojvodina Clinical Center which included 100 patients diagnosed for gastroenteritis, divided into two groups. The efficiency and the costs of the therapy were established for the sample group as well as the research group.

Results:
Based on the compared efficiency and the cost of gastroenteritis therapy before and after the introduction of the pharmacoeconomic guidelines, it was established that there were no significant differences in the efficiency of the used therapies, while there were significant savings in the cost (18,2%).

Conclusion:
Efficiency of the physicians’ antibacterial therapy of choice for gastroenteritis infections and the therapy according to the developed countries pharmacologic guidelines are equal. The treatment proved to be financially cheaper in the group of patients healed according to the developed countries’ pharmacoeconomic guidelines.
IDENTIFICATION OF MYCOBACTERIUM TUBERCULOSIS BEIJING GENOTYPE BY USING SPOLIGOTYPING, VNTR, AND RFLP-IS6110

Author(s): ELAHEH TAJEDDIN, Parissa Farnia, Mohammad Kargar, Jamileh Nowrozi
Supervisor(s): Elaheh Tajeddin
Country: Iran

Introduction:
Beijing strains constitute more than 1/4 of Mycobacterium tuberculosis (MTB) genotypes. Beijing genotype is considered an important genotype because of its reasonable characteristics such as: association with multi-drugs resistance TB. Accordingly these strains are reluctant to conventional TB drugs. Therefore, it is necessary to investigate the transmission rate among Beijing strains within the studied communities. In this study, three molecular methods (Spoligotyping, VNTR, and RFLP-IS6110) were used to identify transmission among patients infected with Beijing strains.

Materials and Methods:
The susceptibility tests were performed on 238 M. tuberculosis culture positive specimens. Thereafter, the isolated Beijing genotype was subjected to VNTR and RFLP. The results of Spoligotyping were analysed by using SPOLDB4 database. VNTR typing was used to identify alleles diversity in 9 locus (MPTR-A, ETR-A, ETR-B, ETR-C, ETR-D, ETR-E, ETR-F, QUB11B, QUB3232) of isolated Beijing strains. The allelic diversity of VNTR was measured by using Hunter Gaston Index (HGI).

Results:
The spoligotyping of M. tuberculosis isolates revealed the following 8 patterns: Haarlem (27.7%), CAS1 (25.2%), EAI3 (21.8%), CAS2 (6.7%), T1 (6.3%), Beijing (5.5%) U (5%), T (0.4%), EAI2 (1.2%). The following VNTR loci (QUB3232), (QUB11b, ETR-E and ETR-F) and (other loci) were identified as most (HGI ≥ 0.6), median (HGI=0.4-0.6) and weakest (HGI=0) distinctive loci for Beijing families respectively. Whereas the Beijing strains demonstrated diverse patterns in RFLP, 13/13 (100%) and VNTR 10/13 (77%).

Conclusions:
Beijing is one of the dominated circulating strains in Iran and interestingly majority of infected cases were due to reactivation rather than recent transmission. The VNTR and spoligotyping methods were more efficient to detect Beijing strains than by use VNTR and RFLP allow.
DEVELOPMENT OF ELISA METHOD FOR DETECTION OF HELICOBACTER PYLORI ANTIGENS IN STOOL

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Supervisor(s): Maryam Razaghi

Country: Iran

During the last decade, the role of Helicobacter pylori (H. pylori) infections in pathogenesis of gastric ulcers in adults and children has been well defined. The object of this study is to design a simple and sensitive enzyme immune assay method for detecting Helicobacter pylori antigens in stool. Stool samples were collected from 116 adults who were undergoing endoscopic examinations and stomach biopsies and for whom histology and rapid urease tests were performed. The design of the enzyme immune assay (EIA) method was based on the sandwich approach, which measures the amount of antigen between two layers of antibodies. In our research, we used a monoclonal antibody as the capturing antibody and a polyclonal antibody of rabbit origin conjugated with a peroxidase enzyme as the tracer. The results obtained in this study were compared with those from the histology and rapid urease tests, which are considered to be the “gold standard;” in addition, the correlation between our results and those from two conventional tests, i.e., rapid immuno-chromatography by the Certest Company and ELISA by the Astra Company, was investigated. In the histology and rapid urease tests, 21 of the 116 patients (18.1%) had positive results. H. pylori antigens were detected by the designed method in 19 of 21 cases (a sensitivity of 91%). Also, all of the 95 cases with negative results in the histology and rapid urease tests were negative for the stool antigen test (a specificity of 100%). For comparison, the sensitivity and specificity of the rapid immuno-chromatography test by the Certest Company were 95% and 99%, respectively. The total correlations between the results of the designed ELISA test with the results of the rapid test and the ELISA test of the Astra Company were 96% and 80%, respectively. This non-invasive and economical method for the detection of H. pylori antigens in stool can be considered as an alternative test that provides comparable reliability and validity to the histology and rapid urease tests for the detection of H. pylori infections.
POTENTIALLY PATHOGENIC BACTERIAL CARRIAGE IN UP PER RESPIRATORY TRACT DURING UMRAH SEASON, MAKKAH, SAUDI ARABIA

Author(s): AALAM AHMAD, Johargy Ayman, Asghar Atif, Momenah Aiman, Alherabi Ameen, Mashat Bassam, Al-Saeed Ashraf, Al-Saeed Hamdy.

