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STUDENTŲ
MOKSLINĖ DRAUGIJA

**2nd Baltic Sea Region
CONFERENCE
In Medical Sciences**

For Medical Students and
Young Doctors

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ABSTRACT BOOK

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WELCOMING MESSAGE FROM RECTOR



Dear friends and colleagues,

It is a true pleasure and a real privilege to welcome you to the 2nd Baltic Sea Region Conference in Medical Sciences for Medical Students and Young Doctors. The spirit of the meeting incorporates many important tasks: to build up networks and platforms for medical students to meet, communicate, share experience, develop professional skills, expand their expertise combined with human relationships. Kaunas city is the heart of Lithuanian culture, tradition and history, and it is waiting for you to be disclosed. The venue of the meeting is Kaunas University of Medicine, the largest institution of medical education and training in Lithuania, and we have made our best to allow young and clever students and doctors to present their research results to the colleagues.

We are fully confident that the 2nd Baltic Sea Region Conference in Medical Sciences for Medical Students and Young Doctors will prove to be a pleasant and rewarding scientific event and hope that you will return home with new ideas and friendships.

With best regards,
Professor Remigijus Žaliūnas
Rector of Kaunas University of Medicine

WELCOMING MESSAGE FROM VICE RECTOR FOR RESEARCH



Dear colleagues,

The requirements for someone who has chosen a physician's profession are not limited to commitment and compassion to other people's pain, but also include continuous self-improvement. Participation in students' scientific activity is an excellent opportunity to acquire new knowledge and a more profound look into the future profession.

Professor Irena Misevičienė

Vice rector for research of Kaunas University of Medicine

WELCOMING MESSAGE FROM SCIENTIFIC SUPERVISER



Dear Young Colleagues and students,

I would like to take this opportunity to invite You to join this important scientific International Conference for medical students. It will be not only an opportunity for educational updates, but also to enhance cooperation, communication and friendship for students and young doctors of different countries. Your active participation will make the Conference an essential part of Kaunas Medical University students scientific life, education and progress. The Scientific Programme Committee has once again succeeded in compiling excellent science ensuring a memorable and exciting meeting for participants. The program includes comprehensive coverage of selected topics on different kinds of medicine and science, new diagnostic modalities and perspectives in medicine. The Congress venue has the additional advantage of being located just in the centre of Kaunas Medical University Hospital complex - oldest and biggest University hospital in Lithuania.

Kaunas is a beautiful old town in the centre of Lithuania. First time Kaunas was mentioned in the chronicles in 1361. The city acquired the Magdeburg charter in 1408. Kaunas was the former interim capital of Lithuania. Now Kaunas is the second city of our country with about 0,5 mln. population, but sometimes we find it feels like a village, friendly and small enough to explore in a day or two.

In the museums and churches of Kaunas you will have the opportunity to admire many of the interesting masterpieces that represent a precious heritage for all humanity. In Kaunas old city and main shopping street Laisvės alėja, sightseeing and shopping will allow you to relax after the scientific experience of our Conference. In this very beautiful touristic area you will have the opportunity to enhance our friendships by sitting together in lively cafes and bars, and last but not least to taste typical Lithuanian food and excellent beer. I look forward to welcoming you to Kaunas, for a meeting that I am sure will be both scientifically successful and enjoyable.

On behalf of Scientific Committee I welcome You to Kaunas and trust, that You will have a memorable stay and experience together with us.

Sincerely Yours

Prof. Algidas Basevičius

Scientific supervisor of KUM Student Scientific Society,
Chairman of Scientific Committee

Enthusiastic members of two medical students organizations – Lithuanian Medical Students Association and Student Scientific Society of Kaunas University of Medicine joined their experience in scientific activity and international events organization for one purpose - 2nd Baltic Sea Region Conference in Medical Sciences for Medical Students and Young Doctors .

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ORAL PRESENTATIONS

1. A COMPARATIVE STUDY OF ANTI-BACTERIAL EFFECT OF LUTING CEMENTS ON STREPTOCOCCUS MUTANS BACTERIA

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It is clinically essential that cements used for luting should have antibacterial characteristics to protect from the secondary caries. Streptococcus mutans (*S. mutans*) bacteria that cause secondary caries may be still present under the restoration having not fully removed the tissue affected by caries or if there is microleakage present after cementing. This reduces the longevity of the restoration of the tooth.

The aims of the study:

1. To estimate the effect of various types of odontological luting cements (Glass ionomer cements (GICs), resin modified GICs, resin composite, zinc oxide eugenol, zinc oxide non-eugenol, zinc phosphate, zinc polycarboxylate cements) on the growth of the colonies of Streptococcus mutans bacteria.
2. To compare the antibacterial characteristics of freshly mixed and hardened cements.

Methodology: The research is carried out at the Clinical diagnostic laboratory of Public enterprise Jurbarkas Hospital. Research was done with glass ionomeric (Meron {Voco}, Ketac Cem {3M ESPE}), resin modified GICs (Meron Plus {Voco}, Fuji Plus {GC Europe}), resin-based (Bifix QM {Voco}, Variolink II {Ivoclar Vivadent}), zinc oxide eugenol (Repin {Sofa Dental}), non-eugenol (Provicol {Voco}, Temp Bond NE {Kerr}), phosphate (Unifas-2 {Medpolimer}, Hoffmann's Cement {Hoffmann Dental Manufaktur}) and polycarboxylate (Adhesor Carbofine {Sofa Dental}, Carboco {Voco}) cements. A sample of bacteria culture was taken from the patient's mouth. The obtained *S. mutans* bacteria was confirmed by Rapid STR system, having previously carried out reactions of catalasis, Gram paint and hemolysis. Bacterial populations sensitivity to cements was checked with the help of agar diffusion test. Sterile discs, 7 mm in diameter, were impregnated with the mixed cements according to the instruction and added into the bacteria culture in the nutritional medium of Columbian agar and 5% blood. In one case cements were applied the first minute after mixing (not hardened), in the other case they were applied hardened, that is 24 hours after mixing. The culture was incubated for 24 hours at the temperature of 37°C. Antibacterial effect of the cement was evaluated by measuring the diameter of non-bacterial zone around the discs. Statistic validity of the data was based on χ^2 and Student t criteria.

Results: The following results were obtained after studying antibacterial effect of non-hardened cements: zinc phosphate cements group had very strong antibacterial characteristics; moderate antibacterial effect was shown by Fuji Plus, Meron, Meron Plus and Adhesor Carbofine cements; antibacterially less active materials were Ketac Cem, Carboco. Statistically valid antibacterial effect could not be found for these cements: Bifix QM, Variolink II, Provicol, Temp Bond NE, Repin.

In studying the hardened cements only Fuji Plus was noted for its moderate antibacterial effect. Adhesor Carbofine, Hoffmann's, Unifas-2, Ketac Cem, Meron, Meron Plus, Carboco had little effect on *S. mutans*. Other cements were not noted for statistically valid antibacterial characteristics.

Conclusions:

1. Instantly mixed phosphatic cements showed the strongest antibacterial characteristics.
2. Non-hardened glass ionomeric, resin modified and zinc polycarboxylate cements have moderate antibacterial effect.
3. Zinc oxide non-eugenolic, eugenole and resin cements don't inhibit the growth of bacteria.
4. Hardened cements have weaker antibacterial effect than those applied right after mixing.

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2. A NEW PHASE: PREIMPLANTATION GENETIC DIAGNOSIS

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Introduction- Preimplantation Genetic Diagnosis (PGD) refers to a technique for prenatal diagnosis of cytogenetic and mendelian disorders via biopsy of one or two cells from an in vitro embryo at the 6 to 8 cell stage (developmental day 3). It is an alternative to conventional prenatal diagnostic techniques (amniocentesis, chorionic villus sampling) that allows couples to avoid intrauterine transfer of embryos affected by the disorder under evaluation. PGD may have additional value for improving pregnancy rates associated with assisted reproductive technologies (ART), as well as screening for genetic problems not conventionally associated with invasive prenatal diagnostic techniques.

PGD versus conventional prenatal diagnosis: The reasons for undergoing PGD are somewhat different from those for conventional invasive prenatal diagnosis since the expense and complexity of PGD usually make this option undesirable for the majority of women at increased risk for detectable chromosome and mendelian disorders.

Avoidance of pregnancy termination- Avoidance of pregnancy termination may be particularly attractive to couples who are at exceptionally high risk of having a child with a detectable chromosomal abnormality.

Sex selection- Preimplantation knowledge of embryonic sex enables transfer of only female embryos in couples with sex-linked diseases.

Improvement of ongoing pregnancy rates- Loss of chromosomally abnormal embryos is one reason for the decline in implantation in older women.

Obtaining DNA for analysis: The cells for preimplantation DNA analysis must be obtained at a time in embryonic development when removal does not disrupt the ability of the embryo to progress in its normal development. Three approaches to obtaining embryonic cell (s) for analysis have been successful:

Blastomere biopsy- Biopsy of the 6 to 8 cell embryo was the first technique to successfully obtain a nucleated cell for PGD.

Polar body biopsy (PBB)- Another approach to obtaining fetal DNA for analysis is to remove one or both polar bodies. Unlike blastomere biopsy, this approach obtains DNA material that allows for an "anti-diagnosis". In actuality, PBB is not preimplantation diagnosis but preconception diagnosis.

Blastocyst biopsy- The aforementioned techniques are limited by their ability to obtain only a small amount of DNA for analysis. More cells could be obtained if biopsy could be performed on the developmental day 5 to 6 blastocysts, an embryonic stage associated with hundreds of cells.

Conclusion- PGD remains an investigational procedure that is currently performed only in conjunction with ART. Utilization of PGD is thus limited by several factors specific to PGD and ART, including cost, diagnostic accuracy, ethical and technical issues, and impact on clinical outcomes. Despite its increasing use throughout the world, there is still insufficient information to assess the impact of PGD on pregnancy and pediatric outcomes. Couples considering PGD should receive genetic counseling to insure that they have a good understanding of the nature of their condition, its implications for offspring, and all of their options. Continuing surveillance of this relatively new technology is obviously needed; efforts such as the International Preimplantation Genetic Diagnosis Consortium and the PGD Consortium of European Society of Human Reproduction and Embryology are providing the needed resources for monitoring clinical outcomes of PGD pregnancies.

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3. ANALYSES OF RUPTURED CEREBROVASCULAR ARTERIAL ANEURYSMS LETHAL OUTCOME IN KMUK NEUROSURGERY CLINIC IN 2001-2005

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Introduction: Arterial cerebrovascular aneurysm is a hard, frequent, lethal pathology. According to the data of Lithuanian Health information center the death of 5410 people was caused by cerebrovascular diseases in 2005. That is 12.4% of all deaths in a year. Arterial cerebrovascular aneurysms make about 20% of all deaths caused by cerebrovascular diseases.

The Aim: To determine the main factors that influence deaths of patients hospitalized with ruptured arterial cerebrovascular aneurysm and complications associated with them.

Patients and methods:

1. We analyzed retrospectively 155 cases of patients who were treated and died from ruptured arterial cerebrovascular aneurysm in KMUK Neurosurgery Clinic in 2001-2005;
2. Information about the state of patients' consciousness according to Glasgow Coma Scale was assembled and statistically trimmed;
3. Influence of time for a patient's state and final outcome, the localization of aneurysms, their amount, complications (according to data from computer tomography, transcranial dopplerography and angiography), their number, intercurrent diseases, the cause of death and interrelation of all the factors mentioned was assessed.

Results: The most common localization of ruptured arterial cerebrovascular aneurysms were a. communicans anterior (31,4%) and a. cerebri media (23,6%). Ruptured arterial cerebrovascular aneurysms and complications associated with them were the causes of death for 87% of patients. Other patients died because of massive pulmonary embolism, cardiovascular diseases and other pathology.

Severe subarachnoidal hemorrhage was revealed to 67 patients (43%). It caused worse state of consciousness in comparison with patients who had moderate level of subarachnoidal hemorrhage. ($p < 0,01$). Intracerebral hematoma was diagnosed for 68 patients (49,2% were of frontal localization). This reflected with significantly worse state of consciousness ($p < 0,001$). Patients who suffered from arterial cerebrovascular aneurysms complicated with intraventricular hemorrhage experienced higher loss of consciousness compared to others ($p = 0,04$). We did not observe statistically significant influence of development of occlusive hydrocephalus to the state of consciousness ($p > 0,05$). A reliable connection between the time spent at hospital after an operation and falling sick with pneumonia was defined ($p < 0,01$).

Outcome: Intracerebral hematoma, severe subarachnoid hemorrhage, intraventricular hemorrhage were the main factors that influenced lethal outcome for the aneurysm ruptured patients. Pneumonia has to be considered as a serious intercurrent factor for aggravating postoperative recovery processes.

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4. ANATOMICAL AND 3D HD-FLOW VISUALIZATION OF INTRAHEPATIC BRANCHES OF UMBILICAL VEIN – A PRELIMINARY STUDY

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Under normal circumstances 20-30% of blood from the umbilical vein (UV) is directed to the ductus venosus (DV). In cases of intrauterine hypoxia up to 60% of UV blood can flow through DV. Remaining blood is distributed mainly to left lobe of the liver and enters the inferior vena cava through hepatic veins.

Purpose of the investigation: The aim of this study was to describe distribution of intrahepatic branches of UV basing on anatomical dissection and ultrasound 3D HD-Flow examination, which also allows to assess direction of blood flow in observed vessels.

Method: Study was carried out on 20 human fetuses (aged 18-24 weeks), fixed in 4% formaldehyde solution, taken from the collection Department of Anatomy, Medical University of Warsaw. Ultrasound 3D HD-Flow images of 20 fetuses were obtained using Voluson 730 Expert ultrasound scanner (GE Medical Systems) during routine examination between 18 and 24 weeks of gestation and analyzed using 4D View software (Kretz/GE Medical Systems).

Result: Specimens examination revealed that the umbilical vein, before it joins the portal vein sinus, constantly gives off branches to 2nd, 3rd and 4th hepatic segments. These branches anastomose directly with hepatic veins draining the corresponding segments. Results of our examination suggest that the portal vein does not participate in vascularization of 2nd, 3rd and 4th segments of the liver. Initial parts of major intrahepatic branches of UV are possible to be visualized using HD-Flow mode.

Conclusions: The HD-Flow Mode is a valuable method which allows to visualize the UV branches in normal conditions. Results of this examination can be useful to state the blood flow through particular hepatic segments in health and pathology, as well as to understand the patterns of liver vascularization *in utero* and in postnatal life.

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5. AORTIC VALVE REPLACEMENT WITH ST.JM - TORONTO SPV STENTLESS BIOPROSTHESIS TEN - YEAR EXPERIENCE

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Introduction: The aim of our study was to evaluate the impact of aortic valve replacement procedure with stentless bioprosthesis on early postoperative results (one month after operation) and hemodynamic changes in comparison to mechanical prostheses.

Material and methods: Study group consisted of 58 patients (48% with concomitant procedure: MV repair, TV repair and miscellaneous corection) who received stentless aortic bioprosthesis, and control group of 227 (with the same percentage of concomitant surgery as in the stentless group) patients, who received mechanical aortic valve substitute (St.Jude MMV) during the same time, in 1997-2007 at the Heart center of Kaunas medical university. Study protocol included clinical data (age), risk evaluation using EuroSCORE, patients functional status (NYHA) and Dopplerechocardiographic assessment (left ventricle Mass - LVM and the mean transvalvular gradient of the aortic valve)

Results: Pts with a stentless aortic bioprosthesis showed advanced age $72,6 \pm 5$ y. vs. $55 \pm 11,7$ y. in comparison to the pts who received a mechanical prosthesis ($p < 0,0001$). NYHA functional status in a stentless group was $3,3 \pm 0,5$ vs. $2,9 \pm 0,5$ in mechanical group ($p < 0,0001$). Mean predicted mortality rate with EuroSCORE in a stentless group was 10,8% vs. 4,2% within mechanical group ($p < 0,0001$). Actual mortality rate in a stentless group was 0% vs. 3,52% in mechanical group. Significant decrease of LVM was in both groups, nonetheless it was more pronounced in the stentless valve group – from $300,3 \pm 80,7$ g to $252,2 \pm 64$ g vs. from $324,5 \pm 84,6$ g to $277,9 \pm 75,1$ g in mechanical group ($p < 0,03$). Decrease of mean transvalvular gradient across aortic valve was pronounced in the stentless group from $60,9 \pm 19,8$ mmHg to $14,1 \pm 5,8$ mmHg vs. from $44,2$ mmHg $\pm 19,9$ to $15,5 \pm 6$ mmHg in mechanical group.

Conclusions:

1. Despite more advanced patient age, including more demanding “stentless” bioprosthesis implantation techniques, early postoperative results are in favor of stentless bioprosthesis
2. Low and acceptable postoperative mortality rate, lower mean transvalvular gradient, could be achieved with both groups, however positive postoperative left ventricular remodeling in stentless group was superior: reduction of left ventricle mass with improved patients survival.
3. The initial clinical results have been favorable and request further clinical investigation for long-term results.

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6. APPLIED MORPHOMETRY OF FETAL MANDIBLE BASED ON STATIC 3D ULTRASOUND IMAGING

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The development of 3D ultrasonographic techniques enables precise and fast prenatal diagnosis of congenital anomalies offline. Thus, morphometric analysis of the structures, which are difficult to visualize online, becomes possible. Knowledge of the morphometry of fetal mandible can be helpful in diagnosis of dentofacial abnormalities

Purpose of the investigation: The aim of this study was to analyse the fetal mandible and its morphology during prenatal development basing on offline analysis of static 3D ultrasonographic images.

Method: The study was based on 50 ultrasound examinations of the fetuses aged 14 – 25th week of gestation of both sexes. Two age groups were distinguished: 11-14 (group I) and 18-25 weeks of gestation (group II). All volumetric files were taken from routine ultrasound examinations performed at the Ultrasound Unit at the Warsaw Hospice for Children Foundation using GE Voluson 730 Expert scanner. The files were analysed using 4D view software (GE/Kretz). The following parameters were measured: mandibular angle and Bonville triangle arms – BT_1 , BT_2 – distances between heads of mandible and ridge of mandibular alveolar part in symphysis, BT_3 – distance between heads of mandible. In order to assess proportional growth of the mandible a Bonville triangle coefficient (BTC) was introduced, defined as $(BT_1+BT_2)/2BT_3$.