Supervisor(s): Johargy Ayman

Country: Saudi Arabia

Introduction: Each year, millions of people from different countries around the world come to visit the holy city of Makkah, Saudi Arabia, to perform Umrah (visiting the holly mosque of Makkah). The congregation of so many people during Umrah season in such overcrowded conditions within a confined area for a defined period of time presents many public health challenges and risks. One of the main health issues correlated with such an event is upper respiratory tract infections due to ease of transmission by air droplets. These infections can be transmitted from infected people and more significantly from asymptomatic carriers with potentially pathogenic bacteria (PPB) such as; Staphylococcus aureus, Streptococcus pneumoniae, Streptococcus pyogenes, Neisseria meningitidis, Moraxella catarrhalis and Haemophilus influenzae.

Aim: Determination of the prevalence of PPB among Umrah visitors carriers from different ethnic groups.

Material and Methods: In this study 5874 samples (6 samples from each visitors, 3 at arrival to Saudi Arabia and 3 before leaving the country) were collected from 979 Umrah visitors from different nationalities (including; 129 Turkish, 127 Indonesian, 102 Pakistani, 99 Syrian, 98 Nigerian, 79 Egyptian, 77 Iranian, 71 Indian, 56 British, 56 Iraqi, 39 Malaysian, 27 Libyan, 14 Swedish, 4 American and 1 Jordanian). Swabs included: throat, nasal and sinuses. All samples were cultured and any isolates were identified using VITEK machine.

Results: Out of the 5874 samples collected in this study from Umrah visitors, 920 (15.7%) (339 before Umrah) and (581 after Umrah) samples were positive for PPB which included: 390 Staphylococcus aureus (155 isolates before Umrah and 235 isolates after Umrah), 326 Moraxella catarrhalis (109 isolates before Umrah and 217 isolates after Umrah), 190 Niesseria (73 isolates before Umrah and 117 isolates after Umrah), 9 Streptococcus pyogenes (2 isolates before Umrah and 7 isolates after Umrah) and 5 Streptococcus pneumoniae (no isolates before Umrah and 5 isolates after Umrah). The most nationality carried PPB was Iranian where 217 isolates (88 before performing Umrah and 129 after performing Umrah) were isolated from 77 Iranian Umrah visitors.

Conclusion: This study indicated that 15.7% of samples collected from Umrah visitors were positive for PPB which indicated a high carriage rate. In addition the PPB were more prevalent in Iranian Umrah visitors. Our study also indicated that performing Umrah increases the carriage rate of PPB.
Adolescents’ smoking and drinking related attitudes according to their user status

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Supervisor(s): Dr. habil. Bettina F. Piko M.D., Ph.D., M.A., CManag
Country: Hungary

Smoking and alcohol use are among the world’s most important public health problems and this is especially true in Central Eastern European countries. Hungary ranks highest in the world in rates of morbidity and mortality due to lung cancer in both men and women. High rates of alcohol-related problems, such as liver cirrhosis and alcoholism, are also an issue for concern in Hungarian society. Adolescents are particularly at risk for both of these addictive behaviors. The primary purpose of this study was to examine the relationship between these forms of substance use and smoking- and alcohol-related attitudes (e.g., normative beliefs). The sample consisted of 546 adolescents from elementary and high schools of Mako, Hungary who were given a self-administered questionnaire. The survey included sociodemographic variables, lifetime and monthly prevalence of smoking and drinking, beliefs and attitudes related to substance use (e.g., “In general, more ‘cool’ people drink alcohol than ‘uncool’ people). Student t-tests identified found significant association between smoking behavior and different attitudes/beliefs, particularly those referred to social motives and future expectations. In terms of drinking behavior, we also found significant relationship between attitudes and substance use. Our results point out the significance of different attitudes and beliefs in relation predicting adolescents’ substance user status (e.g., beliefs of social motives). Therefore prevention programs may benefit from paying attention to these processes in planning interventions.
PREDICTORS OF FATAL OUTCOME IN TUBERCULOUS MENINGITIS

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Supervisor(s): Adriana Hristea, M.D., National Institute of Infectious Diseases
Country: Romania

Introduction:
The prevalence of tuberculosis in Romania is one of the highest in Europe. Tuberculous meningitis (TBM) represents a severe form of tuberculosis. Objective: To assess the predictors of fatal outcome in TBM.

Material and methods:
We performed a retrospective study of 151 cases of TBM (definite, probable and possible) admitted in "Prof. Dr. Matei Bals" Institute of Infectious Diseases, Bucharest, Romania, between 2001 and 2010.

Results:
34 (22.5%) patients died, while 117 (77.5%) survived. Patients who recovered (mean age 33.74) were younger than the patients who died (mean age 46.62). Among those with fatal outcome, 44.1% had hyponatremia, whereas in the other group hyponatremia was found in 19.7% of cases. 30/34 individuals who died presented moderate or severe neurological damage. 50% of those with poor prognosis had a form of immunodepression. For the HIV-infected the mean CD4 count was lower (47.67) for those who died than for the others – 136. There were no statistically significant correlations between TBM outcome and sex, duration of symptoms before admission, CSF and CT brain scan findings.

Conclusions:
In our study, TBM outcome was influenced by older age, advanced neurological impairment and hyponatremia.
DIAGNOSTIC AND THERAPEUTIC PROBLEMS OF SEPTIC PATIENTS WITHOUT MICROBIOLOGICAL CONFIRMATION

Author(s): ŽELJKA NIKOLIĆ
Supervisor(s): Assist. Dr Goran Stevanović
Country: Serbia

Introduction:
Sepsis is sistemic inflammatory response to microbes and it has, at least, two clinical signs: fever or hypothermia, tachypnea, tachycardia and leukocytosis or leukopenia.