Result: In most of cases all parts of mandible were possible to visualize using Section Planes and Static VCI options, so all the parameters were possible to measure. The mandibular angle ranged 132.72-139.80 (avg. 136.20) in group I and 118.43-131.00 (avg. 125.27) in group II. The difference between A value in two groups was statistically significant ($p=0.000303$). BTC ranged 0.83-0.93 (avg. 0.89) in group I and 0.77-1.00 (avg. 0.90) in group II and 0.77-1.00 (avg. 0.90) in overall population, hence there was no statistically significant differences between groups ($p=0.684063$).

Conclusions: Mandibular angle value decreases significantly with gestational age. (2) Symetry of fetal mandible can be assessed using BTC which appears to be constant. (3) Offline analysis of static 3D volumetric ultrasound examination data can be useful to assess morphometric features of fetal mandible.

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7. CHANGES OF GASTRITIS HISTOLOGICAL FEATURES AFTER SUCCESSFUL AND UNSUCCESSFUL HELICOBACTER PYLORI ERADICATION: 8 YEARS FOLLOW-UP

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Helicobacter pylori (HP) bacterium is the main cause of chronic gastritis. It is established that the regression of granulocyte and lymphocyte infiltration, following successful HP eradication occurs, but it remains unclear whether or not gastric glands atrophy and intestinal metaplasia could regress after HP eradication.

Aim of the study: To evaluate the changes of gastritis histological features during 8-year follow-up after successful and unsuccessful HP eradication.

Methods: We investigated 71 HP-positive gastric ulcer patients. HP status and morphological examination of biopsy specimens from the antrum and the corpus of the stomach according modified Sydney system was performed before treatment, and 8 years later. HP was diagnosed histologically and by rapid urease test. HP-positively established if at least one of the tests was positive. For statistic analysis was used program "SPSS 12.0". Paired-samples t test was calculated.

Results:

- 1) We examined 26 women and 45 men. Their mean age 45.94 ± 13.60 (women – 46.88 ± 12.24 , men – 45.40 ± 4.44 , $p > 0.05$). All patients (100%) were HP-positive before treatment. After 8 years 34 (47.90%) patients were HP-positive;
- 2) In patients, after successful HP eradication, intensity of gastritis features before treatment and after 8 years respectively were: in the antrum of the stomach infiltration of lymphocytes 2.07 ± 0.73 and 0.26 ± 0.53 ($p < 0.001$), infiltration of granulocytes 2.07 ± 0.80 and 0.07 ± 0.26 ($p < 0.001$), atrophy 0.48 ± 0.57 and 0.17 ± 0.37 ($p < 0.05$), intestinal metaplasia 0.41 ± 0.78 and 0.24 ± 0.51 ($p > 0.05$); in the corpus of the stomach infiltration of lymphocytes 1.59 ± 0.68 and 0.17 ± 0.38 ($p < 0.001$), granulocytes 1.17 ± 0.93 and 0.07 ± 0.26 ($p < 0.001$), atrophy 0.17 ± 0.47 and 0.0 ± 0.0 ($p < 0.05$), intestinal metaplasia 0.17 ± 0.54 and 0.03 ± 0.19 ($p > 0.05$);
- 3) In patients, who remained HP-positive, intensity of gastritis features before treatment and after 8 years: in the antrum of the stomach infiltration of lymphocytes 2.14 ± 0.64 and 1.91 ± 0.60 ($p > 0.05$), granulocytes 1.69 ± 0.97 and 1.68 ± 0.66 ($p > 0.05$), atrophy 0.62 ± 0.68 and 0.38 ± 0.62 ($p > 0.05$), intestinal metaplasia 0.28 ± 0.70 and 0.38 ± 0.62 ($p > 0.05$); in the corpus of the stomach infiltration lymphocytes 1.62 ± 0.56 and 1.10 ± 0.77 ($p > 0.05$), granulocytes 1.41 ± 0.98 and 1.35 ± 0.77 ($p > 0.05$), atrophy 0.41 ± 0.73 and 0.10 ± 0.31 ($p > 0.05$), intestinal metaplasia 0.24 ± 0.69 and 0.14 ± 0.44 ($p > 0.05$).

Conclusions:

- 1) During the follow-up period a statistically significant reduction of intensities of histological features of gastritis (granulocytes and lymphocytes infiltration, atrophy scores) was established in HP-eradicated patients both in the antrum and in the corpus of the stomach. There were not statistically significant differences in the regression of intestinal metaplasia.
- 2) There were not statistically significant differences in the regression of histological features of gastritis (granulocytes and lymphocytes infiltration, atrophy and intestinal metaplasia scores) in HP-positive not eradicated patients both in the antrum and in the corpus of the stomach.

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8. CHARACTERISTICS OF OPERATED DERMAL LESIONS

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Introduction: In skin there are different cosmetic defects (uplift, changed structure, even ulcerations) which can be caused by soft tissue tumors. Malignancies of skin in Latvia (with melanoma) are in 48,6 persons per 100 000 inhabitants. It is important to differentiate benign and malignant neoplasm of skin and secondary changes around them.

The aim of the research: is to determine the most current operated dermal tumors which cause visually seen changes on the surface of skin as well as to appraise their structure, character and prognosis and differentiation possibilities with immunohistochemical methods.

Materials and methods: We have analyzed operated soft tissue tumors of various locations of 130 patients. Specimens were stained with hematoxylin-eosin, some histochemical (Masson, Sudan) and immunohistochemical (Vimentin, NSE, HMB45, Chromogranin, S100) methods to differentiate the origin of tumor. Pathological lesions I have evaluated semi quantitatively. I investigated cellular and tissue atypia, inflammatory reaction, changes of blood-vessels and how completely the tumor has been removed. For our research we used the documents and specimens from the archives of Pathology Centre (Riga).

Results: In the analyzed group 124 were benign tumors and 6 – malignant. 57% were men and 43% women. The spectrum of benign tumors was: lipoma – 44 (35%), dermatofibroma – 24 (19%), fibrolipoma – 21 (17%), hemangioma and glomusangioma – 17 (13%), neuroma and neurofibroma – 13 (10%), as well as 1 hondroma, 2 angiofibromas and 2 leiomyomas. Between malignant tumors were 2 liposarcomas, 1 fibroliposarcoma, 1 dermatofibrosarcoma protuberans, 1 leiomyosarcoma and 1 malignant histiocytosis. The most common localization was upper and lower limbs. But very typical field for lipoma is back (36% from all analyzed cases), hondroma was found on nostril, origin of neuromas is connected with previous arm nerve injuries. Patients mostly were at the age from thirty till eighty years which were 78% of all observed patients. Microscopic observation of benign tumors proved tissue atypia and inflammatory reaction around them. In many cases we discovered capsule around the tumor which marks off the neoplasm from other intact tissue and is a good prognostic sign. Hallmarks of malignant tumors were cellular atypia, necrosis, and disturbances of surrounding blood-vessels. Mostly tumors were removed completely and it was possible to see border with normal tissue. We noticed very wide variation of tumor size - from 0,3 till 10 cm in benign tumors and around 8 – 9 cm in malignant tumors. Epidermal reaction upon dermal lesions was: keratinisation, atrophy, acantosis, inflammation, uplift, changes of skin structure or color.

Conclusions:

1. More frequently in our cases in derma were lipoma, fibroma, angioma and different combined variations of them which caused changes of skin color, consistency and relief and secondary reaction in epidermis.
2. Ratio between benign and malignant subepidermal tumors was 21:1. Much more common were benign tumors with good prognosis but 5 % were malignant with aggressive characteristics and rather large size which needed much more early diagnosis and treatment.

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9. CHOICE OF SURGICAL METHODS IN THE MANAGEMENT OF ECTOPIC PREGNANCY

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Incision or removal of the fallopian tube are still the most common methods for the treatment of ectopic pregnancy. It can be performed via laparotomy or laparoscopy. Today the method of choice is minimally invasive surgery, however part of operations performed *per laparotomiam* differs from one country to another.

Purpose of the investigation:

To find the factors determining the choice of surgical method in the management of ectopic pregnancy.

Method:

Retrospective case-histories' analysis of all women having ectopic pregnancy and treated during the period of 2002-2005 in the Vilnius University Hospital (n=155, age 29,9±5,5 years) was made. Study population was divided into two groups: operated via laparoscopy (n=121) and via laparotomy (n=34) for assessment of factors determining the choice of open vs.laparoscopic surgery, then into two groups: performed salpingectomy (n=17) and performed salpingostomy (n=134) for assessment of factors determining the choice of tube-sparing vs.radical surgery. Differences are considered to be significant when $p<0,05$.

Result:

The further complications of disease were statistically significantly more often in the group of performed laparotomy: haemorrhagic shock (11,76% vs 1,65%), blood in the peritoneal cavity (*haemoperitoneum*, 85,3% vs 39,7%), anaemia (67,65% vs 26,45%), ruptured fallopian tube (35,29% vs 7,4%). Longer amenorrhea occurs in this group (53,9±39,5 days vs 44,2±18,1days). Removal of the fallopian tube was performed statistically significantly more often in the group of performed laparotomy (35,3% vs 4,1%), while dissection of adhesions performed less often (16,7% vs 50%). There was no statistically significant distinction between age, constitutional type, rate of pelvic inflammatory disease, previously performed gynaecological surgery, count of past pregnancies and deliveries in the group of women who underwent open surgery and ones who underwent laparoscopic surgery. Factors, found more often in the salpingectomy group, are: ruptured fallopian tube (52,94% vs 8,96%), haemoperitoneum (82,35% vs 47,76%), anaemia (64,7% vs 32,1%).

Conclusions:

Factors determining the choice of surgical method are: general condition of the patient before operation and gestational time. Factors having no impact on choice are: woman's age, constitutional type, anamnestic data.

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10. COMPARISON OF MORPHOMETRICAL AND ELECTROPHYSIOLOGICAL VALUES OF ATRIA IN PATIENTS WITH TYPE I ATRIAL FLUTTER AND WITHOUT THIS TYPE OF ARRHYTHMIA

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Atrial flutter (AF) is a regular and intensively rapid atrial contraction 220-400 bpm (usually approximately 300 bpm). The most common cause of AF is aging and degeneration of the heart wall structures, ischemic heart disease, valvular disorders and cardiomyopathy. AF is typical intraatrial “macroreentry“ phenomenon. Re-entrant waveform at the same time encircles in the right atrium (RA): it is travelling up the atrial septum (AS), down the lateral wall and spreading towards the AS through the isthmus between annulus of the tricuspid valve (TV) and the inferior vena cava. If the returning depolarising stimulus meets the end of effective refractory period (ERP) in the atrial fibres, it does not vanish but encircles the same way. Thus restimulation of this circuit depends on distance of re-entry circuit (the size of the RA), depolarising stimulus speed in the right atrium and the refractory of the different parts of the re-entry circuit.

Aim of the study: To evaluate the differences between the morphometrical (the size of RA) and electrophysiological (speed of depolarising stimulus in RA and ERP of different RA parts) parameters in patients with type I AF and control group patients without AF.

Methods: We analysed two patient groups: patients with type I AF (AF_Gr), treated by radio frequency catheter ablation (RFA) for AF and control group (C_Gr), treated by RFA for other arrhythmias, including AV connection tachycardia or congenital accessory conductive pathways and these patients had no history of paroxysmal AF (control group). The measurements listed below were taken during RFA procedure:

1. ERP in the orifice of coronary sinus (ERP_{CS}).
2. ERP in the lower part of the RA (ERP_{LRA}).
3. ERP in the upper part of the RA (ERP_{HRA}).

During RFA procedure the electrophysiological electrode was used and two spots in the RA wall were marked (A and B), the distance (s) between these spots was measured in millimetres. Then, when stimulating spot A the time in milliseconds (t) of spreading of depolarising stimulus to spot B was registered. These parameters were useful for calculating the speed of the depolarising stimulus (v) in the right atrium. For the morphometrical parameters evaluation we had the data from the case histories - the size of the RA, measured during echocardiograms (the height and width of the RA). Statistical analysis was performed using STATISTICA 5.0 program. The statistical significance was considered at $p < 0,05$.

Results: 45 patients were studied: 22 patients in control group and 23 patients in AF group.

RA mean length: C_Gr – $46,8 \pm 5,28$ mm, AF_Gr – $57,4 \pm 3,63$ mm, $p = 0,000016$; RA mean width: C_Gr – $36,32 \pm 3,88$ mm, AF_Gr – $40,06 \pm 3,52$ mm, $p = 0,0015$; V_{mean} : C_Gr – $1,04 \pm 0,41$ m/s, AF_Gr – $0,65 \pm 0,32$ m/s, $p = 0,001$; ERP_{A CS}mean: C_Gr – $232,3 \pm 19,98$ ms, AF_Gr – $255,2 \pm 40$ ms, $p = 0,02$; ERP_{A LRA}mean: C_Gr – $224,54 \pm 28,74$ ms, AF_Gr – $263,9 \pm 41,6$ ms, $p = 0,0006$; ERP_{A HRA}mean: C_Gr – $233,64 \pm 26,47$ ms, AF_Gr – $269,1 \pm 49,5$ ms, $p = 0,004$.

Conclusions: We compared patients with AF and control group patients and find out that the patients with AF had higher mean sizes of RA, mean speed of stimulus is lower and mean ERP measured in different parts of RA is higher. The differences between the groups were statistically significant.

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11. DIAGNOSTIC VALUE OF SCREENING INSTRUMENTS FOR DIABETIC NEUROPATHY

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Diabetic peripheral neuropathy (DPN) is estimated to be present in 50% of people living with diabetes mellitus (DM). It is the major independent risk factor for the manifestation of the diabetic foot syndrome, which is the major cause of non-traumatic amputations. Different diagnostic scores are used all over the world to screen for the condition as well as to assess its progression. None of these is validated in Lithuania. No quantitative sensory tests are available in Lithuania.

Objectives: To assess the diagnostic value of DPN scales (Neuropathy Symptom Score (NSS), Neuropathy Deficit Score (NDS) and the Michigan Neuropathy Screening Instrument (MNSI)) tentatively translated into Lithuanian;

To assess the diagnostic value of quantitative sensory testing (Current Perception Threshold (CPT) testing with NervScan2000) for DPN.

Methods: DM patients with neuropathic complaints during their hospitalisation in Endocrinology department were enrolled. Patient's refusal, age over 70 years, other conditions, and used drugs potentially causing neuropathy were the eliminating criteria.

Clinical neurological examination was performed, its findings used for NDS and MNSI physical examination part. Data from medical records were collected. Patients were questioned using NSS and MNSI. Quantitative sensory testing was performed using NervScan2000. Statistical analysis was performed using statistical package SPSS 12.0

Results: Overall 61 patients (41 male and 20 female), aged 48.2 ± 1.64 were enrolled in the study. 50 of them were clinically diagnosed to have DPN (NG). Other 11, absent of neuropathy were treated as a control group (CG).

Patients from NG showed significantly higher results of MNSI and NDS scales and quantitative sensory testing with NervScan2000 than those from the control group ($p < 0.05$). NDS and MNSI were sensitive tools in diagnosing DPN ($p < 0.05$), while NSS did not show significant sensitivity ($p > 0.05$). NDS score was 100% sensitive and 70% specific when 1 or more points were scored ($p < 0.05$) and MNSI physical examination part was 77% sensitive and 80% specific when 2 or more points were scored ($p < 0.05$).

CPT testing results correlated significantly with the quantity of clinical symptoms ($p < 0.05$). They proved sensitive in determining DPN ($p < 0.05$).

Conclusions:

The results of our study suggest that NDS and MNSI are sensitive in identifying patients with neuropathy. In contrast, NSS did not serve well as a diagnostic instrument for DPN.

NervScan 2000 is a valuable instrument for DPN diagnostics.

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12. DIETARY PATTERN UNDER 18 YEAR OF AGE AND THE DEVELOPMENT OF COLORECTAL ADENOMA

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Purpose of the investigation: The lifetime probability of developing cancer is estimated to reach 46% for men and 38% for women. In Europe the most common form of cancer is breast cancer (13.5%), followed by colorectal cancer (12.9%) and lung cancer (12.1%). Colorectal cancer (especially adenocarcinoma) is the second major cause of death from cancer. It is considered to be related to genetic susceptibility, environmental and lifestyle factors, especially diet and physical activity. Therefore, several large nutritional researches in adults were conducted. However, sole colorectal adenoma also results in significant morbidity and a decrease in patient's quality of life. The aim of this study was to evaluate association between diet composition under 18 year of age and the development of colorectal adenoma in adulthood.

Method: The study involved n=322 patients (114 males, 208 females, mean age 63.0), who underwent colonoscopy in the Department of Gastroenterology and Metabolic Diseases at the Medical University of Warsaw from May 2005 to November 2006. The inclusion criteria were: age \geq 30 and histopathologically confirmed adenoma. or a negative diagnosis of colorectal cancer of any type. The study group consisted of n=69 patients (42 males, 27 females, mean age 66.3), remaining n=253 (72 males, 181 females, mean age 62.1) comprised the control group. Data was gathered through a detailed questionnaire. For statistical significance the one-tailed Fisher's test was performed.

Result: Colorectal adenoma more frequently ($p<0.01$) concerned patients consuming ham/sirloin more often than once a month and fried or cooked/stewed meat more often than once a week. Similar observations ($p<0.05$) were made for consumption of beef, smoked fish or sausages/brawn more often than once a week. The opposite relation ($p<0.01$) was revealed for lack of smoked cured meat/sausages consumption. Differences in other product groups did not reach statistical significance.

Conclusions: The initial results support possible association between certain dietary patterns under 18 year of age and the development colorectal adenoma in adulthood. Frequent consumption of fried or cooked/stewed meat, sausages/brawn, ham/sirloin, beef, smoked fish, may be considered potential risk factors, while lack of smoked cured meat/sausages consumption reveals a potentially protective value.

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13. DIFFERENT EFFECTS OF ATYPICAL 1,4-DIHYDROPYRIDINES IN AZT-INDUCED CARDIOTOXICITY

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The treatment of HIV/AIDS is limited due to toxic side effects of anti-retroviral drugs, including azidothymidine (AZT), which is considered as mitochondria toxin in cardiomyocytes. Novel compounds of 1,4-dihydropyridine (DHP) drug class, synthesized in Latvia, have no calcium antagonist properties; however, they can regulate different cellular processes. Cerebrocrast had previously shown to inhibit neurotoxic interleukins – IL-1 α and IL-6 (Klegeris et al., 2002) and regulate mitochondrial processes (Velena et al., 1997; Fernandes et al., 2003). Glutapyrone was shown to prevent AZT-induced aggregation of mitochondria (Velena et al., 1997). Cerebrocrast protected cerebellar granular cells from 1-methyl-4-phenylpyridinium (MPP⁺)-induced cell death, indicating its ability to prevent mitochondrial dysfunction (Klimaviciusa et al., 2007) while glutapyrone and tauropyrone had no this effect.

Purpose of the investigation: Cerebrocrast (with classical bicyclic DHP structure), glutapyrone (glutamate-containing DHP) and tauropyrone (taurine-containing DHP) were chosen to study their effects in AZT-induced cardiotoxicity model in mice.

Methods:

- Cerebrocrast (0.01 mg/kg), glutapyrone and tauropyrone (both 1 mg/kg) were administered *per se* and in combinations with AZT (50 mg/kg) intraperitoneally in male mice for two weeks.
- After decapitation mice heart tissue was removed and immunohistochemically:
 - the expression of nuclear factor kappa Bp65 (NF- κ Bp65); and
 - the activity of caspase-3 were assessed.

Results: Results showed that AZT significantly increased the expression of NF- κ Bp65, as well as the number of caspase-3 positive cells in mice heart tissue, indicating AZT-induced inflammatory and apoptotic events. Cerebrocrast significantly reduced AZT-induced overexpression of NF- κ Bp65 and activity of caspase-3. Amino acid-containing DHPs tauropyrone and glutapyrone *per se* increased the number of NF- κ Bp65 positive cells, and they had no influence on AZT-induced NF- κ Bp65 expression and caspase-3 activity.

Conclusions:

The data obtained demonstrate that among tested DHPs only cerebrocrast showed a beneficial cardioprotective (anti-inflammatory and anti-apoptotic) effect, indicating its possible action at the mitochondrial level. One may suggest cerebrocrast's usefulness in combinations with AZT and other anti-HIV drugs in HIV/AIDS treatment.

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14. DIFFERENT TREATMENT STRATEGIES OF SCAPHOID BONE FRACTURE

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Introduction: The scaphoid bone is definitely the most commonly fractured bone of the carpus and accounts for 2-7% of all fractures. It occurs mainly in young, healthy and active male individuals. Radiographic evaluation is difficult and initially might be negative. Also present guidelines and recommendations on treatment strategy are not fully consistent. Various complications such as malunion, non-union, avascular necrosis and pseudoarthrosis are relatively frequent. They demand complicated secondary operative procedures and pose a significant clinical problem.

The aim of the study was to evaluate and compare operative management of scaphoid bone fracture as a treatment of choice versus operative treatment as a secondary measure.

Material and methods: The research was conducted in WSzZ Hospital, Kielce and involved group of n=19 (18 males, 1 female; aged 17-50) patients. The selection criteria were: scaphoid bone fracture, age \Rightarrow 17 and application of surgical treatment.

All available patients' records and operative book entries were retrospectively analysed.

To assess the type of fracture, three different scales based on radiographic images (Modified Herbert staging, Russe classification, and simple anatomic classification) were applied.

Results: In examined group the primary operative procedure and operative procedure secondary to conservative treatment of scaphoid fractures, was performed respectively in 13 cases (4 of them diagnosed as pseudoarthrosis) and 6 cases (all pseudoarthrosis). Patients subjected to secondary operative treatment were significantly ($p < 0.05$) younger. Bone graft was applied in 23.08% of primary and 50.0% of secondary operations. Bone resection was performed in 37.4% cases of delayed management compared to none in early management ($p < 0.05$).

Conclusions: The number of secondary operative procedures for pseudoarthrosis appeared to be relatively high. Therefore, it might be reasonable to improve conservative management or to extend indications for primary surgical treatment, especially in patients < 25 years. Early operative management also allowed to reduce the extent of surgical intervention.

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15. ELECTROPHYSIOLOGICAL EVALUATION FOR RISK STRATIFICATION IN ASYMPTOMATIC PEDIATRIC PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME

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Wolff-Parkinson-White (WPW) syndrome affects approximately 0.15-0.2% of general population. Investigation of WPW syndrome in symptomatic children diagnosed with WPW syndrome is numerous, but there is only limited information about significance and prognosis of an accidentally found ventricular preexcitation in asymptomatic pediatric patients.

Objectives: This study was designed to evaluate and distinguish specific electrophysiological characteristics and the results of radiofrequency (RF) catheter ablation in symptomatic and asymptomatic children with WPW syndrome.

Methods: 57 children with WPW syndrome (24 girls and 33 boys), average age 13.46 ± 3.28 years (from 4 to 17 years), 15 asymptomatic (group A) and 42 symptomatic (complaining tachycardia and palpitations, group B), underwent transoesophageal electrophysiological examination (EPE) during the years 2004–2006, and were retrospectively evaluated. 39 of them subsequently underwent intracardiac EPE and RF current ablation (7 from Group A, and 32 from Group B).

Results: We found no correlation between clinical symptoms and mean anterograde effective refractory period of the anomalous connection (AERPAC) measured by transesophageal EPE: it was 277 ± 92.40 ms with no significant difference between both groups.

Atrioventricular tachycardia (AVT) was successfully provoked in 37 patients, significantly more often in symptomatic group ($p < 0.05$): 4 (26.66%) from Group A and 33 (78.57%) from Group B (including one case of atrial fibrillation conducted through the Kent bundle). Programmed electrical stimulation failed to induce any AVT in 19 patients: 11 from Group A and 8 from Group B.

Antidromic tachycardia was a relatively rare finding (10.25%), noted in 4 patients, 2 of them had more than one accessory pathway. Orthodromic tachycardia represented the most frequent tachycardia of symptomatic patients (83.87%).

39 children (7 from Group A, and 32 from Group B) underwent RF current ablation: accessory-pathway conduction was eliminated in 38 of them (97.43%). No complications due to the procedure occurred. During follow-up preexcitation or paroxysms of AVT returned in 7 patients (in 4 cases it was traced during the same in-hospital stay). 3 of them underwent the second ablation, which succeeded to eliminate anomalous pathway in 2 cases.

Conclusions:

1. There's been no explicit electrophysiological data identified which could accurately predict the risk for asymptomatic children to develop symptoms or AVT, as well as to remain asymptomatic over time;
2. RF catheter ablation should be and is considered as first choice therapy for symptomatic children with WPW syndrome, but regarding asymptomatic patients it remains an open question;
3. Complications of accessory-pathway ablation procedure are insignificant; it could help to reduce the risk of arrhythmic events in asymptomatic patients with WPW syndrome;
4. RF current ablation is highly effective in eliminating accessory pathways, however, the recurrence of preexcitation or AVT may occur.

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16. ECTOPIC PREGNANCY IN LATVIA

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Introduction: Ectopic pregnancy (EP) is any pregnancy that occurs outside the uterine cavity. Pregnancy in the fallopian tube account for 97% of all EP. 55% of them in the ampulla, 25% in the istmus, 17% in the fimbria and 3% in the abdominal cavity, ovary and cervix. EP and following minimally invasive surgery or medical therapy has significant impact on reproductive health. EP incidence in Latvia is 26.9 on 1000 live birth child.

Study objectives: To collect the following data in regards to EP in Latvia:

- epidemiology
- risk factors
- main symptoms
- main localisations
- diagnostic and therapeutics

Material and methods: Data were collected from Riga 1st hospital archive retrospectively. Time frame: 2003 to 2006 (including). All patients with final diagnosis EP were included in study. Special data collection sheet was used. Information was entered in data basis and analyzed.

Results: Altogether 383 patients with EP were included in study group (2003- 92; 2004- 79; 2005- 109; 2006-103) with average age 29.9, range 14 – 47.

Main risk factor in study group was: legal abortion 259 (67,6%), previous abdominal surgery 201 (52%), adhesions 74 (19,3%), pelvic inflammatory disease 69 (18%), previous EP 67 (17,5%), intra uterine device 21 (5,5%).

Main symptoms where: abdominal pain 305 (79,6%), vaginal bleeding 284 (74,2%), menstrual delay 23 (6%), nausea 20 (5,2%), syncope 15 (3,9%), dizziness 12 (3,1%), vomiting 3 (0,8%).

In 376 (98%) patients EP was localised in fallopian tube and 7 (2%) in ovary. More precise localisation in fallopian tube was not possible to confirm due to the lack of information in medical documentation.

Diagnostic procedures to detect EP used: US 318 (83%), β -hCG- 192 (50,1%), punctio cavi duglasi- 124 (32,4%), urine pregnancy test- 109 (28,5%), abrasio cavi uteri proabatoria- 61 (15,9%).

The main therapeutic method used was surgery - 376 (98%) (357 laparoscopy, 19 laporotomy). Only in 7 (2%) cases EP was treated by Methotrexate (MTX). Additionally to minimally invasive approach laparoscopy MTX was prescribed for 29 patients.

Conclusion:

- EP incidence in Latvia is higher if compare to other European countries. In 2005 EP incidence in Latvia is 26.9 on 1000 live birth child.
- Main risk factors for EP to develop were anamnesis of legal abortion and abdominal surgery. In 259 (68%) cases there was data for legal abortion in past. Significant finding was adhesions in pelvis minor (75 cases) during the laparoscopy.
- Most of the patients present in hospital having two main complains – pain in abdomen 305 (80%) and vaginal bleeding 284 (74,2%).
- EP localisation was fallopian tube 376 (98%) and 7 (2%) ovary.
- It was found that only in 2% of all cases medical treatment with MTX was used, but surgical approach in 98%.
- It is important to establish guidelines for diagnostics and treatment. Guidelines will ease early detection and medical treatment of EP. Early medical treatment with MTX can lower costs and preserve patient reproductive health.

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17. FREQUENT COMPLICATIONS OF ANTERIOR CRUCIATE LIGAMENT (ACL) RECONSTRUCTION

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Background: Patellar tendon and Hamstrings tendons are the most common grafting choices for ACL reconstruction. Anterior Knee Pain and injury to the infrapatellar branch of the saphenous nerve resulting in sensory disturbance have been described as the most frequent complications. Patellar tendon graft harvesting can be performed with a single midline longitudinal incision technique, or with a two-transverse-incision technique. Hamstrings tendons are harvested with a small vertical incision over the pes anserinus area. The purpose of our study was to evaluate the incidence of anterior knee pain and sensory disturbance after the use of these different harvesting techniques.

Methods: 198 single longitudinal incision Patellar Tendon, 127 two-transverse-incision Patellar Tendon and 275 Hamstrings tendons ACL reconstructions were performed between 2003 and 2006 in our department by the same surgeon (G. D.).

These series excluded patients with previous knee surgery, knee osteoarthritis, multiple ligament knee injuries and/or postoperative follow-up less than 4 months.

Patient records, arthroscopy and rehabilitation files and films were reviewed and analyzed.

We performed a descriptive analysis of these series of patients aiming to assess the incidence of most common complications.

On the basis of nerve distribution, sensory disturbance extending laterally beyond midline over the infrapatellar area was ascribed to injury to the infrapatellar branch of the saphenous nerve.

Donor-site discomfort, and inability to kneel or knee-walk at 4 months after surgery were ascribed to postoperative anterior knee pain.

Results: Postoperative anterior knee pain was found in 67 patients (33.8%) from the Single Incision Patellar Tendon group, 23 patients (18%) from the Two-Transverse-Incision Patellar Tendon group, and 57 patients (20.7%) from the Hamstrings group.

Sensory disturbance due to infrapatellar nerve injury was found in 168 patients (84.8%) from the Single Incision Patellar Tendon group, 26 patients (20.4%) from the Two-Transverse-Incision Patellar Tendon group and 78 patients (28.3%) from the Hamstrings group.

Conclusions: The anatomic variations of the nerve branches preclude their absolute avoidance in any surgical incision.

The results of the study suggest that the two-transverse-incision approach of the patellar tendon offers a better chance of preserving the infrapatellar branch of the saphenous nerve, thus contributing to the prevention of postoperative anterior knee symptoms.

Avoiding these donor-site related complications can successfully contribute to a more efficient early knee rehabilitation in patients who undergo ACL reconstruction.

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18. HYPOTHERMIA, AS A TREATMENT METHOD, USAGE IN CHILDREN

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Introduction: Mortality in patients after traumatic or post- anoxic brain injury remains high. The main goal of treatment in these patients is the prevention of secondary brain injury. Mild hypothermia (33-34⁰C) may improve outcomes in these patients, but this method of treatment remains controversial.

Aim of the study: To evaluate patient's after traumatic or post- anoxic brain injury condition on admission by means of GCS (Glasgow Coma Scale) and PIM2 (Pediatric Index of Mortality). To evaluate patient's outcomes by means of GOS (Glasgow Outcome Scale) and main complications of hypothermia.

Materials and methods: A retrospective study of 13 children after traumatic or post- hypoxic brain injury, admitted to PICU of KMU hospital during 2005- 2006 years period. Patient's characteristics, condition on admission, outcomes and main complications of hypothermia were evaluated. Patient's condition on admission was assessed by means of GCS and PIM2. Outcomes were assessed by means of GOS: 1- death, 2- persistent vegetative state, 3- severe disability, 4- moderate disability, 5- good recovery. Analysis of the data was performed by using SPSS 13 software package; p-value less than 0,05 was considered to be statistically significant.

Results: During 2005- 2006 years period in PICU of KMU Hospital mild hypothermia was applied to 13 patients: 7 (54%) boys and 6 (46%) girls. Mean age 11,2 years (1y. 1month- 17y. 10month.).

Two groups according to the type of brain injury were: 8 (61,5%) patients after severe head trauma, 5 (38,5%) patients with post- anoxic brain injury (after near drowning or hanging). Average GCS in patients after severe head trauma was 7,1 points, average PIM2 in these patients was 5,9% ± 2,2. Average GCS in patients with post- anoxic brain injury was 5,6 points, average PIM2 in these patients was 43,3% ± 36,0. Patient's condition after post- anoxic brain injury of on admission was statistically significantly worse, than patient's condition after severe head trauma, p<0,05.

The most frequent complication of hypothermia was airway infection: in 92% patients (n=12). The onset was observed mostly on the second day of cooling (in 9 (75%) patients). Hypokalaemia was observed in 8 patients. It mostly occurred on the first day of cooling. Sepsis was diagnosed in 2 (15,4%) patients. Other life- threatening complications, such as arrhythmia, pancreatitis, thrombocytopenia were not observed.

Good recovery (GOS 5) and moderate disability (GOS 4) were designated as a favourable outcomes. GOS 5 was in 6(46%) patients, GOS 4 was in 7 (54%) patients. Average GOS in patients after severe head trauma was 4,13 points, in patients with post- anoxic brain injury 5 points, p<0,05.

Conclusions:

1. Patient's with post- anoxic brain injury condition on admission was worse, than after severe head trauma but outcomes by GOS in these patients were better.
2. The most frequent complication of hypothermia was airway infection.

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19. IDENTIFICATION OF SEROLOGICALLY ACTIVE TUMOUR ANTIGENS IN MELANOMA

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Early diagnosis of cancer and disease/therapy monitoring are of great importance and therefore meet the need to search for novel cancer-specific biomarkers. There is growing evidence that circulating autoantibodies against tumour tissue-produced antigens can serve as good biomarkers. Nevertheless, there are great diversity in tumour antigen repertoire and quantity among individual tumours and patients, hence individual autoantibody can not be considered as good candidate for serodiagnostic/prognostic tests applicable in clinics. Therefore identification of novel tumour antigens is essential for broadening the spectrum of autoantibody-recognized targets in cancer patients.

Purpose of the investigation: Aim of the investigation is to identify majority of serum-reactive tumour antigens in melanoma and to use the antigens for development of tumour antigen microarray applicable for systematic search of novel autoantibody profiles significant in cancer diagnostics and prognostics.

Methods: Serological identification of tumour antigens by recombinant expression cloning (SEREX) strategy was used to identify tumour antigens in melanoma. SEREX principle is based on construction of cDNA expression library into a bacteriophage vector, expression of recombinant antigens in E.coli and immunoscreening with patient's serum. Isolated serum-reactive clones were identified by standard DNA sequencing method. All antigen-associated information needed was summarised from open access data bases. Identified antigens were printed on nitrocellulose-coated glass slides using Genetix QArraymini printer.

Results: One testis and five melanoma cDNA expression libraries were constructed and immunoscreened with 25 melanoma patients' sera which resulted in the identification of 732 serum-reactive clones representing 473 different antigens. Less than 15% of identified antigens represent natural peptides of known and novel antigens, while others are translated unnaturally and likely mimic epitopes of other, yet unknown antigens. The melanoma antigen microarray was developed by printing all of identified antigens onto glass slides.

Conclusions: A melanoma antigen microarray was developed containing more than 450 serologically active individual recombinant antigen clones. The microarray will be used for to systematically search for novel clinically significant autoantibody signatures in cancer patients.

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20. KNOWLEDGE OF STROKE RISK FACTORS, WARNING SYMPTOMS, AND TREATMENT TACTICS AMONG ADULTS IN LITHUANIA

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Purpose of the investigation: To assess the knowledge of stroke risk factors (RF), warning symptoms (WS), treatment tactics, and usable sources information among adult in Lithuania.

Method: In 2006 a questionnaire was given to 187 adults (aged from 16 to 80 years). They were asked about stroke RF, warning symptoms, treatment tactics and information sources.

Result: 127 (67,9%) persons of the 187 interviewed individuals were woman, 60 (32,1%) – men. 114 respondents had a university, 42 – a further, 31 – a secondary education.

87,2% participants of survey were able to correctly report that the brain is the affected organ in stroke. 50,3% - able to correctly report ≥ 3 strokes RF, 96,3% – ≥ 1 stroke RF: smoking (56,7%), hypertension (56,2%), drinking (34,8%), stress (33,7%), hyperlipidemia (25,1%), physical inactivity (13,4%), cardiovascular disease (12,8%). Respondents to 25 years old were more likely to correctly identify ≥ 3 strokes RF compared with respondents aged 25 to 65 ($p < 0,05$) and respondents aged 65 and older ($p < 0,01$). Respondents with the university education were more likely ($p < 0,001$) to correctly report ≥ 3 strokes RF.

16,6% participants were able to correctly identify ≥ 3 specific stroke WS, 71,7% – ≥ 1 specific stroke WS: numbness on any side of the face/body (50,3%), speech difficulties (33,2%), sensibility difficulties (21,4%), seeing difficulties (16,6%); respondents often reported unspecific stroke WS, too: consciousness difficulties (50,3%), headache (27,8%), giddiness (20,9%).