Aim:
Showing diagnostic and therapeutic problems of the patients with sepsis, without microbiological isolates.

Material and methods:
The total of 18 patients from Clinic for Infective and Tropical diseases Clinical Centre of Serbia, was completely clinically examined. All patients had community acquired sepsis, without previously major surgical procedures, burnings, artificial ventilation etc. Microbiological analyses (blood culture) are performed with all patients, with other diagnostic procedures as they were needed.

Results:
Recent urinary infection and previous dental interventions were often factors of disposition. Comparative overview of symptoms and signs from the patients with positive and negative blood cultures results was given. Fever, high concentration of fibrinogen and C-reactive protein were present with both groups. Diarrhoea was more frequent with patients without blood cultures isolats. In the majority of our patients initial therapy was started with cephalosporins. Combination of antibiotics was more often used at the beginning of treatment, at the base of most probable source of infection. An average duration of therapy in the group with positive microbiological results was 25 days and with negative results was 32 days. In the lack of microbiological conformation combined therapy was performed in prolonged period of time. All in all in our group of patients the outcome was favorable.

Conclusion:
Solving diagnostic and therapeutic problems with patients with negative microbiological result demands thorough investigation of factors of disposition, clinical symptoms and signs in order to detect possible focus of infection and pathogens. The main purpose is adequate initial antimicrobial therapy and its later modification based on therapeutic response and clinical overview. This type of treatment lasts longer, has higher expenses but majority of the patients were cured.
CIGARETTE SMOKING AND SLEEP DURATION IN BELGRADE UNIVERSITY STUDENT POPULATION

Author(s): MILICA MALBAŠA, Igor Pantić
Supervisor(s): Igor Pantić
Country: Serbia

Recent epidemiological data have suggested that cigarette smoking is associated both with difficulty initiating and maintaining sleep. Some laboratory studies have confirmed that nicotine, by its impact on several neurotransmitter systems, may influence sleep. The aim of our study was to examine the relation between cigarette smoking and sleep duration (in 24-hour period) in Belgrade university student population. Total of 735 students (119 smokers and 616 nonsmokers) were interviewed using an anonymous questionnaire. The average sleep duration was 7.33h (SD=1.51h) in smokers, and 7.60h (SD=1.44h) in nonsmoker population. The difference between the two groups was statistically significant (p<0.05). Our results suggest that cigarette smoking decreases sleep duration, probably due to direct or indirect effects of nicotine on several inhibitory neurotransmitters in central nervous system. We can also assume that sleep loss may increase smoking by impairing attention and inhibitory control, perhaps by inducing mood states that facilitate tobacco use.
BMI AND THE TIME SPENT ON TV, PC, SOCIAL NETWORKS IN BELGRADE UNIVERSITY STUDENT POPULATION

Author(s): MILICA MALBAŠA, Igor Pantić
Supervisor(s): Igor Pantić
Country: Serbia

Many researchers agree that television viewing and computer use are associated with overweight, decreased physical activity, and unhealthy dietary behavior among children and adolescents. The aim of our study was to investigate body mass index (BMI), as well as the time spent on television (TV), personal computer (PC) use, and social networking websites (Facebook, MySpace, Twitter etc.) in Belgrade university student population. Data was collected from 701 students of The Belgrade University, using an anonymous questionnaire. Average BMI was 21.74 (sd=3.5), average time spent on TV viewing was 2.09h (sd=1.75h), average time spent on social networking sites was 1.15h (sd=1.24h), and average total time spent on PC was 2.27h (sd= 2.16h). No statistically significant correlation (p>0.05) was found between TV viewing time and BMI. Also, no statistically significant correlation was found between BMI and the time spent on social networking sites or total time spent on PC. Our study suggests that today, among student population, TV viewing and computer use do not play a significant role in obesity development. However, additional research is needed in order to confirm this assumption.
PRESENCE OF HBS AG, ANTI-HCV ANTI – HIV AND TREPONEMA PALLADIUM ANTIBODIES IN BLOOD DONORS- HIGH SCHOOL AND UNIVERSITY STUDENTS W.U. TRANSFUSIOLOGY, CLINICAL HOSPITAL – STIP, REPUBLIC OF MACEDONIA

Author(s): VITLAROV NIKOLA
Supervisor(s): no
Country: Macedonia

Introduction:

The presence of markers of hepatitis B and hepatitis C in the blood of high school and university students represents a serious health problem in Republic of Macedonia.

Aim:

To determine the presence of the incidence of HBsAg, anti – HIV and treponema palladium antibodies in the blood of donors- high school and university students i. e. from the age of 18 – 25.

Material and methods:

In 2009 in W.U. Transfusiology in the Clinical Hospital in Stip there were 614 blood donations, from which 418 from high school students and 196 from university students. Every blood unit of the donated blood was tested the presence markers of transfusion transmissive diseases to be determined.

Results:

From the total number 614 tested blood units, HBsAg was found out in 18 ( 2,9%) , and 5 (0,8) a presence of anti – HIV and treponema palladium antibodies was not found out in none of the tested units.