Most respondents (94,1%) said they would call 911 if someone had a stroke. More than 95% knew that stroke victims should receive immediate medical treatment. 14% said that stroke is a full treatable disease, 69% – a partial treatable disease and 13% – incurable disease. Sources of information were: personal experience (62), newspaper (62), TV/radio (61), medical personnel (41). Men reported the sources “newspaper” more often ($p < 0,01$) compared with woman.

Conclusions:

1. Knowledge of stroke RF, WS among adults in Lithuania is quantifiable enough, but it is qualitative poor.
2. More than 95% thought that stroke is a sudden boucle and the treatment in a case of stroke must be started immediately; most respondents would call 911 if someone had a stroke.
3. The value of information’s source as medical personnel is the smallest.

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21. MORPHOLOGY AND MORPHOMETRY OF PROXIMAL AND DISTAL END OF THE HUMAN CORONARY SINUS

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The coronary sinus(CS) is important for several procedures of contemporary invasive cardiology, e.g. electrophysiological procedures or percutaneous mitral valvuloplasty. Clinical application of this structure requires its detailed anatomical and morphometric analysis.

Purpose of the investigation. Our study aimed to assess some morphometric parameters of the coronary sinus in unfixed specimens focusing on its orifice in right atrium and region of the valve of Vieussens.

Method: The study based on 78 unfixed specimens of coronary sinus obtained during routine autopsies at Medical University of Warsaw (Warsaw/Poland) from cadavers aged from 16-91 years (15 females, 63 males).

Morphology of valve of the coronary sinus (TV – Thebesian valve) and valve of Vieussens (VV) was observed and documented. Circumference of the orifice of CS (CSO) and of CS on the level of VV (CSV) was measured using vertical caliper.

Result: In majority of hearts (44, 56%) TV was formed as a thin, imperforate leaflet. The leaflet was accompanied by some cords attached to its free rim in 13 cases (17%). TV built of one of more cords occurred in 8 specimens (10%). Single leaflet with fenestration was observed in three orifices (4%). Other forms of TV, like thin tapes in the lumen of CS orifice occurred in 3 cases (4%). There was no valve present in 7 hearts (9%). No correlation between types of TV and VV was observed.

Great cardiac vein – CS junction was guarded by Vieussens valve in 65 specimens (83%); in 36 cases (46%) it was built of one cusp and in 29 (37%) of two cusps.

CSO ranged from 14.32 to 40.58 (27.71±5.72) and CSV from 7.64 to 39.42 (14.52±3.43). Both parameters seemed to increase with age.

Conclusions:

1. TV is present in 91% of hearts and most frequently occurs as imperforate leaflet.
2. VV is absent in 17% of great cardiac vein – CS junctions and is usually unicuspid or bicuspid
3. There is no correlation between morphology of TV and VV.
4. Size of CS orifice and great cardiac vein – CS junction seems to increase with age.

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22. PARA-ANASTOMOTIC ANEURYSMS AFTER ABDOMINAL AORTA AND FEMORAL ARTERY REPLACEMENT WITH SYNTHETIC PROSTHESIS

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Introduction. In nowadays, when the morbidity rate of circulatory diseases is increasing, blood-vessels' replacement with prosthetic graft is usually procedure. Reconstructive operations prolong patient's survival and provide normal function of the legs. Though, in distant postoperative period there can develop specific complications like anastomotic stenosis, para-anastomotic aneurysm, thrombosis of aortic branch or iliac artery's graft. The para-anastomotic aneurysm is serious complication after aorta's replacement with prosthetic graft. There is a failure in junction between blood-vessel and prosthetic graft, that proceeds formation of aneurysmal sack. Over 70-80% of all para-anastomotic aneurysms are localized in inguinal region (distal para-anastomotic aneurysms). Some of causes are graft-suture material degradation, rupture, suturing technique, chronic endogenous infection, stress of the anastomosis and others. The aim of this study is give answers to the following questions:

1. How long time after aorta's bypass grafting does complication develop?
2. Which are the most frequently subjective and objective complaints and etiological factors?
3. How often acute situation was present?
4. Is there any importance in early diagnostic to decrease incidence of para-anastomotic aneurysms' complications?

Methods. We analyzed retrospective/prospective a group of 30 patients with para-anastomotic aneurysms from 2004. I to 2006. XI. All information was reviewed with MS Excel and SPSS software.

Results. 30 patients with 45 cases were surgically treated, there were 3 proximal (abdominal aorta) and 42 distal (femoral artery) para-anastomotic aneurysms. All patients were male and all of them were chronic smokers. Their mean age was $64\pm 9,9$ years. The mean interval of the formation of para-anastomotic aneurysm was $11\pm 5,6$ years (range 3-23). The mean size of aneurysm was 4,7 cm (range 2-10), 50% of all patients had bilateral anastomotic aneurysms. All patients had pulsative mass in inguinal region, 14 patients had rest pain, but 16 patients had claudication. There were 30 cases (67%) with thrombotic masses in aneurysmal sack. The most common reason was disruption of suture line (ethibond, silk, prolene) in 32 cases (71%) or pathological changes in prosthesis' margins in 10 cases (22%).

Conclusions. The mean interval of the formation of para-anastomotic aneurysm was 11 years after primary aorta's grafting. The most of all patients complained of pulsative mass, pain in inguinal region and claudication; the mean size of para-anastomotic aneurysms was 4,7 cm (range 2-10 cm), which is absolute indication for operation as soon as possible, because they can rupture or embolize; etiological factors were disruption of suture (ethibond, silk, prolene) line in 32 cases (71%) or pathological changes in prosthesis' margins in 10 of cases (22%). 17% of all cases were emergent. Preventively, patients should go to ultrasonography's examination every year after primary aorta's bypass grafting to avoid formation of the para-anastomotic aneurysms. All aneurysms greater than 2 cm should be treated with resection and graft interposition.

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23. PHARMACEUTICAL MARKETING TO MEDICAL STUDENTS: THE STUDENT PERSPECTIVE

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It has been estimated that pharmaceutical marketing directed toward medical students as well as physicians. It poses serious ethical problems that can undermine the future physician-patient relationship. The goal of study was to assess medical student attitudes toward pharmaceutical promotion at Vilnius University (Lithuania, LT), Turku University (Finland, FIN), Panama University (Panama, PA).

Methods:

- A total of 577 out of a possible 720 medical students completed the survey. The questionnaire contained 26 questions divided into two parts. The first part contained 19 questions regarding the acceptability of receiving various gifts from drug companies and student attitudes toward student-industry interactions, the second part contained 7 questions that collected demographic and socioeconomic data.
- Statistical analysis performed using SPSS 12.0 program.

Results: Some 67,7% (116) LT, 64,4% (99) FIN, 64,1% (163) PA were not opposed to interacting with drug companies in medical school. Males were more agreeable to accepting the gifts of high monetary value of compare to females ($p < 0,01$; Exp(B)-9,21). 21% (37) LT, 1,3% (2) FIN, 22,1% (56) PA medical students think that it is acceptable for physicians to be compensated 10% by the drug company each time their drug is prescribed. 25,4% (43) LT felt comfortable accepting the vacations of two weeks in an exotic country and 9,4% (16) accepting the renovation works of their house covered by pharmaceutical companies. 37,9 % (67) LT, 20,1% (53) PA, 14,9% (23) FIN said that if presented with a choice of drugs identical in terms of price, efficacy, and effectiveness, they would prescribe the drugs from the company that provided them with financial incentives. The most important sources of information on pharmaceutical products for LT were specialized medical books 88,2% (149), medical databases 70,4 (119), the least important was presentations by pharmaceutical companies representatives 11,2% (19).

Conclusion:

1. Statistical analysis showed some differences in responses among the different years of medical students and religion.
2. There were no differences in responses between medical students who had a doctor parent compared to those who did not have doctor parent.
3. Medical students are generally not opposed to interacting with drug companies or receiving gifts from pharmaceutical companies.
4. Despite the fact the majority of students do not trust the information of drugs from pharmaceutical companies they would prescribe the medicine for the patients from the pharmaceutical companies who gave gifts to those who did not.

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24. PHARMACOECONOMICAL EVALUATION OF LACTOBACILLUS GG IN CHILDREN FROM THE HOSPITAL PERSPECTIVE

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Introduction: Acute diarrhea (AD) in children is a common clinical problem; the annual incidence of AD associated hospitalization is estimated at 7.33 per 1000 hospitalisations. Main cause of AD in developed countries is rotavirus (23 – 32%), followed by other viruses, bacteria and others. Nowadays in western countries it is no longer a cause of death, however due to significant morbidity, it is still a matter of concern and it decreases life quality of children and parents. Clinical evidence proved that early treatment with probiotic *Lactobacillus GG* produces significant decrease of diarrhea duration and hospitalization stay accompanied by good drug tolerance

Purpose of the investigation: To assess the cost effectiveness of *Lactobacillus GG* treatment in the management of AD in children below 3 years of age in hospital setting from the health service provider perspective.

Method: Data on the clinical efficacy and safety of *Lactobacillus GG* were obtained from the meta-analysis by Szajewska H et al. (*Aliment Pharmacol Therap* 2007). Cost data were derived from accounting system of Warsaw Clinical Hospital for Children and acquisition drug costs from drug wholesaler. Decision tree model was constructed and extensive sensitivity analysis performed.

Result: The use of *Lactobacillus GG* reduces the mean duration of diarrhea and hospital stay by 1.27 and 0.58 days, respectively. In a decision tree model *Lactobacillus GG* proved to be cost-effective. Primary analysis results were confirmed for a wide range of drug price and clinical data variations.

Conclusions: The use of *Lactobacillus GG* in the management of hospitalized children below 3 years of age is attractive from the health service provider perspective.

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25. PHOTODYNAMIC THERAPY IN THE TREATMENT OF MICROBIAL INFECTIONS

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Introduction: Development of effective ways of struggle against microbic infections is one of the major problems of microbiology and medicine. Photodynamic therapy (PDT) employs a non-toxic dye, termed a photosensitizer (PS), and low intensity light which, in the presence of oxygen, combine to produce cytotoxic species. PDT has the advantage of dual selectivity, which means that the PS can be targeted to its destination cell or tissue and, in addition, the illumination can be spatially directed to the lesion. Photodynamic therapy appears to be endowed with several favorable features for the treatment of infections caused by microbial pathogens, including a broad spectrum of action, the efficient inactivation of antibiotic-resistant strains, the low mutagenic potential, and the lack of selection of photoresistant microbial cells. Therefore, intensive studies are being developed in order to define the scope and field of application of this approach.

Object: To investigate antimicrobial activity of the cationic photosensitizer (bacteriochlorin) on *E. coli* (in vitro study).

Materials and methods: In our research the cationic photosensitizer (bacteriochlorin), laser with length of a wave 850 nm, bacteria *E. coli* has been used. In each experiment we had 3 test tubes from which 2 were control (1 - bacteria with bacteriochlorin in a dark room, 2 - bacteria without bacteriochlorin but with influence of laser radiation, 3 – bacteria, bacteriochlorin and influence of laser radiation).

Results:

1. This photosensitizer in a micromolar concentration can induce a >4-5 log decrease in the microbial population after irradiation lasting around 15 minutes. The death-roll of bacteria increases consequentially with increase of irradiation and concentration level of bacteriochlorin (because of the increase of the absorbed energy doze).
2. In control test tubes reduction of quantity of bacteria has not been observed.
3. Destruction of bacteria was observed in test tubes with *E. coli*.

Conclusions:

1. Cationic photosensitizer bacteriochlorin has antimicrobial activity and can be used for photodynamic antimicrobial therapy.
2. Considering the fact, that the long-wave maximum of absorption of the bacteriochlorin settles down at 850 nm (area of high optical permeability for the biological environment), it's combination with a corresponding source of radiation can be used for a photosensitization of dense cultures of microorganisms.
3. The bacteriochlorin caused destruction of bacteria, which degree corresponded to the increase of the bacteriochlorin concentration and the irradiation doze. It is necessary to note, that in the absence of bacteriochlorin white light in all range of used dozes did not exert any influence on bacteria and neither did bacteriochlorin cause any destruction of bacteria in absence of an irradiation.

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26. PREEMPTIVE ANALGESIA WITH KETAMINE IN PATIENTS UNDERGOING LAPAROSCOPIC CHOLECYSTECTOMY

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The objective for preemptive analgesia is to prevent a massive barrage of afferent impulses from reaching the spinal cord, causing central sensitization. Ketamine is an NMDA antagonist with analgesic properties that may be important in the modulation of central sensitization to nociceptive stimulation. It may be useful for prevention of acute postoperative pain. In literature, the use of this anesthetic for the preemptive analgesia in the management of postoperative pain is controversial.

Objective: Evaluate the influence of preemptive analgesia with ketamine to intensity of acute postoperative pain. Measure requirements for supplemental analgetics (diclofenac and pethidine) and postoperative side effects.

Methods: Thirty patients (ASA status I or II) aged between 28-78 years undergoing laparoscopic cholecystectomy during general anesthesia were enrolled in the prospective study. Patients were randomly assigned to two different groups. The first group (group I, n=15) received ketamine 0,15mg/kg i.v. 5min. before incision, the second group (group II, n=15) received saline solution. Postoperative analgesia was maintained with diclofenac and pethidine. Diclofenac (75mg i.m.) was given as rescue medication when pain visual analogue scale (VAS) score was equal or greater than 4. Pethidine were administered if required. VAS (0 (no pain) to 10 (unbearable pain)) values were evaluated at awakening, 1, 3, 6, 12 and 24 h after surgery at rest (VASr) and upon movements (VASm). Additionally global consumption of rescue analgesics and adverse effects were measured up 24 h thereafter in both groups. Data were analysed by nonparametric Mann-Whitney U test; significance was set at $p < 0,05$.

Results: After awakening pain at rest and upon movements was less intense for patients in group I with preemptive ketamine than in group II without ketamine, respectively: VASr ($2,1 \pm 2,25$ vs. $3,7 \pm 2,49$ $p < 0,05$), VASm ($2,6 \pm 2,41$ vs. $4,7 \pm 2,19$ $p < 0,05$). After 1 h VASr ($2,13 \pm 1,84$ vs. $3,86 \pm 2,29$ $p < 0,05$), VASm ($3,13 \pm 2,17$ vs. $5,8 \pm 2,09$ $p < 0,05$). After 3 h VASr ($1,9 \pm 2,27$ vs. $2,0 \pm 1,28$ $p > 0,05$), VASm ($3,4 \pm 2,32$ vs. $3,5 \pm 1,30$ $p > 0,05$). At later time of observation pain was major intense in group I than in group II, respectively: After 6 h VASr ($2,2 \pm 1,74$ vs. $1,8 \pm 1,21$ $p > 0,05$), VASm ($3,5 \pm 1,96$ vs. $3,4 \pm 1,19$ $p > 0,05$). After 12 h VASr ($2,5 \pm 1,99$ vs. $1,7 \pm 1,45$ $p > 0,05$), VASm ($3,9 \pm 2,03$ vs. $3,1 \pm 1,58$ $p > 0,05$). After 24 h VASr ($2,3 \pm 1,75$ vs. $1,1 \pm 1,06$ $p > 0,05$), VASm ($3,3 \pm 1,84$ vs. $2,5 \pm 1,13$ $p > 0,05$). Cumulative requirements of rescue medications within 24 h in group I and in group II, respectively: diclofenac 165mg vs. 125mg, $p > 0,05$ and pethidine 6,67mg vs. 16,67mg, $p > 0,05$. Rate of side effects among group I and group II respectively: nausea (33,3% vs. 40%, $p > 0,05$), blurred vision (20% vs. 13,3%, $p > 0,05$). Vomit observed at the same rate 13,3% in both groups. Ketamine-specific side effects such as hallucinations or bad dreams were not observed.

Conclusions: After awakening and 1 h since surgery pain at rest and upon movements was significant less in group of ketamine ($p < 0,05$). After 3 h since operation pain intensity was lower in group of ketamine ($p > 0,05$), whereas after 6, 12 and 24 h since operation pain intensity was less in group without ketamine ($p > 0,05$). Cumulative consumption of diklofenac in group of ketamine was higher contraversely consumption of pethidine was lower ($p > 0,05$). Side effects nausea, vomiting, blurred vision were observed but no significant difference between rates were noted.

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27. PREVALENCE OF ENDOGENOUS RISK FACTORS ASSOCIATED WITH METABOLIC SYNDROME AMONG THE PATIENTS WITH CORONARY HEART DISEASE

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In Lithuania coronary heart disease (CHD) remains the leading cause of death. Multiple risk factors tend to increase CHD risk synergistically. Factors generally accepted as characteristics of metabolic syndrome may represent different axis of atherogenesis. Early detection and reduction of risk factors can account for a large percentage of the reduced CHD mortality rates.

Purpose of the investigation: To analyze the rate of endogenous risk factors as characteristics of metabolic syndrome among the patients with verified CHD.

Method: In Vilnius University Hospital Santariskiu Klinikos Centre of Cardiology and Angiology the retrospective analysis was performed. Out-patient records and discharge summaries of 541 patients with verified CHD were randomly chosen for the analysis. 394 male (mean age: 58 ± 9) and 147 female (mean age: 61 ± 10) participated in this research. In our study we analyzed major endogenous risk factors: arterial hypertension, total cholesterol level, low density lipoprotein cholesterol (LDL-C) and high density lipoprotein cholesterol (HDL-C) levels, triglyceride (TG) level, body mass index (BMI), waist circumference as marker of abdominal obesity, prevalence of type 2 diabetes, impaired glucose tolerance (IGT), impaired fasting glucose (IFG).

Result: Hypertension was detected in 84% of patients (82% male, 90% female); increased total cholesterol - in 80% (78% male, 86% female); elevated LDL-C – in 81% (77% male, 91% female); reduced HDL-C – in 29% (26% male, 35% female); elevated-triglyceride – in 46% (45% male, 50% female); increased BMI – in 83% (84% male, 82% female); increased waist circumference – in 50% (43% male, 69% female); type 2 diabetes – in 14% (12% male, 18% female)

Oral glucose tolerance test (OGTT) was performed in 132 patients, in 83% (110) of them the test was abnormal and IGT was diagnosed. IFG was detected in 35% of patients (175 patients). Only 1% of patients had no endogenous risk factors.

Mean data values: BMI $29,7 \pm 9,4$; waist circumference: male $101,2 \pm 11,4$ cm, female $94,6 \pm 13,1$ cm; total cholesterol level: $6,2 \pm 1,8$ mmol/l; LDL-C level: $4,0 \pm 1,3$ mmol/l; HDL-C level: male $1,25 \pm 0,38$ mmol/l, female $1,44 \pm 0,93$; TG level: $2,0 \pm 2,5$ mmol/l.

Conclusions: According to our study the most prevalent endogenous risk factor in patients with verified CHD is arterial hypertension. Other factors in the order of importance were as follows: increased BMI, elevated LDL cholesterol, increased waist circumference, elevated triglyceride and impaired fasting glucose. Risk factors, attributable to metabolic syndrome, are closely interrelated to the risk in getting CHD and only 1% of patients had no endogenous risk factors.

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28. PRIMARY PERITONITIS IN PREVIOUSLY HEALTHY CHILDREN: IS IT POSSIBLE TO DIAGNOSE IT WITHOUT SURGERY?

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Background: Primary peritonitis (PP) is an inflammatory process of the peritoneum without an identifiable intraabdominal source. PP has been described as an etiology for the acute abdomen. Although rare in healthy children, we have relatively large number of PP comparing with reports in the literature. The aim of the study is to overview the reasons of PP and to compare the clinical symptoms with the symptoms of acute appendicitis because the clinical presentation of PP is mimicking that disease.

Methods: The retrospective analyze of PP during last 3 years in Paediatric Surgery Department of Kaunas Medical University was carried out. Inclusion criteria were when the pus (confirmed microscopically in the smears) was found in the peritoneum without any underlying causes or, rarely, only clinically with the radiological confirmation. Gender, age, clinical symptoms, duration of the disease and time until surgery, possible causes and histology was analyzed and some clinical data (duration of the disease, vomiting, fever 38 degrees and more and ultrasound findings) of operated cases of PP was compared with the data of randomly taken 50 cases of acute phlegmonous appendicitis (AA). The averages, medians, frequencies were compared using Student, Mann-Whitney-U, chi-square statistical criterions with the standard level of the first type of mistake alpha (0.05).

Results: We had 48 (45 girls and 3 boys) cases of PP in our department during 3 years period. 34 (71 %) of them underwent surgery because of “acute abdomen”. 9 (19%) had helminthosis, 4 (8%) had acute or chronic vulvitis. There were just 3 cases of positive culture from abdominal fluid. Comparing with AA cases, PP patients had more frequent febrile fever (58% and 14%, $p=0.0003$) and less frequent vomiting (39% and 62%, $p=0.04$). Mean age of PP patients was lower (7.9 and 11.2 years, $p=0.0002$), and median disease duration was shorter (12 and 18 hours, $p=0.001$). Ultrasound was positively predictive in 74% AA cases, and negatively predictive in 96% PP cases.

Conclusions: PP have more acute clinical symptoms (febrile fever, shorter duration of the disease until hospitalization), but less frequent vomiting when comparing with clinical symptoms of appendicitis. Ultrasound has significant value in differential diagnosis.

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29. POPULARITY OF “FAST FOOD” AND THE MAIN REASONS OF ITS USAGE AMONG THE STUDENTS’ OF FACULTY OF PUBLIC HEALTH

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The aim of the study: To analyse students’ opinion about “fast food”, how often it is eaten and in what circumstances it is most popular.

Methods:

- An anonymous survey was performed using specially designed questionnaire. The questionnaire was distributed among students from all four bachelor programme courses’ at the Faculty of Public Health, Kaunas University of Medicine.
- Research sample size - 135 students (78,4% of all official bachelor programme students in the list).
- In this research “fast food” was described as various confections (chocolates, sweets etc.), chips and snacks like coffee-cakes, doughnuts, kebabs, čeburekai and hamburgers.
- Statistical data analysis was performed using SPSS 12.0.
- Statistical significance was evaluated using chi square (χ^2) criterion and considered as valid when $p < 0,05$.

Results: Most of the respondents attitude towards “fast food” was neutral (51,1%) or negative (42,2%). 55,6% of the respondents replied that most commonly they eat confections, the most healthy “fast food” is kebabs (48,9%); the least healthy – chips (63,7%). Most of the respondents eat this kind of food at least once a week (30,4%), and the most common circumstances were identified as studies at the university (54,1%) and meeting with their friends (20,0%). When the respondents were asked what they usually do between lectures when they want to eat, excluding the most common answer of choosing “fast food”, another popular answer was that they are trying to have a normal meal. From this expanded answer 37,8% replied that they try to go home and to have a normal meal there, 25,2% goes to a café or pizzeria in the city and 12,6% goes to a cafeteria at the university. 95,6% of the inquired students’ do not think that there are good enough healthy eating conditions at the university, and 90,4% replied that they would avoid “fast food” if the options of eating healthier food at the university were improved. When statistical significance was evaluated using χ^2 , it was found that students from higher courses had evaluated their knowledge and understanding about possible negative consequences of „fast food“ statistically significantly better than comparing to students from lower courses ($p < 0,05$). However, there was no any significant differences found in other “fast food” eating and knowledge-behaviour related habits between higher and lower courses ($p > 0,05$). Also, respondents who came to study to this university from rural areas, more often said that the most important reasons of choosing “fast food” for them were that “fast food” could be eaten at once and that they don’t have to cook anything. Meanwhile lack of time was more common reason of choosing this kind of food for students who were from the urban areas ($p < 0,05$).

Conclusions:

1. 55,6% of all respondents replied that the most popular “fast food” is confections, the least healthy – chips.
2. Most of the respondents’ attitude towards “fast food” was neutral or negative. If conditions of eating healthier food in the university were improved, most of the respondents would avoid it.
3. Most of bachelor students of the Public Health program eat “fast food” at least once a week. Most commonly they are eating it at the university and the most common reasons of eating this kind of food are that they can eat it at once and don’t have to cook anything and that they don’t have enough time to eat normal food.

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30. POSTOPERATIVE EPIDURAL ANALGESIA EFFICIENCY COMPARING MORPHIN WITH BUPIVACIAN-FENTANYL AFTER HIP REPLACEMENT SURGERY

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Epidural analgesia has been demonstrated convincingly to be the most effective method of postoperative pain relief, especially after major surgery. The use of epidural analgesia with local anaesthetics and opioids has been shown to have a significant beneficial effect in the postoperative period. Adequate pain relief is essential in the immediate postoperative period to enable the patient to undertake physiotherapy, helps to prevent the tromboembolic complications and shortens the hospitalization. According to guidelines of epidural analgesia three days after operation we use epidural analgesia with bupivacian-fentanyl. Though using this complex of medicines 2-3 days lasting hypotension and motor blockade may occur.

Objectives:

1. To examine the efficacy of pain management, motor blockade length, hemodynamic parameters after surgery for one investigated group prescribing epidural analgesia with morphin, for other buivacain-fentanyl.
2. To examine the drug-related side-effects associated with epidural opioids and local anaesthetic agents.

Methodology: Prospective randomized double blind study. The study population consisted of 42 patient correspondents ASA I and ASA II, without rejection criteria who underwent primary hip replacement surgery. During the operation the spinal blockade was done and epidural catheter inserted. At the end of operation at random all patients were divided into 2 groups. 1st group was prescribed morphin bolus 4 mg immediately after surgery and infusion 0.3 mg/h. 2nd group was prescribed 0.125 % bupivacain-fentanyl 5µg/ml infusion speed 3.0 – 5.0 ml/h. At 1, 3, 6 h and 2 – 3 d after surgery were evaluated these data: pain relief (according to VAS), motor blockade (according to Bromage scale), sedation, demand of additional drugs, blood pressure, heart rate, breathing rate, diuresis, side-effects (nausea, vomit and itch). Data analysis were made using Mann-Whitney U, χ square tests. The difference statistically significant when $p < 0.05$.

Results: There was no statistically significant difference in motor blockade, demand of additional drugs, pain scores, heart and breathing rate, itch and diuresis.

There was statistically significant difference in arterial blood pressure 1st hour after surgery (1gr. $123,66 \pm 4,39/70,00 \pm 3,23$ mmmHg and 2gr. $136,33 \pm 3,98/80,61 \pm 2,39$ mmmHg), 6-th hour (1gr. $105,00 \pm 8,93/62,46 \pm 3,57$ mmmHg and 2gr. $134,23 \pm 4,27/79,88 \pm 3,28$ mmmHg), 3rd day (1gr. $122,57 \pm 2,50/70,76 \pm 1,84$ mmmHg ir 2gr. $132,50 \pm 2,87/76,85 \pm 2,05$ mmmHg). Statistically significant differs: vomit and nausea 3rd after surgery: 1 gr. patients: nausea 19%, vomiting 9, 5 %. 2 gr. patients had no complaints (respectively 0 and 0%). 2nd day after surgery 1 gr. patients: nausea 15 %, vomit 20 %. 2 gr. had no complaints (respectively 0 and 0%). Statistically significant differs sedation 6h after surgery: 1 gr. somnolent patients - 30,8 %, asleep but woken up vocally 23,1 %, in 2 gr. respectively 5,9 % and 5,9 %.

Conclusions: Pain management was statistically significant effective in both groups. There was no statistically significant difference in motor blockade length but morphin caused more statistically significant side-effects such as sedation, nausea and vomit and lower arterial blood pressure. We have found no benefits for epidural analgesia using morphin.

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31. QUALITY OF LIFE IN PATIENTS WITH GLAUCOMA AND THEIR PSYCHOLOGICAL CONDITION EVALUATION

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Aim: To evaluate the quality of life among patients with glaucoma, the impact of glaucoma's treatment to the quality of life, changes of psychological condition associated with glaucoma and patient's conception of the disease and treatment necessity.

Methods: 63 patients with glaucoma were interviewed in a one-on-one fashion using adapted Viswanathan et al., National Eye Institute (USA) (NEI-VFQ) questionnaires. The questionnaire included questions about visual acuity, visual field, symptoms, questions about the degree of worry about becoming blind, and many other items.

Statistical analysis was performed using SPSS 13.0. We used Pearson correlation coefficient.

Results: The mean age was $65,9 \pm 11$ years. Within this group there were 75% women and 25% men.

Qualitative analysis results showed that 60% patients have given up their activities because of their sight, 82,15% have difficulties in reading and watching television (60,71%). 17,85% of the patients had side-effects associated with glaucoma's treatment, 32,15% felt eye irritation, and 42,86% had eye redness. 78,57% felt depressed and worried about becoming blind. Only 60,71% of the patients think, that their treatment is effective. 32,14% have enough knowledge about their disease and it's treatment. 14,28% haven't taken medicine 1-2 times a week, because, they thought, that it isn't necessary and 7,14% haven't taken medicine 1-2 times a week, because, they thought, that they don't help, but they worsen things.

Pearson correlation coefficient was medium between gender and education ($r=-0.46$; $p=0.01$), driving ($r=0.42$; $p=0.02$), concern ($r=-0.41$; $p=0.03$), depression ($r=-0.39$; $p=0.04$); between age and driving ($r=-0.55$; $p=0.00$), eye irritation ($r=-0.57$; $p=0.00$), depression ($r=0.44$; $p=0.01$), worry about becoming blind ($r=-0.39$; $p=0.04$), operation worry ($r=-0.04$; $p=0.02$). There was significant correlation between eye irritation and answers that patients haven't taken medicine 1-2 times a week, because, they thought, that treatment doesn't help, but worsen things ($r=0.39$; $p=0.03$), worry about becoming blind ($r=0.44$; $p=0.01$). Significant correlation was found between times of the medicine administration and side-effects ($r=0.38$; $p=0.04$), eye irritation ($r=0.46$; $p=0.01$).

Conclusions:

1. Patients with glaucoma have lower functional status than before the disease, because more than half patients have given up their activities because of their sight, have difficulties in reading, watching television, driving, they bump into things.
2. Glaucoma's treatment was not well tolerated by many patients, because they felt eye irritation, their eyes became red, and they felt other side-effects because of the treatment.
3. Most of patients with glaucoma are depressed, sad and worried about becoming blind.
4. Less than half of the patients have enough knowledge about their disease and its treatment. Some of the patients don't understand necessity of the treatment.

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32. REINFORCED TENSION LINE TECHNIQUE IN THE MIDLINE LAPAROTOMIES

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Postoperative hernias are one of the most frequent complications after midline laparotomies. The rate is between 11 and 30%. So surgeons still have a discussion what type of suture to choose for midline laparotomies. There is a discussion-does RTL technique with guard-suture can hold the biggest power and the biggest intraabdominal pressure, then were is increased intraabdominal pressure. RTL technique with guard-suture proposed doctor from Austria Karlheinz Hollinsky. Guard-suture is making by stitching through the external oblique aponeurosis, 1 cm from the edge along incision. It calls guard-suture, because after it we are using regular technique, and this guard-suture prevents regular suture from ripping out from tissues. After the guard-suture is done, the incision is finished by regular suture. This technique is using in clinic then where is a big risk of eventration and postoperative hernias. This is an experimental work.

Work point: To compare two different suture techniques (RTL and regular), and to decide which one is better.

Method: There were analysed 20 dead people, who had never abdominal operation, and they divided into two groups.

1. I group - 10 dead people, where been using regular suture technique.
2. II group - 10 dead people, where been using RTL method with guard-suture stitched through the external oblique aponeurosis, 1 cm from the edge along the incision.

Both groups been analysed by the same method. Then the suture is done, it was using dynamometer, and it was hanging on suture and was lifting up until suture ripped out from the tissues. The power was fixated at the moment then suture ripped out from the tissues in the three abdominal zones. After its all done, it was using mathematic formulas to count what power and pressure can hold each abdominal zone.

Parametric numbers been counted by using Student t criterion. The differences been statistical significant then $p < 0,05$.

Results: In the thirst group the upper zone can hold 8N power, or 6,5mmHg pressure, umbilical zone can hold 9N power or 7,49mmHg pressure, and the lower zone can hold 10N power or 8,17mmHg intraabdominal pressure. In the second group analogical 10N or 8,17mmHg, 11N or 8,99mmHg and 12N or 9,8mmHg intraabdominal pressure.

The biggest power can hold lower zone of abdomen in both groups and the smallest power can hold the upper zone of abdomen also in both groups.

Conclusion: RTL suture method with guard-suture is better then regular suture method and can better prevent eventracy and postoperative hernias for people who have bigger risk.

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33. RETROSPECTIVE RESEARCH ON BLEEDINGS OF THE UPPER GASTROINTESTINAL TRACK THAT WERE OPERATED

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Acute upper gastrointestinal bleeding (UGIB) is a quite often situation and requires immediate action. UGIB refers to sites of bleeding that are located above the ligament of Treitz. Major causes of upper gastrointestinal bleeding are duodenal and gastric ulcer, erosions, malignancies, esophagus varicose veins, anastomotic ulcer, hemobilia and aortic-duodenal fistulas.

Purpose of the investigation:

We decided to study the special features of the cases of upper gastrointestinal bleedings that underwent surgery in our Surgery Department.

Method:

In this retrospective clinical research, we studied the cases of patients that came to the emergency department of the 3rd Department of Surgery, at AHEPA University Hospital, presenting symptoms of upper gastrointestinal bleeding, between the years 1987 and 2005 (19 years). From these patients, only 60 were operated and for these cases we analyzed the following parameters: age, gender, duration of nursing, cause of bleeding and operation performed.

Result:

In this group, 41 were men (69,49%) and 17 were women (28,81%), with ages ranging between 21 and 83 years old (average age 60,16 years old). They were hospitalized for an average of 17,88 days, with a minimum of 4 days and a maximum of 72 days. Regarding the causes of the bleeding that led to an operation, the three most common were gastric ulcer with 18 cases (30%), duodenal ulcer 16 cases (26,67%) and gastric cancer 6 cases (10%). The rest of the causes that required surgery were 3 cases of hemobilia (5 %), 3 cases of anastomotic ulcer (5 %), 2 cases of hemorrhaging gastritis (3,33%) and a case of aortic-duodenal fistula, esophagitis, varicose veins and erosions (1,64% each). UGIB was also caused by some unique causes such as post-operative celiocoele, pancreatic cancer, surgical perforation of the duodenal wall and stress ulcers. For each of these cases a number of operations were performed with most common the performance of vagotomy and pyloroplasty with or without sphenoid excision of the ulcer or gastrectomy.

Conclusions:

Although nowadays the bleeding of the upper gastrointestinal track is mostly treated with endoscopic methods, some cases still require an immediate operation, especially those caused by peptic ulcers.

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34. SERUM CYTOKINE RESPONSE AFTER SIMULTANEOUS VERSUS STAGED LAPAROSCOPIC OPERATIONS: ESTIMATION OF SURGICAL MAGNITUDE

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Introduction: Estimation of surgical magnitude is very important when considering the possibility of performing a simultaneous operation. Laparoscopic technique allows to considerably decrease the amount of trauma during surgical access. This fact attracted the attention of specialists to simultaneous operations performed with the use of minimally invasive technologies. But the surgical magnitude during these interventions had not yet been properly studied. Systemic cytokines are accepted as markers of postoperative tissue trauma and mediators of the host immune response.

The aim of this study: is to estimate serum cytokine levels as objective criteria for surgical stress level monitoring and the impact of additional surgical intervention during simultaneous operations on the postoperative course.

Patients and methods: This prospective observational study included 129 female patients operated in the surgical department of Center of Endosurgery and Lithotripsy between September 2005 and October 2006. All patients were divided into 3 groups depending on the type of a surgical procedure performed. The 1st group (n = 43) included patients who had laparoscopic cholecystectomy. The 2nd group of patients (n = 46) had laparoscopic hysterectomy. The 3d group of patients (n = 40) had simultaneous operations (laparoscopic cholecystectomy + laparoscopic hysterectomy). All 3 groups were comparable in terms of age (mean age was 56,3 years in the 1st group, 48,6 in the 2nd and 51,9 in the 3d), weight and somatic condition. Serum levels of Interleukin (IL)-2, IL-6 and C-reactive protein (CRP) were measured pre-operatively, at the end of the operation, 6h after the operation, on the 1st, 2nd, 3d and 4th post-operative days using enzyme immunoassay tests (ELISA for IL-2 and IL-6 and Boehringer Mannheim for CRP).

Results: After the surgery IL-6 levels increased and reached a maximum on the 1st day after an operation. They were highest in the group of patients who underwent simultaneous operations ($44,2 \pm 5,2$ pg/ml) and lowest in patients who had only cholecystectomy performed ($15,5 \pm 1,7$ pg/ml). IL-6 levels returned to baseline values on the 4th day after the surgery in all patient groups. Similar dynamics was observed in CRP levels, except that its maximum levels were observed on the 2nd day after the surgery ($17,2 \pm 1,4$ mg/l in the 1st group, $26,9 \pm 2,4$ mg/l in the 2nd and $39,3 \pm 2,8$ mg/l in the 3d). IL-2 levels showed poor correlation with the amount of surgery performed and no increase was noted after the operation.