Conclusion:

The level of the presence of the markers of hepatitis B and hepatitis C infection in the blood of the high school and university students who donated blood for the first time I higher compared with the other repeated donors ( The incidence of HBsAg is 1,18 %, and anti- HCV is 0,09%)With the use of obligatory vaccination for hepatitis B in newborns in the last ten years it’s presence will the decreased or it will disappear among the population of Republic of Macedonia.
EPIDEMIOLOGICAL EVALUATION OF OCCUPATIONAL INJURIES IN ALUMINIUM SMELTING INDUSTRY IN MONTENEGRO

Author(s): MARIJA ŠĆEPOVIĆ
Supervisor(s): Ljiljana Cvejanov Kezunović MD, PhD
Country: Montenegro

Traumatic occupational injuries have enormous importance considering them as an important cause of lost working hours and production losses, and a cause of physical and psychological trauma for injured workers as well. The aim of the study is an epidemiological evaluation of occupational injuries to be performed. Retrospective descriptive epidemiological study included 537 male workers employed in aluminium smelting industry - Electrolysis factory in Podgorica, in the year 2009. Relevant data were obtained using „Occupational injuries Register 1-109” from the Department of Safety and Prevention at Work. Standard statistical methods of data analysis were used in this study. The occupational injury incidence rate was 6.89 injuries per 100 workers, the frequency rate was 48.21 injuries per 1 000 000 man-hours worked, the severity rate was 1.5 working days lost per 1 000 man-hours worked. Average age of injured workers was 36.30 ± 7.66 years and the occupational accidental work-place injuries were the most frequent in the age group of 30-34 years. Average age of length of work in service among injured workers was 8.16 ± 4.81 years. The number of injuries was highest on Monday (24.33%), in February (21.62%) and December (13.50%), during the first shift (61.11%) and in the seventh working hour (21.62%). Potroom workers and technicians for machines maintenance were the most commonly injured (59.99%). The most frequent source of injury were liquid metal and electrolyte (32.44%), causing combustions of upper and lower extremities in the largest number of cases (70.27%). It has been shown, considering unacceptably high frequency rate, that concerted efforts have to be pointed at improvement in conditions of working environment, and also at introducing continued programmes for workers' education about safe work at their workplaces.
CONSCIOUSNESS DISTURBANCES AND NEUROLOGIC COMPLICATIONS AS PROGNOSTIC FACTORS OF BACTERIAL MENINGOENCEPHALITIS

Author(s): MARIJA ŠĆEPOVIĆ
Supervisor(s): Brankica Dupanović MD, MSc
Country: Montenegro

Bacterial meningoencephalitis (BME) is an acute neurological infectious disease severely affecting brain function. The aim of this study is to determine the presence and duration of consciousness disorders and neurologic complications occurrence in patients with BME and their correlation with the outcome of disease. A total of 30 patients suffering from BME (17 male and 13 female aged from 5 to 70 years), who attended the Infectious Diseases Clinic in Podgorica from August 2008 to February 2010, have been studied.

State of consciousness was classified as unaltered, confusion, somnolent state, stupor and coma. Neurologic disorders of interest were positive meningeal signs, deep tendon reflexes asymmetry, cranial nerve lesions, hemiparesis/hemiplegia and upper motor neuron lesions. Regarding the outcome patients were divided into cured, recovered with sequelae, and with fatal outcome. Pearson’s χ2-test and Analysis of variance were used in the statistical assessment.

The altered state of consciousness was noted in 96.67% of cases. The patients with less severe disorders that lasted shorter experienced more favourable outcomes. Concerning neurologic abnormalities it was found that two or more cranial nerve lesions could be prognostic factors of unfavourable outcome. The statistically significant difference in hemiparesis/hemiplegia occurrence regarding the outcome of disease was demonstrated. There was no statistically significant difference between the presence of either deep tendon reflexes asymmetry or upper motor neuron lesions and the outcome of disease.

The statistically significant difference between either the severity or duration of consciousness disturbances and the outcome was found, as well as between the occurrence of either two or more lesions of cranial nerves or hemiparesis/hemiplegia and the outcome.
PREVALENCE OF GEOTRICHUM SPP. INFECTION/CONOLIZATION OF THE INTESTINAL MUCOSA

Author(s): DALIBOR STOJANOVIC, Milenkovic Stevan
Supervisor(s): Prof. dr Suzana Otasevic
Country: Serbia

Introduction:
Geotrichum spp. can colonize the mucosis of respiratory and digestive system in humans. Even they are not aggressive opportunists, in patients with immunodeficiency, they can cause a very serious infections with the mortality to a 75%.

Aim:
The aim of this paper was to examine the prevalence of Geotrichum spp. infection/colonisation of intestinal mucosis in patients with the symptoms of fungal infectin of the digestive tract.

Materials and methods:
The research included 15,964 patients that were sent to a mycological examination of feces in a period of time from 2007 until the end of 2009. The mycological analysis was performed using the standard procedure. Geotrichum spp. were identified based on their morphometric characteristics. Morphometric characteristics were obtained by television image analysis system Lucia M (Nikon, Japan). The results were elaborated with the statistical method of descriptive and kvantitative analysis (SPSS 14.0 for Windows 2003).