Conclusions: Serum IL-6 and CRP levels varied depending on the type of the surgical procedure used and the overall condition of the patient in the postoperative period. Therefore, they might be quantitative markers of surgical magnitude. Despite the lack of clinical symptoms, cytokine response to extended simultaneous laparoscopic operations 2 or 3 times exceeded similar levels after staged operations. Nevertheless, quick decrease in serum cytokine levels on the 4th day after the operation justify the possibility of fast rehabilitation for such patents.

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35. SOME ANTHROPOMETRIC INDICES OF THE RSU MF STUDENTS

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|-------------------------------|--------------------------|-------------------------------------|
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Introduction. There is a strong evidence of a positive secular trend in physical growth in most of the world during the last century. Developing countries, which have many changes in socio-economical conditions, reveal various trends in growth. Physical development depends on the interaction of genetic potencial with the environment. This interaction is different in the various ontogenetic periods of organisms. This correlation also has a lot of specific depending on age and sex. Remarkable changes have been observed in human growing and ageing, which are actual problems of anthropology science.

The purpose of our work was to clarify physical development of our equals in age, the main influential factors, compare acquired data with the results acquired in year 2004.

Material and methods. In our research were included 44 students (11 male and 33 female) of Medical Faculty of Riga Stradiņš University aged between 19 and 23 years in 2007. Some somatic traits were used for analysis. The following parameters were measured: body height, body weight, waist and hips circumferences, four skinfolds (biceps, triceps, subscapular, suprailiacal) and their changes in different age. All anthropometric measurements were carried out according to Martin's Saller's method (1957) using instruments from the firm „Siber-Hegner” (anthropometer, measuring tape, electronic scale, caliper).

We calculated the following markers of body composition:

1) body mass index (BMI) = body mass (kg) / body height (m²),

2) percentage body fat (BF%) after Durnin and Wormersley:

$BF\% = 20,94878 + (age \times 0,1166) - (height \times 0,11666) + (sum4 \times 0,42696) - (sum4^2 \times 0,00159)$ for male,
 $BF\% = 22,18945 + (age \times 0,06368) + (BMI \times 0,60404) - (height \times 0,14520) + (sum4 \times 0,30919) - (sum4^2 \times 0,00099562)$ for female.

Data were computed using SPSS Windows 10.0 method. Standard statistical methods were used to calculate mean and standard deviations. Analysis of variance was used for determining the statistically significant differences ($p < 0.01$) between the mean values of the anthropometric variables of students in years 2004 and 2007.

Results.

1) Description of males' physical development: very tall – 183,07±4,56 cm, weight is average – 77,53±10,38 kg, BF% is 16,8%, but the sum of mentioned four skinfolds is 34,4 mm. BMI (body mass index), which characterizes the body weight, is average – 23,11±2,77. The circumference of the head – 58,2±1,28 mm.

2) Description of females' physical development: height – 167,14±5,82 cm, weight is average – 59,65±6,55 kg, BF% is 25,76%, but the sum of four skinfolds is 51,84 mm. BMI (body mass index) is average – 21,35±2,07. The circumference of the head – 55,57±1,88 mm.

Conclusions.

1) In comparison to results of the research in year 2004, people have become taller - male for 1,34 cm (that is 0,73%), but female - for 1,31 cm (0,78%).

2) Lean body mass has increased in both male and female for approximately 1,81%, wherewith also sum of skinfolds and weight has increased.

3) Notable are changes in measures of head in both male and female.

4) To sum up, the tendencies stay approximately the same in comparison with previous years (some anthropometric variables of students are not statistically significant).

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36. STUDY ABOUT THE INTENSITY OF OXIDATIVE AGGRESSION IN ISCHEMIC STROKE

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Keywords: ischemic stroke, oxidative aggression, IL-6, ceruloplasmine, malondialdehyde

Background and Purpose: For the time being, the only approved treatment in the acute ischemic stroke (AIS) is thrombolysis with rt-PA. However, it has a limited practicability due to the narrow treatment window and the hemorrhagic risk. An alternative could be neuroprotective agents which interfere with oxidative aggression. That's why it's very important to quantize oxidative stress. The purpose of this study is to identify potential indicators of oxidative aggression in AIS, to compare their plasmatic and cerebrospinal fluid (CSF) levels and to find eventual correlations between these indicators.

Methods: 22 patients with computed tomography-confirmed IS were studied prospectively in the first 24-48 hours with serum and cerebrospinal fluid (CSF) analyses of interleukin-6 (IL-6), ceruloplasmin (CP) and malondialdehyde (MDA) levels. The results were compared with the results of the same analyses of a control lot consisting in 17 apparently clinical and paraclinical healthy persons. MDA and CP levels were determined spectrophotometrically and IL-6 levels were determined using ELISA kits.

Results: All patients with IS had clearly elevated levels of IL-6, CP and MDA, compared with healthy individuals (serum IL-6: 45,56 pg/ml vs 1,17pg/ml, CSF IL-6: 85,48pg/ml vs 0pg/ml, $p < 0,05$; serum Cp: 0,35UR vs 0,24UR, CSF Cp: 0,47UR vs 0.11UR, $p < 0.05$; serum MDA: 8,93nmoll/ml vs 4,23nmoll/ml, CSF MDA: 11,2nmoll/ml vs 2,12nmoll/ml, $p < 0,05$). The CSF levels are upper then the seric ones. This difference is further increased in the case of IL-6.

Conclusions: Oxidative aggression can be quantized by analyzing the biological markers. The increased levels of MDA, IL6 and CP suggests increased byproducts of lipid peroxidation as well as an increased inflammatory response. There are positive corelations between this three markers which points a correlation between the oxidative aggression and the inflammatory response. There were found increased CSF levels than the serum ones. The biggest difference between the CSF compartment and the seric one was found in IL6 levels.

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37. SURGICAL ANATOMY OF BASILAR ARTERY BIFURCATION (BAB) IN RELATION TO SKULL BASE STRUCTURES

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Introduction: Basilar Artery (BA) aneurysms constitute around 10% of total intracranial aneurysms. Surgical treatment of such can be performed through the skull base approaches. However, this region seems to be very demanding for neurosurgeon which may produce some intraoperative difficulties. Because of incompatibility of cadaver-based studies this region requires a better topographical description and radiological findings seem to be more adequate to estimate its relations.

Aim: The aim of our study was to describe topography of BAB and relate it to the skull base structures.

Material and methods: 50 adult brain CT digital examinations were analyzed using morphometric software DICOM Viewer. Every single examination was estimated in three typical planes: coronal, axial and sagittal-one. Several dimensions were measured, such as BAB-interclinoid line (BID), BAB-apex of the petrous bones line (BAP) or BA trunk axis-to-midline angle (BTA). Topographical relations to surrounding structures were described and dimensions were analyzed statistically.

Results: Various types of BAB ending in interpeduncular cistern in comparison to dorsum sellae level were distinguished: a) low, b) intermediate, c) high type. Mean BID was $19,83 \pm 1,78$ mm, BAP: $16,42 \pm 1,71$ mm. BTA varied from -36° to 24° , depending on the type of BAB ending. In 14% BAB contained SCA giving a type of BA quadrifurcation.

Conclusions: BAB ending can be located at diverse level when compared to dorsum sellae and apices of petrous bones. Various type of the ending and distance to clinoid processes may be essential in choosing an appropriate surgical approach.

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38. SURGICAL TREATMENT OF PRIMARY CARDIAC TUMOR

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Primary cardiac tumors (PCT) are rare entities with an incidence after autopsy of 0.001% till 0.03%. Three quarters from this neoplasm are benign, the most frequent is myxoma. Metastasis in the heart structures are determined after appearance of malignant cardiac tumors, 95% of it are sarcomas.

Purpose of the investigation: To examine indications, pre- and postoperative evaluation, surgical techniques, and outcomes after surgical treatment of the primary cardiac tumors.

Method: Where analyzed 48 patients with PCT, treated surgically in the Heart Surgery Center of RM, 33 females and 15 males with an age between 15-62 years.

Result: Clinical picture of the disease shows: - intracardial obstructive manifestation with dyspnea (72%), pulmonary edema (47%), syncope (30%) and arterial emboli (18%) - general symptoms as fever (62%), anemia (55%), rhythm disturbance (50%), artralgy and cardialgy (10%), cahexy (10%). The most effective instrumental diagnosis remains ECO-cardiography, which visualize the filling deficiency in heart cavities, fixation place of the tumor, its displacement, usually with an atrioventricular valve occlusion, permitted establishment of the neoplasm in 100% of cases. CT scan and MRI where necessary for 18 (26.6%) patients, for determining the origin and/or metastasis neoplasm invasion. Localizations of the PCT where in LA-42 cases, RA-2, IVC-1, LV-2, RV-1. Histological picture - benign tumor: myxom - 37patients, rabdomyom - 2, leiomyom - 1, fibrohemiangiom - 1, 5 patients with malignant tumor - infiltrative character of growth: sarcoma - 3cases, mezoepitheliom - 2. After surgery lethality was at 8.6% (4patients), tumor recidive were found at 2 patients, retreated surgically successfully.

Conclusion:

1. PCT needs surgical treatment after urgency indication
2. A good post surgical evolution in case of benign tumors
3. Heart sarcoma is a pathology with an unfavorable prognosis
4. In hope of keeping the patients life is performed an complex treatment (palliative resection of tumor, heart transplant, combining with radio-chemotherapy)

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39. THE ASSESSMENT OF PSYCHOMOTOR DEVELOPMENT FOR CHILDREN IN THEIR 1-ST YEAR

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Key words: children's development; MFDD, Bobath

Aim of the work – appreciation of associations different fields in the children development and to assess Bobath methodology physiotherapy influence on several fields development.

Environment – research was carried in baby health centre “Development” from 2003 till 2005.

Participants – 59 children (27 (45, 8%) girls and 32 (54, 2%) boys) from age 2 to age 11 month, on average 5, 4 month ($SD = 2, 2$), took part in this case control research.

Methods – All children was analyzed on 8 subtest from the Munich functional developmental diagnosis (MFDD) after Hellbrüge et al. 23 (39%) children (7 (30,4%) girls and 16 (69,6%) boys) employing physiotherapy after Bobath and handling training by the parents, these children were followed up after mean 2,4 month ($SD = 1,4$).

Results – This study approved, that gross motor function (crawling, sitting and standing) is related with capture, perception, language and social functions ($p < 0.05$).

Negative evaluation in several development fields decreased about 13 %. Middle amount of development evaluation increased. With improving gross motor functions the miscellaneous asset become better ($p < 0.05$).

Conclusion – Employing physiotherapy after Bobath to improve gross motor function, grow better fine motor function, perception, language and social skills.

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40. THE EVALUATION OF ENDODONTIC TREATMENT OF SINGLE ROOTED TEETH, PERFORMED BY THE STUDENTS OF THE III AND IV COURSES, USING TWO DIFFERENT INSTRUMENTATION TECHNIQUES

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|----------------------------------|---|---|
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Introduction: During the course of endodontics, students of the 3rd and 4th year are acquainted with root canal treatment. Therefore it is very important to choose right instruments and cleaning techniques to get good results in the beginning of clinical practice.

The aim:

1. To evaluate the quality of endodontic treatment done by students, using "step-back" technique with stainless k-files, and "crown-down" technique with rotary ProTaper.
2. To compare the influence of two different techniques to quality of endodontic treatment.

Methods: The posttreatment radiographs of the endodontically treated single rooted teeth were evaluated under 2.5 magnification and with the help of a negatoscope.

Root canal obturations were classified into the following:

- a) adequate obturation – the obturation length is not more than 2 mm below the radiographical apex;
- b) inadequate obturation – the obturation length is more than 2 mm below the radiographical apex;
- c) overfilled obturation – the obturation length expands the radiographical apex;
- d) homogeneity of obturation (leakage or no leakage);
- e) mistakes of instrumentation.

Results: 72 radiographs were evaluated 36 canals of all cases were treated by hand instruments, the other 36 canals were treated by rotary ProTaper shaping and finishing files. The evaluation of the radiographs with stainless steel hand instruments treated canals displayed a total of 22% of mistakes during cleaning and shaping. 75% of mistakes were due to insufficient shaping of the canal, 12.5% caused by transported canals and ledges that were produced. The obturation was 69% adequate. 17% were underfilled and 14% were overfilled. Obturation was non-homogenous in 42% while 58% were homogenous.

The ProTaper shaping and finishing file radiographs showed a total number in mistakes of 11%. 75% were due to insufficient shaping and 25% suffered transportation. 94% of canals were obturated adequate. 6% of canals were under filled and no canal was overfilled. Obturation was non-homogenous in 11% while 89% were homogenous. Statistic analysis was done according SPSS.

Conclusion: Students using ProTapers with the "crown down" technique achieved better results in root canal and less mistakes in chemomechanical canal instrumentation.

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41. THE FIRST FETAL BLOOD KARYOTYPE AND ULTRASONOGRAPHIC EXAMINATION RESULTS AND RESULTS ANALYSIS IN KAUNAS MEDICAL UNIVERSITY HOSPITAL (KMUH)

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Invasive and non invasive prenatal diagnosis is very important for diagnosis of fetal congenital anomalies. One of the method of invasive prenatal diagnosis is cordocentesis – the umbilicus puncture to check for fetal karyotype or genotype diagnosis.

The aim of work: To analyse karyotype results, which were made in Kaunas Medical University Department of Biology, KMUH Immunology and genetics laboratory and compare these data with prenatal ultrasonographic results.

The methods: Analyse retrospectively KMUH Department of Obstetric and Gynaecology patients case histories, which had the cordocentesis at 2003 – 2007 years. Analyse KMU Biology department and KMUH Immunology and genetics laboratory karyotype results and compare data with ultrasonographic results.

Results: From 2003 year till 2007 february 12 pregnant women in KMUH had cordocentesis. The mean age of all women was 27 years and 9 months, of women whose fetal was with congenital anomalies – 29 years and 8 months. The pregnancy time, when cordocentesis was carried out, varied from 25 to 39 weeks of pregnancy (the mean – 31,5 weeks). 42% women (5 women of 12) had at least one miscarriage in the past. 50% women (3 women of 6) whose fetal was with inborn anomalies had one or more miscarriages in the past. The 6 pathology cases were found (50%). In three cases were 13 chromosome trisomy syndrome, one case was 21 chromosome trisomy syndrome (karyotype 47,XX,+21), one case 18 chromosome trisomy (47,XYq-,+18) and one case - partial monosomy syndrome of 13 chromosome q arm (46,XX,del(13)q(22)). Every fetus was investigated ultrasonography before cordocentesis. The fetus with Patau syndrome had ultrasonographic visible facial anomalies, hypoplasia of vermis cerebelli and intrauterine growth retardation syndrome. In the case of Down syndrome was found congenital heart defect and atresia of duodenum. The fetus with 18 chromosome trisomy syndrome had congenital heart defect, hypoplasia of vermis cerebelli and intrauterine growth retardation. 13 chromosome partial q arm syndrome was characterised with congenital heart defect, hypoplasia of vermis cerebelli and intrauterine growth retardation. The labour was via naturalis (no sectio Caesarea was performed) in all cases with pathology.

Conclusions:

1. Chromosome disorders were diagnosed often: in a half of cases (50%).
2. All the fetus had ultrasonography visible pathology consistent with chromosomal diseases.
3. Gynaecological tactics were decided after karyotype analysis.

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42. THE IMPACT OF OSTEOPOROSIS ON RADIOMORPHOMETRIC INDICES OF THE EDENTULOUS JAWS

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Osteoporosis is a systemic skeletal disease characterized by low bone mass and microarchitectural deterioration of bone tissue, with a consequent increase in bone fragility and susceptibility to fracture.

Relatively osteoporosis affects all the skeletal bones. Some authors find the connection between the severity stages of the osteoporosis and the X-ray examinations of the jaws. It can be considered that dental X-ray radiographs could be used to determine the risk of the osteoporosis.

Purpose of the investigation: Purpose of the study is to estimate the cortical bone changes in edentulous mandible for women who suffer from osteoporosis and osteopenia and to compare the results with clinically healthy women.

Methods: Study was performed in Riga Stradins University Institute of Stomatology. In study were included 31 women (age from 45 to 81 years) with edentulous jaws who received prosthetic treatment in 2006.

For all patients were made: digital panoramic radiographs (*Pantomograph Trophypan C, Trophy Windows 6, 04*) and bone mineral density measurements of lumbar spine and both hips by dual energy X-ray absorptiometry (*Lunar DEXA DPX-NT, GE Medical Systems*).

Based on DEXA results patients were divided into 3 groups: normal bone density ($T\text{-score} \geq -1, 0$), osteopenia ($T\text{-score from } -1, 0 \text{ till } -2, 5$) and osteoporosis ($T\text{-score} \leq -2, 5$).

Panoramic radiographs were used to determine: mental index (MI) and cortical index (C).

To test differences between proportions *Pearson chi²* test was used. The difference between groups was evaluated by *T-test*.

Results:

Group of osteoporosis: MI= 2,9 (SD=0,88), C= 2,3 (SD= 0,48)

Group of osteopenia: MI= 4,17 (SD=1,01), C= 1,7 (SD= 0,48)

Normal bone density: MI= 3,73(SD =1.32), C=1,45 (SD= 0,52)

There was statically significant difference between the groups according to mental index (MI) ($p= 0,0432$) as well as to cortical index (C) ($p= 0,0019$).

Conclusions: Specific changes in cortical bone of the lower jaw can be seen in osteoporotic women. Larger group of the research is necessary for stronger evidence of these results.

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43. THE IMPACT OF PITUITARY ADENOMAS ON THE MEASUREMENTS OF SELLA TURCICA AND PITUITARY GLAND – THE ANALYSIS OF MAGNETIC RESONANCE IMAGES

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Objective: To analyze the tendencies of alteration of sella turcica and pituitary gland's measurements due to the impact of pituitary adenomas.

The material and methods: The magnetic resonance imaging (MRI) data of 134 patients, which had been treated in the Neurosurgical department of Kaunas University of Medicine for pituitary adenomas during the period of 1998 - 2006, was analyzed.

The MRI scans were obtained with a 1 T scanner (Philips Gyroscan T10 NT). T1-weighted coronal and sagittal images were obtained with an echo time (TE) of 25 ms; repetition time (TR) of 500 ms; field of view (FOV) was 180.00. T2-weighted/Turbo spin echo coronal images were obtained with: TE 120.00 ms, TR 3000.00 ms, and FOV 180.00.