The results:
Geotrichum spp. was isolated from the material of 162 (1.00%) patients. Using the statystical analysis we confirmed the significant difference in prevalence of geotrichosis according to the year of research {2007-1.1%; 2008-0.7%; 2009-1.2%; (p=0.031)}. Stastical significant difference was also discovered in prevalence of this mycosis according to a gender because Geotrichum spp. was more frequently present in the intestinal tract of women (p=0.001)

The conclusion:
In this study we not determined a high prevalence of Geotrichum spp. infection/colonisation of intestinal mucosa in investigated patients.Key words: Geotrichum spp., infection of digestive tract.
CLINICAL AND EPIDEMIOLOGICAL CHARACTERISTICS OF HEMORRHAGIC FEVER WITH RENAL SYNDROME ON KOSOVO AND METOHIA

Author(s): MILENA NEDELJKOVIC, Marko Gasic  
Supervisor(s): Doc. dr Natasa Katanic  
Country: Serbia

Introduction: Hemorrhagic fever with renal syndrome (HFWRS) is a zoonotic disease human contact with excretions. Morphology and genomic characteristics of Hantaviruses causing HFWRS, is one of the family Bunyaviridae. The main way is a modified respiratory infection followed by alimentary a possible the direct route of infection. HFWRS first cases in Kosovo and Metohia were recorded during the outbreak of the disease 1986th, when were registered 39 cases of people, in order to later years, noted only sporadic cases. They then recorded again epidemic in 1989th, with 31 deceased and 1995 with 43 ills. Focal HFWRS mainly in villages in Metohia.

Aim: The incidence of occurrence and clinical manifestation of HFWRS in Kosovo and Metohia.

Material and methods: Retrospective study in the period since 1986. – 1995. based on the 113th patients.

Results: HFWRS is a disease of rural areas. The clinical picture in the first phase of disease is dominated by a general, nonspecific symptoms: headache, weakness, pain in back. Also at this stage is characterized by the appearance temperatures of 38-400°C (85.9%) that is continuous or remitting type. Vomiting was reported by 71.9% and abdominal pain in 64.1%. Headache in the frontal region, blunt character states 73.4%. Hemorrhagic syndrome is one of the main characteristics of HFWRS and occurs in large percentage. Hepatomegaly was present in 43.8% while increasing in activities of serum transaminases (SGOT and SGPT) record 37.6% of patients. Increased values of urea and creatinine in serum are directly related to severity. At 17 patients were found antibodies to Hantan and Pumalla strain, and in two of Seoul an Belgrade. Lethality amounted to 9.3%.

Conclusion: HFWRS is a zoonotic disease that occurs in epidemic in Kosovo and Metohia in the clinical picture is dominates hemorrhagic syndrome and renal damage.

Key words: Hemorrhagic fever, Zoonosis, Fever, Hemorrhage, Kidney damage.
A STUDY OF THE RISK FACTORS IN ACQUIRING HEPATITIS C IN ROMANIA

Author(s): TABAN CORINA, Canulescu Delia, Merticariu Mircea, Andronic Bogdan, Dicu Andra, Basturescu Simona
Supervisor(s): Dr Sultana Camelia MD, PhD
Country: Romania

Introduction: The most important risk factors associated with acquiring HCV infection have included transfusion from unscreened donors, injection drug use, and unsafe therapeutic injections. However, there are temporal and geographic differences in the extent to which these risk factors have contributed to HCV transmission.

Aim: Our purpose was to identify the potential risk factors for acquiring HCV infection in Romania.

Materials and methods: We conducted a case-control study based on the questionnaire method upon 882 individuals (ages ranging from 1 to 86 years) that came to the National Virology Institute “St. S. Nicolau” for afflictions other than hepatitis during January 2002 to January 2004. We performed tests for antibody to HCV (anti-HCV) on serum samples using the Dia Pro Diagnostics Bioprobes ELISA kit and Western Blot assays. In individuals that tested positive the prevalence of HCV RNA was determined by means of nucleic acid amplification.

Results: From the initial 882 individuals, 28 proved positive for anti HCV antibodies. The control group had 116 individuals similar in age and sex distribution to the studied group. Mean age was 41.55 years with a sex distribution of 60.07 years in women and 44.25 years in men (p value<0.001). Among subjects, the strongest factors independently associated with HCV infection were previous surgery both major and minor procedures in 52.38% cases and only 23.14% in the control group, therapeutic injections performed over 23 years ago and a history of transfusion of blood and blood products in 35.7% cases compared to only 5.80% in the control group.

Conclusions: Although HCV is a bloodborne pathogen, the specific risk factors for acquiring hepatitis C are different from those of ordinary bloodborne viruses. The high prevalence in women and occurrence late in life suggest a iatrogenic transmission. In the vast majority of patients (85.6%) multiple risk factors were identified, also indicating a iatrogenic involvement.

Discussions: In contrast to developed countries, most of the disease burden in Romania and other developing countries is related to receipt of unsafe therapeutic injections and transfused blood and suggest that special care should be undertaken to ensure safe medical procedures.
AN EVALUATION OF DISCHARGE PROCESS AS AN INDICATOR OF NURSING CARE QUALITY PRO FIELD OF MEDICINE

Author(s): SANJA ŠUMONJA
Supervisor(s): Ph.D. Dragana Milutinović, MSc. Nataša Dragnić
Country: Serbia

Introduction: Training for patient self-care, treatment and rehabilitation after discharge from the hospital involves providing the patient and his family relevant information and learning the necessary skills.

Aim: The objectives of this study were to determine the importance of individual patient information, and what kinds of information were provided to them during the discharge procedures.

Method and Material: The research was conducted on the sample of 110 patients hospitalized in General Hospital, during 2009; in the form of cross-sectional study, by interviewing patients. The condensed version of the Patient Learning Needs Scale (PLNS) questionnaire was used as the instrument of the investigation and it consists of 22 items categorized into six domains of information that should be provided to patient. The format of typical six–level Likert item was used to measure the importance of information; the intensity of description ranges from 1=“not important”, to 5=“very important”, and 0 means that patients didn’t receive that information. SPSS Statistics base 14.0 for Windows was used for statistic processing of data, whereas p < 0.05 values were taken as significant.

Result: The mean score on the individual items of PLNS questionnaire was between 2.87 to 4.9. According to mean scores we can conclude that highly important information for both group of patients are When and how to take medication 4.79 ± 0.57 (SD) How to prevent complication 4.79 ± 0.61 (SD). No statistical difference was found in importance of information related to age, sex, and marital status, level of education and type of admission. Statistical difference exists only between departments related to information from subscales continuity of care (p = 0.007) and quality of life (p = 0.022).

Conclusion: This study highlights aspects of discharge planning which must be improved in order to increase quality of nursing care. These are: patient education and ensuring continuity in treatment and care.

Key words: Discharge, Information, Continuity of care, Questionnaire, Nurse
LIPID PROFILE AND CARDIOVASCULAR RISK OF HIV POSITIVE PATIENTS ON ANTIRETROVIRAL THERAPY

Author(s): MARKO NOVAKOVIC
Supervisor(s): Doc. dr Vesna Turkulov
Country: Serbia

Introduction:
Thanks to the application of modern antiretroviral therapy, HIV-infected patients have a significantly extended life expectancy and improved quality of life. Three main groups of anti-HIV drugs are: nucleoside reverse transcriptase inhibitors (NRTI), non-nucleoside reverse transcriptase inhibitors (NNRTI) and protease inhibitors (PI). Some of these drugs, however, may lead to consequential dyslipidaemia, which is a risk factor for the cardiovascular disease.

Aim:
To examine whether there are differences in terms of lipid status and cardiovascular risk between PI/NRTI and NRTI/NNRTI treatment protocols, as well as the influence of the duration of consumption and type of antiretroviral therapy and other risk factors on the occurrence of cardiovascular disease.

Material and methods:
This study included 36 HIV-infected patients who were taking antiretroviral therapy. Patients were divided into two groups based on therapeutic protocols: the first group consisted of 22 patients in the therapeutic PI and NRTI protocol, and the second of 14 patients in the NRTI and NNRTI protocol. Data were obtained by the questionnaires, control examination and cardboards. Framingham score was used for calculation of the 10-year cardiovascular risk.

Results:
Patients using PI/NRTI had significantly higher triglyceridemia and increased 10-year cardiovascular risk compared to patients on NRTI/NNRTI.

Conclusion:
PI/NRTI protocol causes significantly higher triglyceridemia and increased cardiovascular risk compared to NRTI/NNRTI protocol, which should be taken into account when prescribing therapy to HIV-infected patients, especially to those ones with additional risk factors.

Key words: HIV, lipid profile, PI, NRTI, NNRTI, cardiovascular risk
ASSESSING PHYSICAL EXPOSURE TO MUSCULOSKELETAL RISKS AMONG WORKERS OF A RUBBER FACTORY IN SHIRAZ

Author(s): MARYAM SALEHI & Damon Ketabi
Supervisor(s): Alireza Choobineh
Country: Iran

Introduction:
Musculoskeletal disorders (MSDs) are a common health problem throughout the world and a major cause of disability among the work force. Assessment of exposure level to MSD risk factors can be an appropriate base for planning and implementing interventional ergonomic programs in the workplace.

Materials and methods:
This study was conducted among workers of a Rubber Factory in Shiraz with the objectives of determination of the prevalence of MSDs among production line workers, and assessment of the level of exposure to MSD risks. In this study, all 16 production units of the factory were studied. In each unit, 50% of the workers were randomly selected and included in the study. A total of 454 workers participated. The Nordic Musculoskeletal Questionnaire was used to study the prevalence of MSDs and the Quick Exposure Check (QEC) technique was applied to assess physical exposure to the risks. The videotaping technique was used to collect the required data for each worker.

Results:
The vast majority of the workers (73.6%) had suffered from some kind of musculoskeletal symptoms during the last 12 months. The highest prevalence was reported in the lower back (50.2%), knees (48.5%) and upper back (38.1%). In 85.5% of the workers studied, the QEC score was high or very high. Statistical analysis showed a significant association between the QEC level of risk and MSDs symptoms (p<0.001).

Conclusion:
The most common ergonomics problems were found to be awkward postures and manual material handling. MSDs had occurred with a high rate among workers of this rubber factory. Corrective measures for reducing risk level seemed essential. Elimination of awkward postures and manual material handling in the workplace were recommended.

Keywords: Musculoskeletal Risks; Quick Exposure Check technique; Awkward postures; Rubber Factory
NOISE INDUCED HEARING LOSS AMONG WORKERS OF AN IRANIAN AXIAL PARTS FACTORY

Author(s): DAMON KETABI  
Supervisor(s): Abalfazl Barkhordari  
Country: Iran

Introduction:
Noise induced hearing loss (NIHL) is one of 10 prevalent occupational disease in the world. According to estimation of WHO, noise approximately losses 4 million dollars daily. Result of studies show, NIHL is the most common occupational disease among punching and cutting workers. So this study was carried out to discuss the relationship between occupational noise, age, work history and hearing loss.

Materials and methods:
This cross-sectional study was carried out among 75 adult workers of an Iranian Axial Parts factory. To assess hearing loss of staff worked at punching and cutting factory, we use pure tone audiometric tests were utilized with a central octave band frequency of 250-8000 Hz with AC40 clinical Audiometer. Also sound pressure level measured with IEC 60651 sound level meter at dBA in 70 stations of workers task with NIOSH standard method. In stations, where the sound pressure levels were upper than 85 dBA, frequency analysis was done too.