The MRI data of 30 patients, who had been examined for reasons other than pituitary disease, was analyzed as a control group. The data was interpreted by two independent reviewers. The MRI data was analyzed by measuring vertical (VDS) and sagittal (SDS) diameters of sellae turcica and vertical (VDP), sagittal (SDP) and transverse (TDP) diameters of pituitary gland.

The mathematical statistics analysis was performed by dividing adenomas into three groups: micro adenomas ($d \leq 1$ cm), meso adenomas ($1 < d \leq 2$) and macro adenomas ($d > 2$ cm). The largest dimension of pituitary lesion was considered as essential.

To acquire the definite mathematical statistical analysis, the number of tests were performed: tests of normality (Shapiro – Wilk test for the group with pituitary adenomas, Kolmogorov – Smirnov two – sample test for the control group), Kruskal – Wallis analysis of rank, Dunn test. Spearman rank order correlation coefficient was calculated to show the relation of the dimensions of the variables to the size of adenoma.

Results: The significant difference between SDS and VDS was found ($p < 0.01$), comparing micro-, meso- and macroadenomas' groups among themselves.

There was no significant SDS and VDS difference found ($p < 0.01$) between microadenomas' and the control group. The significant difference between SDS and VDS was found ($p < 0.01$), comparing meso- and macroadenomas' groups with the control group. There was no significant SDP and VDP difference found ($p < 0.01$) between microadenomas' and the control group, however, comparing VDS in both of the groups, the significant disparity ($p < 0.01$) was found. There was a significant difference found between SDP, VDP and TDP ($p < 0.01$), comparing meso- and macroadenomas groups with the control one. A very significant ($p < 0.000001$) and a very strong (corr. coeff. > 0.8) dependence was found after estimating Spearman rank-order correlation coefficient, which shows the dependence of the dimensions of the features on the size of adenoma.

Conclusions:

1. Meso- and macroadenomas of the pituitary gland have a significant impact on the alteration of the size of the gland and the sella.
2. Microadenoma has a significant impact only on the vertical diameter of the pituitary gland - it makes no significant influence on other dimensions of pituitary gland and the sella.

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44. THE IMPACT OF SHORT ROTATORS ON INTRACAPSULAR PRESSURE AND ELASTICITY OF THE CAPSULE IN OSTEOARTHRITIS OF THE HIP

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The causes of pain in osteoarthritis hip are unclear. Changes in hydrostatic intraarticular pressure have been suggested as one of the pain causing factors. Previously we analyzed the biomechanical properties of the hip joint capsule, such as elasticity, i.e. the compliance of the capsule, and its correlation to symptoms, severity of osteoarthritis. We found significant correlations between the severity of OA and intracapsular pressure as well as between the severity of OA and elasticity of the hip joint capsule. It is still unclear the impact of short rotators on intraarticular pressure and elasticity in osteoarthritis hip.

Aim of the study: The purpose of this study was consequently to investigate the impact of short rotator on intracapsular pressure and elasticity of the joint capsule in osteoarthritis of the hip joint.

Patients and Methods: We analyzed 56 unselected patients with hip osteoarthritis admitted for total hip replacement. The evaluation was based on estimation of radiographic osteoarthritis grade, HOOS hip score. Patients were randomized for measurements of intracapsular pressure with intact short rotator (27 patients) and resected short rotators (29 patients). Intracapsular pressure was measured peroperatively with Touhy needle inserted in the hip joint before excision of the capsule connected to a closed, non-volume consuming, sterile, monitoring set for invasive pressure connected to a pressure transducer. The hydrostatic intracapsular pressure with the hip in 45° of flexion was recorded, as well as in extension, extension-inward, and extension-outward rotation. Following these static pressure registrations we injected an increasing volume of saline, 1ml at a time, into the joint with 3 sec intervals between injections. The intracapsular pressure was continuously recorded until the intracapsular pressure reached 300mmHg which was the upper limit set to the pressure transducer. This recorded pressure/volume curve reflects the elasticity/compliance of the capsule, which could then be calculated in each individual hip.

Results: We found no difference in radiographic grade of osteoarthritis, pain, hip joint function within the groups. Intracapsular pressure in intact short rotators group was 19 mmHg in 45° of flexion, 34 mmHg in extension, 33 mmHg in inward rotation and 30 mmHg in outward rotation. Intracapsular pressure in resected short rotators group was 35 mmHg in 45° of flexion, 50 mmHg in extension, 60 mmHg in inwards rotation, 58 mmHg in outward rotation. These differences in intracapsular pressure between the groups were statistically significant ($p < 0,001$). The capsule of the hip joint were less elastic in intact short rotators group (3,41ml/300 mmHg), as compared with resected short rotators group (4,44 ml/300 mmHg), $p = 0,02$.

Conclusions:

1. The resection of short rotators in the hip joint was associated with following increase of intracapsular pressure in osteoarthritis hip.
2. Short rotators decreases elasticity of the hip joint capsule in osteoarthritis hip.

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45. THE INFLUENCE OF VASCULAR RISK FACTORS ON COGNITIVE FUNCTIONS IN ELDERLY WITHOUT DEMENTIA

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Background: Arterial hypertension (AH), hypercholesterolemia and diabetes mellitus (DM) are known risk factors for coronary artery disease (CAD) and stroke. It is proved that hypercholesterolemia present in midlife is associated with increased risk of Alzheimer's disease (AD) in the future. However, there are accumulating data suggesting a neuroprotective activity of cholesterol in AD. At the moment findings about dyslipidemia as modifiable risk factor for cognitive dysfunction and dementia are contradictory. The relationship between the levels of blood cholesterol, low – density lipoproteins (LDL) and dementia is still unclear. C – reactive protein (CRP) is being extensively investigated as a risk factor for atherosclerosis. Therefore the **aim of this study** was to evaluate the influence of vascular risk factors on cognitive functions in elderly without dementia.

Materials and methods: 28 patients without dementia or possible organic reasons for cognitive dysfunction were investigated (age $72,14 \pm 6,27$; 32,1% men and 67,9% women; education in years $10,56 \pm 5,44$). 8 cognitive tests constituted the test battery (Digit Span, RAVLT, Cognitive Estimation Test, Digit Symbol Substitution Test, Word Pair Association, Five - Point Test (FPT), Trail Making Test A ir B (TMT-A and TMT- B)) composed aiming to assess the attention, verbal learning and memory, ability to generate effective problem – solving strategies, mental flexibility, visual abilities and psychomotoric functions. Using statistical methods we analysed the relationship between the results of cognitive tests and biochemical blood parameters (lipid profile, CRP), extracranial carotid artery ultrasonoscopy data.

Results: The level of total blood cholesterol significantly correlated with the number of the learned words (RAVLT; $r = 0,388$, $p=0,046$) and also with the ability to create novel designs under time constraints (FTP; $r = 0,489$; $p = 0,01$). Blood LDL also significantly correlated with results of FPT ($r = 0,438$; $p = 0,022$). The significant relationship between high – density lipoproteins (HDL) and the number of correctly recognized words in RAVLT test was found ($r = 0,438$; $p=0,02$). The level of atherosclerosis in carotid arteries was significantly associated with worse psychomotoric functions (TMT-B; $r = 0,456$; $p = 0,037$). Patients with type II DM (they constituted 14, 3% of participants) tendend to perform cognitive tests worse than patients without DM (for FPT and the delayed recall rate of RAVLT $p<0,05$; for other tests p values were close to 0,1). AH and CAD in patients' medical history were not significant to cognitive functions.

Conclusions: Cholesterol may have a positive influence to some of the cognitive functions. Diabetes mellitus is associated with worse verbal memory and some of the frontal functions. The level of carotid artery atherosclerosis is associated with lower psychomotoric velocity and worse mental flexibility. The level of atherosclerosis in carotid arteries do not influence the verbal memory. The elevation of blood C – reactive protein level may be related with more pronounced deterioration of cognitive functions at elderly age.

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46. THE LOOK AT PATIENTS WHO SUFFER FROM ATRIAL FIBRILLATION

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Background: Atrial fibrillation (AF) is the most common, age dependant rhythm disorder that affects about 2-9 % of total population at the age of 60-90 years. AF causes considerable disability, impairs quality of life, and is difficult to treat.

Aim of the study: to evaluate manifestation, diagnostic, risk factors, cause, type, therapy and complications for patients who are suffering from atrial fibrillation.

Materials and methods: Our prospective study enrolled 63 patients with documented atrial fibrillation. All of them were treated at the arrhythmic department at the cardiology clinic. Full medical history was taken to evaluate prevalence of AF as well as the occurrence of complications. In addition a special questionnaire for all patients was used. Also risk factors such as body mass index (BMI), smoking, physical activity, hypertension, cholesterol level were evaluated. All patients underwent echocardiography. Statistical analysis was done with SPSS software.

Results: 63 patients (mean age 66.48 ± 10.41 years) with documented AF were included. For 1 patient AF was diagnosed the first time, 7 patients were with paroxysmal type of AF, 32 patients were with persistent type of AF, 23 patients were with permanent type of AF. Hypertension was determined for 71.4% of all patients, ischemic heart disease had 37 patients (58.7%). Heart insufficiency according NYHA: I-class for 1 patient, II-class for 36 patients (57.1%), III-class for 22 patients (34.9%), IV-class for 2 patients. Risk factors such as diabetes mellitus had 4 patients (7.9%), now smoking 4 patients (6.3%), dropped smoking 25 patients (39.7%), BMI was 30.52 ± 7.2 , increased levels of cholesterol had 17 patients or 27 %. Echocardiography showed that left ventricle ejection fraction was $46 \pm 9.04\%$ and end diastolic size of left ventricle was 51.01 ± 6.43 mm, size of left atrial was 48.4 ± 9.11 mm, significant valve disease had 15.4% patients. Sinus rhythm was reestablished for 25 patients (38.5%) with electrical cardioversion, for 11 patients (16.9%) with medication. History of stroke had 3 patients or 4.8%, history of peripheral embolism had 6 patients or 9.5%, history of pulmonary artery thromboembolism had 7 patients or 11.1%.

Conclusion: Half of all patients had persistent AF. Electrical cardioversion was the most common way to reestablish sinus rhythm. Most common reason for AF was hypertension and ischemic heart disease. Risk factors were observed by all patients. All patients had increased body mass index, almost half of patients had smoking history and almost third of them had increased levels of cholesterol.

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47. THE PREVALENCE OF HIGH RISK FACTORS OF CHRONIC KIDNEY DISEASE IN PRIMARY HEALTH CARE CENTRES

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Chronic kidney disease is a becoming serious public health problem in the 21-st century. Due to insufficient diagnostics at the early stages these patients don't get a treatment in time and as a result die previously. If chronic kidney disease were detected earlier, the preventive measures could be used and consequences improved.

The aim: The aim of the study was to investigate the prevalence of high risk factors of chronic kidney disease among patients in primary health care centers and to assess diagnostic strategy carried by family doctors.

Methods: Using ambulatory cards patients with risk factors of chronic kidney disease (primary kidney disease, severe arterial hypertension, complicated ischemic disease and diabetes mellitus) were selected in four different primary health care centers according to a special questionnaire. The patients' age, sex and high risk factors of chronic kidney disease were identified. Patients' observation was valued according to a serum creatinine, urea and urine analysis during the last 24 months. Data was processed using SPSS for Windows 12 programme.

Results: We reviewed ambulatory cards (n=4082) of patients older than 18 years in four Kaunas city family doctor's practices. The mean age- 49, 86± 18, 54 years. Female 2393 (58, 6 percents) and male- 1688 (41, 4 percents). The high risk factors of chronic kidney disease (severe hypertension, diabetes, kidney and severe ischemic diseases) were found in 458 patients: 287 (62, 66 percent) women and 171 (37, 34 percent) men. It accounted for 11, 2 percents of all patients. They were significantly older comparing with all patients (66, 96±14, 34 vs. 49, 86±18, 54 years, p<0, 0001). The percentage distribution of risk factors was following: hypertension- 62, 66 percents, primary kidney diseases-33, 84 percents, diabetes-20, 96 percents, complicated ischemic disease-6, 11 percents. From 458 patients 366 (79, 9 percents) had one, the remainders-several risk factors. During the last 24 months kidney function and urine analysis were valued by family doctor for 24,4 percents and 53,6 percents respectively of patients with high risk factors.

Conclusions:

1. High risk factors of chronic kidney disease were found in 11,2 percents of patients from primary health care centres and among them the most common risk factor was arterial hypertension.
2. Most of them were older than 75 year old, and investigation of kidney function of these patients in family doctor practice was insufficient.

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48. ULTRASOUND NEUROSURGICAL ANATOMY OF THE ADULT BRAIN IN COMPARISON TO CONVENTIONAL IMAGING TECHNIQUES. A PRELIMINARY REPORT

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Introduction: Intraoperative cerebral ultrasonography (USG) is a common diagnostic procedure in central nervous system surgery. It is used for distinguishing normal from pathological areas and thus for evaluating topographical relations of pathology with the brain surface and the extent of resection. Although sonography is widely used as an additional tool in neurosurgery, the normal ultrasound brain anatomy is still not well described in literature.

Aim: The authors aimed to describe ultrasound cerebral anatomy in adults treated with decompressive craniotomy for various cerebral pathologies and relate the findings to conventional imaging techniques.

Material and methods: 20 patients after decompressive fronto-temporal craniotomy (median size: 3x5 cm) underwent cerebral USG examination. Sixteen patients, at least 7 days after treatment, were first evaluated using CT examination and enrolled in the study only if CT scans revealed no significant brain shifts due to pathological mass or brain edema. Four patients suffering from intracranial hemorrhage (ICH) underwent cerebral USG within 4 hours after surgery to evaluate cerebral midline structures shift. Ultrasound examination of the hemispheres was performed with EchoSon hand-carried ultrasound system using 5-10 MHz transducer. Images were obtained in B-mode, with a convex probe, through integuments of the body.

Results: In the course of the study coronal and transverse sections were obtained. Important anatomical and neurosurgical landmarks, such as cerebral surface, insula, lateral ventricles, third ventricle, tentorium and cerebral falx were visualized and measured. In cases when both in CT and USG examination the same structures were visualized, no significant differences in topography and morphometry were noted. However, CT revealed greater sensitivity in visualizing third ventricle, tentorium and cerebral surface contralateral to craniotomy: 100% in CT, compared with USG, respectively: 65%, 70% and 25%. Midline shift due to mass-effect was evaluated at the level of pineal gland in transverse sections only both using USG and CT.

Conclusions: Cerebral anatomy described using USG does significantly differ from that obtained with CT scans. CT imaging is more sensitive and reliable, therefore it cannot be replaced with sonography, but the advantage of that is constituted by its mobility and availability in cases when CT examination cannot be conducted. Ultrasound examination may be used as a supplementary intraoperative tool for imaging intracranial structures. Preliminary results of above study may be treated as a ultrasound anatomy reference for neurosurgeons using this technique.

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49. VESICAL ARTERIES OF HUMAN FETUSES – A MICROANATOMICAL STUDY

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Two sources of arteries supply the human urinary bladder: inferior vesical arteries and superior vesical arteries. Some authors [Braithwite, 1952; Shehata, 1976] also distinguish middle vesical arteries. The arterial pattern in fetus is different from that of adult. The obliteration of the umbilical arteries results in obliteration of some of its branches.

Purpose of the investigation: The aim of the study was to research the morphology of vesical branches in human fetus and to compare it to the anatomy of adult.

Method: In the study 31 fetuses (from the collection of the Department of Anatomy) of both sexes and age between 14 – 21 Hbd were examined. The arterial system of fetuses has been injected with a solution of Chinese ink and gelatin and fixed in a 4% formaldehyde solution. Microsurgical methods and a surgical microscope were used in dissection of the vessels.

Result:

- 1) The main role of the anterior iliac artery trunk branches was affirmed (18 cases), which was particularly evident in cases of a lack of branches branching from the umbilical artery trunk (4 cases), which seemed to be the second most important source of arterial supply of the bladder.
- 2) Branches of other internal iliac artery ramifications were described:
 - a. Deferent duct / uterine artery (15 cases)
 - b. Obturator artery (4 cases)
 - c. Superior gluteal artery (4 cases)
- 3) In one case left umbilical artery was a small vessel, giving its terminal branches to the bladder.
- 4) In one case a total lack of left umbilical artery (double-vessel umbilical cord) was confirmed. In this case the urinary bladder was supplied by the inferior epigastric artery and the internal pudendal artery.

Conclusions: As a result of our study, the major role of the superior vesical arteries in the arterial supply of the bladder in fetus was confirmed. In cases of a lack of the superior vesical arteries, the development of other arteries branches (internal pudendal, gonadal and gluteal arteries) seems to confirm their importance. However, many of the superior branches are not likely to maintain their function after the occlusion of the upper part of the umbilical artery, which makes the pattern found in fetus significantly different from this of adult. The morphology and the role of the internal iliac artery anterior trunk in the vascularization of the bladder appears to be similar to this found in adult.

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50. VIDEO LARYNGOSCOPIC FINDINGS IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA

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Objective: To evaluate symptoms common in reflux and video laryngoscopic findings in patients with obstructive sleep apnea, by using reflux symptoms index (RSI) and reflux finding score (RFS), and to determine the relationship between laryngeal inflammation and obstructive sleep apnea (OSA) severity.

Methods: Data of 32 patients with proven obstructive sleep apnea verified in polysomnography overnight and with video laryngoscopic findings were analysed. Obstructive sleep apnea severity evaluated using apnea – hypopnea index (AHI) scores, according to American Academy Sleep Medicine Association guidelines. All patients completed the questionnaire (by Belafsky, 2001) which contained of 9 questions common in gastroesophageal reflux disease and its laryngopharyngeal form. Every question was rated in Likert 0 – 5 points system (0 – no problem, 5 – severe problem). RSI values rate was points sum (max 45 points, no pathology <13). Also every patient had video laryngoscopy accomplished with Kay elemetrics video laryngostroscope. There were evaluated inflammatory changes (mucous erythema, edema and hypertrophy) in four areas of larynx: vestibular, vocal cords, subglottic and posterior parts of larynx. Also there were evaluated findings of granulomas and thick mucous. RFS was scored by Belafsky, every subject was evaluated in points form 0 (no changes) to 4 (severe changes)points, the sum of the points composed RFS. Possible values ranged from 0 to 26, RFS>7 was taken as being abnormal. Statistical evaluation was performed using Microsoft Excel and SPSS for Windows, version 10. Statistical significance was determined at a level $p<0,05$.