Results:
Mean age were 34/61 8/76 and Mean work history were 11/74 4/21. Also result indicated, NIHL is 0.21, if sound pressure increase one. Of course work precedent should be proved. And when be supposed sound pressure be stable, NIHL is 0.42 if history work increased one. A-weighted sound pressure ranged 98.1 to 115.7 dBA. NIHL was also ranged 17.45 to 56/67 dB. When data analyzed, it is shown, sound pressure level, age and work history were positively associated with hearing loss.

Conclusions:
In regarding to results, hearing losses among workers of an Iranian Axial Parts Factory begin at 4000 Hz and then directed through upper and lower frequencies. According to regression analysis the effect of work history on NIHL is more than the effect of sound pressure level. So this study considers the relationship between occupational noise, age, work history and hearing loss obviously.
THE FATIGUE IN WORKERS OF IRANIAN CENTRAL IRONSTONE COMPANY IN YAZD

Author(s): DAMON KETABI & Hossein Halvani  
Supervisor(s): Hossein Halvani  
Country: Iran

Introduction:  
Fatigue is a complex and subjective phenomenon. Fatigue appears in many different conditions and is ubiquitous phenomenon. It is one of the most frequently reported barriers to participation in physical and mental duties.

Materials and methods:  
This is a cross-sectional study that carried out in 388 workers of central Iranian ironstone Co. The fatigue was measured with Iranian version of Piper Fatigue Scale (PFS). To calculate the total fatigue score, add the 22 item scores together and divide by 22 in order to keep the score on the same numeric "0"to"10" scale. At first a descriptive analysis was performed and then statistical tests such as Chi-square and t-test were used in confidence interval of 95%.

Results:  
The sever fatigue in four sub-scale/dimensional scores and total fatigue scores are: 11.9, 15.2, 11.3, 10.8 and 10.6% respectively. There was no significant difference between other sub-dimension and total fatigue related to job history of workers.

Conclusion:  
Our work demonstrated that fatigue has several adverse effects on workforces. In total fatigue has affected work ability in participants of our study, therefore we should be noted that cumulative nature of fatigue and its complex role in decrement productivity and increment of occupational accidents could be harmful for industrial activities.

Keywords: Fatigue, workers, PFS, ironstone mine
EPIDEMIOLOGY OF INFECTIOUS DISEASE

Author(s): DR OVIASOGIE COLIN OSAGIE
Supervisor(s): DR OVIASOGIE ADAEZE
Country: Nigeria

Introduction: Two or more populations Humans Infectious agents Helminths, bacteria, fungi, protozoa, viruses, prions Vectors Mosquito (protozoa-malaria), snails (helminths schistosomiasis) Blackfly (microfilaria- onchocerciasis) – bacteria? Animals Dogs and sheep/goats – Echinococcus Mice and ticks – Borrelia A case is a risk factor … Infection in one person can be transmitted to others Concepts Specific to Infectious Disease Epidemiology: Attack rate, immunity, vector, transmission, carrier, subclinical disease, serial interval, index case, source, exposure, reservoir, incubation period, colonization, generations, susceptible, non-specific immunity, clone, resistance, repeat episodes Routes of transmission: Direct Skin-skin Herpes type 1 Mucous-mucous STI Across placenta toxoplasmosis Through breast milk HIV Sneeze-cough Influenza Indirect Food-borne Salmonella Water-borne Hepatitis A Vector-borneMalaria Air-borne Chickenpox Ting-borne Scarlatina
MAIN ONCOLOGY DISEASES AND CARE IN VINVITSA REGION, UKRAINE

Authors(s): John C. Kalu, HENRY ODAZIE
Supervisor(s): D.B.Bolyukh, A.Y.Kakarkin, Professor B.A.Bolyukh.
Country: Ukraine

Introduction:
Vinnitsa oblast – A Region of Ukraine with a population of 2 000 000, includes a territory that partially suffered from ionizing radiation after explosion on Chernobyl Atomic Electro station in 1986 (for reference, the Chernobyl catastrophe is equivalent to 500 nuclear bombs used in Hiroshima in 1945). Most people believe that the explosion increased the incidence of cancer.

Aim:
To find out the main oncology diseases been faced in Vinnitsa Region and measures that should be applied towards reducing its morbidity rate.

Material and Methods:
The most recent sources of cancer incidence and mortality data have been collected from Vinnitsa Regional Oncology Center (VROC).

Result:
As of 2008, in the Vinnitsa Regional Oncology Center (VROC), 5298 oncology patients were diagnosed and 5000 out of 5298 patients diagnosed underwent surgery as required. Among those diagnosed were patients with cancer of gastrointestinal, lung, breast, genitourinary, retroperitoneal, head and neck, skin, bones, soft-tissue tumours and lymphomas. Breast cancer ranks first in the structure of female oncology morbidity, followed by colorectal cancer and stomach cancer.

Conclusion:
After the 1986 Chernobyl catastrophe, the incidence of cancer In Vinnitsa Region has increased. Although great number of those diagnosed were treated as required (Surgery and radiological therapy), a control measure has to be placed including health education of the populace to seek early medical attention.
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The ISCOMS is an organizing committee consisting of twenty five medical students from the University Medical Center in Groningen, the Netherlands. These students organize an annual congress on medical sciences where 200 presentations will be held in plenary, parallel and poster sessions. During these four days more than 500 international medical students meet each other during sessions and social programme activities. Therefore it is one of the biggest and most important international platforms for medical students involved and interested in medical sciences.

The ISCOMS aims to become the leading forum in worldwide research exchange between students within all fields of medical sciences. In the coming years they envision establishing an international network aimed at collaboration of students with international research institutes, the ISCOMS serving as the central meeting point. The congress is to be expanded with pre-congress educational programmes, post-congress master classes and exchange of research fellowships. The creation of network of top research institutes and universities will provide the perfect environment for talented students to flourish.

A worldwide network of institutes and students is advantageous for both parties. The yearly condensation of knowledge and expertise around the IS-COMS is a great starting point for creating such a network.
ESC-Berlin – European Students’ Conference

The European Students’ Conference is one of the World’s largest biomedical student conferences and is held annually in October at the Charité Universitätssmedizin Berlin, Germany. The ESC was founded in 1989 by students to students to establish an exchange knowledge between the east and west of what used to be a divided Europe. Today, the Esc reaches out to all corners of the continent and beyond.

The ESC serves as a forum for scientific exchange, as well as for the interaction of:
- Medical students from different faculties
- Young scientist in related disciplines
- Experienced scientist and newcomers
- Science and the public
- University and industry
- Medical students and young scientist, who wish to explore the possibilities of working and researching in Germany

This not only enhances the international, interdisciplinary, scientific exchange, but also strengthens the cooperation and cohesion of a united Europe.

Each year the ESC welcomes over 350 active scientists who present their work and another 350 passive participants from over 40 countries. Above all competition and cooperation, our aim is to further an interdisciplinary approach to modern science and to put the results of all our work into a broader, cultural, social and ethnical context.
EMSA – European Medical Students’ Association

EMSA was founded by medical students, with an idea that it would benefit medical students in some way. Over the years, many ideas were expressed and many of them realized on how to make medical students, members of EMSA, to benefit as much as possible from EMSA. So far, EMSA served and still serves as:

• European network of medical students for communication & exchange of experiences

• Dissemination point for social, cultural, academic, economic and ethical aspects of medicine

• Representing body on behalf of European medical students towards different professional and international institutions

• Source of ideas & projects to be performed at YOUR faculty (Teddy Bear Hospital, Twinning Project, Working Abroad Database Project)

• Mean of learning medicine-specific terminology of a certain country through EuroTalk

• Publisher and founder of JEMSA – Journal of EMSA on Medical and Scientific Affairs

• Organizer of many congresses throughout Europe

• The organization to be in if you want to participate in cool events such as EMSA Sailing Week or EMSA Skiing Week

• The best organization to organize a workshop from the field of medical ethics or medical education at your event!

• The organization that brings you, medical students, even closer to Europe!
ZIMS – Zagreb International Medical Summit

Zagreb International Medical Summit for Medical Students and Young Doctors is first student summit organised by medical students in Zagreb, Croatia. ZIMS is intended for medical students and young doctors. Aim of this summit is to gather medical and adjacent students from all over the World. Young doctors are welcome, too. Definition of "young doctor" is here taken from EMSA Europe congress guidelines as "a person which graduated in the past year".

ZIMS is one of a few medical summits in Europe that offers its participants to publish their full texts in a cited medical journal (Liječnički vjesnik).
ISMCK – International Student Medical Congress Košice

The aim of ISMCK is to strengthen the international network for scientific collaboration.

ISMCK offers students and PhD students an opportunity to present their research and to exchange ideas on topics through oral or poster presentations in categories: Basic Science, Clinical Medicine, Dentistry, Public Health, Pharmacy and PhD students’ Works.

All young scientists working in the fields of medicine and biomedical sciences are invited.
The YES Meeting - Young European Scientist Meeting is an international meeting taking place in Porto, Portugal, from the 24th to 26th September 2010, organized by students from the Medical Faculty of University of Porto, Portugal.

This meeting provides students in biomedical fields the opportunity to Learn from world class specialists, Present their research work, take part in various Workshops, thus promoting a true exchange of knowledge and experience between those who are most passionate about science.
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About Novi Sad

Novi Sad is capital of Vojvodina, the northern region of Serbia. Situated on the Danube river, between Budapest and Belgrade, it is treasured regional and cultural centre.

The city was founded at the end of the 17th century as a vital bridgehead of the Petrovaradin fortress, one of the most beautiful and biggest fortresses in Central Europe, which was being built for about 100 years with the purpose to defend Austria from Turks and known as "The Gibraltar on the Danube".

Today, Novi Sad is a pleasant city with wide boulevards, modern buildings and special famous Central Square surrounded by the Old Town Hall, the Roman catholic church and a similar buildings dating mainly from the early nineteenth century. The city as well as whole Vojvodina is well-known multicultural, multinational and multireligious region. Among cultural-historical monuments, the best known is the Petrovaradin fortress with its underground corridors, promenades, museums, restaurants and art studios. There are also many churches, monasteries and other cultural monuments.

Novi Sad is known by the longest and the most beautiful sand beach on the Danube, the large marina for river boats and organized water sports, attractive picnic grounds at Fruska Gora and nearby terrain for hunting and fishing. As a university town, Novi Sad is known for a lively bar scene. There are lots of nice bars, cafes and clubs.

Exit Summer Fest, the largest music festival in the South-Eastern Europe, takes place on a beautiful fortress in NS. Exit attracts each year more and more thousands of visitors enjoing performance of world's most popular rock bands and Djs.

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