Results: Data of 32 adult patients, 23 males (72%) and 9 females (28%), aged from 25 to 72 yrs (mean $47,7\pm 13,8$) were analyzed. The mean Body Mass Index (BMI) was from 22,3 to 46,6 (mean $31,1\pm 6,3$), AHI was registered from 5 to 92,7 events/h (median 10,7).

RSI indicated by patients was ranged from 0 to 35 points (mean $13,8\pm 8,3$). Abnormal RSI was detected in 50% (16 from 32) of respondents. The most common symptoms, indicated as a medium or severe problem were chronic throat clearing (46,9% patients), increased the amount of mucus with it coming in to the nasopharynx (postnasal drip) and a globus sensation in the pharynx – 37,5% of patients each. RFS values were ranged from 3 to 16 points (mean $9,6\pm 4,0$). The inflammation of the larynx was diagnosed for 65% (21 patients from 32) patients. The most common findings were vestibular cords hypertrophy (in 84,4% of patients), vocal cords (50%) and subglottic (34,4%) edema, and posterior commissure hypertrophy (59,4%). Correlation analysis showed significant positive relationship between BMI and RFS ($r=0,4$, $p=0,02$), whereas between AHI, which determine OSA severity, and RFS only a tendency of positive relationship was identified.

Conclusions:

1. A high prevalence of laryngeal symptoms and inflammation, indicating reflux, in obstructive sleep apnea patients was identified.
2. Direct significant correlation between laryngeal inflammation and obstructive sleep apnea severity was not determined.

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51. WOMEN'S ATTITUDE TOWARDS CAESAREAN SECTION ON REQUEST AND PERSONAL CHOICE FOR DELIVERY

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Background. Caesarean section (CS) rates have been rapidly increasing in many countries of the world. Although the reasons for these increases are complex, maternal request for elective caesarean delivery without medical indication are blamed for a proportion of the observed increase.

Objective. To survey women's general attitude towards elective CS on maternal request in uncomplicated single cephalic pregnancies at term, to assess their preferences about mode of delivery for themselves and to find out the reasons of personal choice.

Methods. Anonymous structured questionnaires were distributed to pregnant women and women after birth in the Departments of Obstetrics & Gynaecology, Kaunas University of Medicine in November and December of 2006. Respondents were asked about their attitude towards women's right to choose CS and about their personal preferences on the mode of delivery. A statistical analysis was carried out using software SPSS 12.00. Odds ratios (OR) and 95% confidence intervals (CI) were calculated using multiple logistic regression.

Results. Of 207 questionnaires, 204 were completed (98.6 % response rate). A total of 168 respondents (82.4%) support woman's right to choose caesarean delivery, 146 (71.6%) think that the indication for CS „a woman's request“ should be legalized, and 116 (56.9%) believe that the cost of such operation should be covered by the Compulsory Health Insurance Fund. In the case of uncomplicated pregnancy, the vaginal delivery would be chosen by 169 women (82.8%) and caesarean delivery – by 31 (15.2%). Indicating the reasons of choosing CS, respondents mentioned the possibility to avoid fetal risk (67.7%), the fear of labour pain (48.4%) and the possibility to avoid maternal risk of vaginal delivery (38.7%). Almost two thirds of women (61.3%) stated that they had enough information about the benefits and risks of different mode of delivery, and as the main source of this information they indicated their obstetrician - gynaecologist (47.5%). CS would mostly be chosen by women who have enough knowledge about the benefits and risks of different mode of delivery (OR 3,6, 95% CI 1,3 – 10,3), are from urban area (OR 6,7, 95% CI 1,4 – 32,9) and had been delivered only by CS in the past (OR 7,3, 95% CI 1,6 – 31,9). Respondents having high education would choose operation more rarely (OR 0,4, 95% CI 0,1 – 0,9).

Conclusions:

1. Most respondents support woman's right to choose mode of delivery, think that indication for caesarean section „woman's request“ should be legalized, and 15,2% would prefer to deliver by caesarean section in uncomplicated pregnancy.
2. The most common reasons of choosing caesarean delivery are a wish to avoid fetal and maternal risk of vaginal delivery and the fear of labour pain.
3. The place of residence, education, personal experience of previous birth and knowledge about the benefits and risks of different mode of delivery influenced personal choice for delivery.

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POSTER PRESENTATIONS

1. A HISTOLOGICAL STUDY OF MEGAURETER MORPHOLOGICAL CHANGES

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Introduction: The anomalies of urogenital system are widespread in fetuses and it's mentioned as one of mortality causing factors. In general, the anomalies of ureters had been found in 5% of newborns that is 25% of all prenately diagnosed congenital defects. The purpose of our work was to make an analysis of morphofunctional changes in megaureter wall to find possible morphopathogenetical mechanisms.

Materials: Materials had been taken from 11 children megaureter biopsies (from intermediate (1), distal (10) and cystourethral (3) segments). Those patients were born from 1989 till 2005 year. All of them possessed primary obstructive unilateral (6 left and 2 right side) or bilateral (3) megaureter.

Methods: The morphology of megaureter wall had been studied using immunohistochemistry (NGFR, FGFR1, PGP 9.5, MMP2, TGF β , TNF α , AT2R, and Shh), TUNEL method, staining with hematoxylin and eosin. For structure quantity analysis semiquantitative counting method had been used.

Results: In overview sections we had observed epithelial erosions, pear-shaped cell general or regional vacuolization. The epithelium basal cell hyperplasia had been found in three cases. Plenty of blood vessels had also been marked. The infiltration of inflammatory cells and small blood vessel sanguineness had been found in half of those sections. In all of the sections we had observed chaotic muscle fibre organization, and among them there was a lot of connective tissue. In myocytes we had found a signs of vacuolisation. Two thirds of patients had a different level of muscle fibre disorganization: the muscle layer predominantly had been developed irregularly; in two cases the absolute atrophy of longitudinal muscle layer had been observed. In subepithelial layer MMP2 was seen in all of the sections where there was great and average quantity of marked fibroblasts, macrophages, lymphocytes, mast cells and plasmacells. In three cases TGF β had been found in abundance, and in others sections its indistinct expression found in connective tissues cells and in smooth myocytes. We had observed rich expression of FGFR1 in connective tissue, membranes of epitheliocytes and smooth myocytes. FGFR1 had been abundantly seen in foregoing structures in half of the cases and poorly in the second half of patients. Practically, poor number of nerve fibres in blood-vessels walls and between muscle fibres had been containing PGP 9.5. Occasional neuroendocrine cells in epithelium were positive for PGP 9.5 in three sections. However, PGP 9.5 also had been frequently seen in nerve bundles in some other cases. Also, we had observed expression in two thirds of patients NGFR. It had been excreted by epitheliocytes and nerve fibres among muscle bundles. Besides, we had found TNF α in intraepithelial lymphocytes in a small quantity almost in all studied cases. In turn, all patients' epitheliocytes excreted Shh. Angiotensin II type 2 receptors had been expressed in transitional epithelium and in citolemmas of smooth myocytes. Apoptosis affected epithelium and myocytes in nine patients, but connective tissue cells – in one third of patients.

Conclusions:

1. Shh and AT2R are expressed in megaureter and give evidence about involvement of these gene and receptors in pathogenesis of disease.
2. Decrease of PGP 9.5-containing innervation despite expression of NGFR seems to be neuropeptide containing innervation pattern in megaureter.
3. Irregular apoptosis in wall of megaureter and rich expression of MMP2 seem not to correlate each with other, and with expression of other inflammation markers, but possibly together with rich expression and compensation of megaureter wall.

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2. ACCEPTABILITY ASSESSMENT OF HOMEOPATHY, AS A TREATMENT METHOD

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Homeopathy, as a method of treatment is legal in Lithuania and also in all countries of European Union. Opinions about homeopathy are very controversial and there are absolutely no data about acceptability of homeopathy in Lithuania. Our study brings the first data and conclusions about acceptability of homeopathy and homeopathic practice possibilities in Lithuania.

Purpose of the investigation:

To find out:

1. Acceptability of homeopathy, as the treatment method.
2. The part of the patients that choose to consult homeopath.
3. Patients' satisfaction with the homeopath services.
4. Assess the practice possibilities of homeopath

Method: A questionnaire was distributed to 130 randomly selected patients in two Vilnius outpatient clinics: "Šeškinės poliklinika" and "Centro poliklinika". 26 of them refused to answer questionnaire or filled-up incorrectly so they didn't pass to final data analysis. 104 respondents were included in the final analysis. Questionnaire consisted of demographic questions and special questions about acceptability of homeopathy.

Result: Homeopathic treatment is acceptable in essence for the major part of patients (59.62%), unacceptable only for the 4.81% of the patients, others (37.5%) are in doubt. 6.45% of the patients, of whom homeopathic treatment is acceptable in essence, consults homeopath on the regular basis, 41.94% use complex homeopathic remedies and the 51.61% of patients do not use any homeopathic treatment, but this method of treatment is acceptable in essence for them. More men (9.7%), than women (2.7%) responded that homeopathic therapy is not acceptable for them ($p < 0.05$).

Complex homeopathic remedies were used mostly by 30-39 years old patients (53.33%) ($p < 0.05$).

22.22% of the patents used the services of homeopath. 34.78% of them were satisfied, 39.13% - were more satisfied than dissatisfied and only 13.04% of them were absolutely dissatisfied.

To the question "are you going to visit homeopath in the following 6 months" 8.65% responded positively, 30.77% negatively, and 61.54% were in doubt. But to the question "are you going to visit homeopath in general" even 32.69% responded positively and only 11.54% negatively, although 57.69% stayed in doubt.

The major part of respondents were willing to pay 20-80Lt (6-23€) for the homeopath's consultation.

Conclusions:

1. Homeopathic treatment is acceptable in essence for the major part of the patients.
2. Almost half of the patients, who responded, that homeopathic therapy is acceptable for them, visit homeopath on the regular basis or uses complex homeopathic remedies.
3. The 22.22% of respondents have visited or visit homeopath on the regular basis, 73.91% of them stayed more satisfied, than dissatisfied or absolutely satisfied.
4. Despite controversial opinions about homeopathic therapy, homeopathy stays powerful alternative to conventional treatment and almost one third of patients are planning to visit homeopath in the future.

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3. AN ERYTHROPOIETIN-DERIVED SYNTHETIC PEPTIDE, EPOTRIS, INHIBITS KAINIC ACID-INDUCED SEIZURES IN MICE

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Erythropoietin (Epo) is a 30.4 kDa glycoprotein hormone that controls red blood cell production by promoting proliferation and differentiation of erythroid progenitors. Recent discoveries that Epo and its receptor are expressed in the central nervous system have elicited a great interest due to its potential activity as a neuroprotective growth factor and its possible therapeutic relevance in various brain pathologies. The neuroprotective potential of Epo application is limited by side effect(s): multiple doses of Epo over-stimulate the hematopoietic system and can provoke thrombotic events. Thus, Epo mimetics possessing the neuroprotective, but not erythropoietic features of Epo, is desirable.

Purpose of the investigation: The aim of this study was to see whether a synthetic Epo mimetic peptide epotris exerts any neuroprotective effects against kainic acid (KA)-induced epileptic seizures in adult mice.

Methods: By *in silico* modeling of the Epo-EpoR a short peptide termed epotris was designed and its effect was tested in a mouse model of kainic acid-induced epileptic seizures.

Experiments were performed on 11 weeks old male mice (C57Bl strain). Epotris (10 mg/kg, dissolved in distilled water) or vehicle (distilled water) were administered s.c. 48, 24 and 2 hours prior to KA (Sigma) administration in a dose of 30 mg/kg i.p. Latency of seizure onset, seizure severity and mortality were scored for 2 h post-injection using a numerical scale 0-6: 0-immobility; 1-facial automatisms; 2-head nodding; 3-forelimb clonus; 4-rearing; 5-generalized convulsions and 6-death.

Results: Epotris-treated mice demonstrated a significant delay in the onset of seizures, reduced seizure severity as well as reduced mortality.

Conclusion: Our data indicate that epotris is able to mimic neuroprotective actions of Epo .

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4. ASSESSMENT OF EFFECTIVENESS OF DENTAL HEALTH EDUCATIONAL PROGRAMMES

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Introduction: There are several methods applicable to decrease caries intensity, but one of them-educational prevention programmes. It is proved that treatment of illness is always more expensive than prophylaxis. In our prospective longitudinal study we wanted to contribute to educating children and to once more verify the effectiveness of caries prevention programmes.

Aims

1. To estimate how children's education level and attitude towards dental health has changed during the period 1999 – 2007
2. To develop and test in practise an educational prevention programme in Jelgava city and Jelgava district.
3. To assess the effectiveness of the educational prevention programme

Materials and Methods: In 1999 a questionnaire was worked out in order to estimate the level of pupils' knowledge. 100 pupils from Jelgava State Grammar school took part in the survey. Also patient charts of forms 7 – 9 from school dental office were investigated and DMFT was estimated. In the process of study, 80 minutes long lessons were held for 234 pupils of form 1 in different schools of Jelgava city and district. A three-lesson plan was developed and experimentally tested on 32 pupils of form 1. The lesson plan was also distributed to teachers of all schools of Jelgava city and district. In 2006 and 2007 a reiterative survey was made. This time the respondents were 117 pupils from Jelgava State Grammar school, 96 pupils from Riga Secondary school N° 71 and 109 pupils from Smiltene Grammar school. Results were processed, using SPSS 10.00 and CIA computer programme.

Results: In year 1999 only 42,80% pupils in Jelgava knew that dental floss is recommended for dental hygiene, but already 74,50% knew about that in year 2006. In Riga less pupils know about usage of dental floss (only 39,70%). Despite in Smiltene 71,56% pupils know, that dental floss should be used, only 22,94% floss their teeth, but in Jelgava in year 2006 29% of children use dental floss. Also 77,80% brush their teeth 2 or more times per day, and that is more than in Riga and Smiltene. But comparing to year 1999, percentage of pupils, who use fluoride pills, has significantly decreased. DMFT index has decreased from 5,8 to 3,2 during these 7 years in Jelgava.

Conclusions:

Educational prevention programme was developed.

Programme was successful.

Pupils' knowledge of dental prophylaxis in Jelgava is currently better than 8 years ago. Children also pay more attention to dental care. In Jelgava, where the above mentioned educational activities were carried out, the situation is better than in other districts of Latvia, concerning also decreased DMFT.

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5. ASSESSMENT OF SERVICE QUALITY IN THE OUTPATIENT CLINICS

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Restructuration reform of medical agencies is being performed since 1991. Outpatient clinic services are often analyzed from the economical point of view, but there is lack of data about how patients feel about these services. The objective of the study was to find out the acceptability, major benefits and imperfections of treatment in outpatient clinics, from the patient point of view.

Purpose of the investigation:

To find out:

1. Acceptability of treatment quality in the outpatient clinic.
2. Main benefits and imperfections of treatment in the outpatient clinic
3. Absence of imperfections, the patients would pay for.

Method: A questionnaire was distributed to 130 randomly selected patients in two Vilnius outpatient clinics: “Šeškinės poliklinika” and “Centro poliklinika”. 26 of them refused to answer questionnaire or filled-up incorrectly so they didn’t pass to final data analysis. 104 respondents were included in the final analysis. Questionnaire consisted of demographic questions (sex, age, education, monthly income (tax excluded)) and special questions about the quality of outpatient clinic services.

Result: More than half of the patients (62.14%) responded that the service quality of outpatient clinics is acceptable in essence. For the 20.19% of patients the service quality is absolutely acceptable, for the 41.35% of patients it is more acceptable, than unacceptable, for the 28.85% it is more unacceptable, than acceptable, and for the 8.65% of patients the service quality of outpatient clinics are completely unacceptable.

While the level of education increases, dissatisfaction of the service quality in outpatient clinics rises too; ($r=0,952$; $p<0.05$).

The majority of patients (69.23%) responded that the main benefit of outpatient clinics is free of charge treatment. Qualified staff, as benefit, was marked by 21.15% patients and attention to the patient, as benefit, was marked by 18.27% patients.

The major imperfections are waiting time from the registering to admission to the doctor (69.23%) and the queues at the doctor consulting room (59.23%).

The majority of patients (48.08%) would pay for higher doctors’ qualification.

Conclusions:

1. More than half of the patients responded, that the quality of service in outpatient clinics is acceptable in essence.
2. While the level of education increases, dissatisfaction of the quality of service in outpatient clinics rises too.
3. The majority of the patients responded that the main benefit of outpatient clinics is not the high qualified staff or attention to the patient, but free of charge treatment.
4. The major imperfections are waiting time from the registering to admission to the doctor and the queues at the doctor’s consulting room, but the majority of patients would rather pay for higher doctors’ qualification, than for absence of these.

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6. CARIES RISK DETERMINATION IN PRACTICAL DENTISTRY

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Introduction: In modern dentistry commonly used term is “the risk of caries”, however, in Latvia its determination hasn’t become everyday task when working with patients. Still unpopular is the individual approach to each patient and two preventive visits to dentist per year are recommended to all patients regardless of the risk of caries. Caries risk assessment is defined as the risk that a patient will develop new lesions of caries or existing lesions will continue to progress, assuming that all etiological factors remain equal. In this study we are going to analyze 3 different buffer capacity determination tests and 2 different possibilities for determining caries risk.

The aim of the project:

1. To develop scheme for the initial examination of the patient with complains about the dental caries and to check the possibilities of practical use of the scheme ;
2. To compare 3 different buffer capacity tests and examine their precision, titrating saliva samples with HCl in laboratory circumstances;
3. To determine the individual risk of caries for 64 patients using different methods of caries diagnostic.

Materials and methods: The literature about the available saliva tests in Latvia and worldwide was reviewed. For the practical duties we chose the tests CRT bacteria and CRT buffer of Ivoclar Vivadent. The GC Saliva–Check BUFFER and Ericsson’s method was also used to determine saliva buffer capacity. To examine the precision of buffer capacity express dg tests, we titrated the saliva samples with 0.0005 M HCl in laboratory circumstances, for pH measurement we used glass electrode. For the cultivation of bacteria the Ivoclar Vivadent Cultura incubator was used. To obtain the anamnesis and clinical examination the standardized patient questionnaires and patient cards were implemented. The results were processed with the computer program of Malmo University developed to obtain individual cariogramms. The risk of caries was determined also with Clinpro Cario L-Pop test of 3M ESPE company.

The results: The precision of CRT–buffer test is 72.34, GC Saliva–Check BUFFER test-76.6%, Ericsson’s method- 61.7 %. The correlation between buffer capacity and caries risk was determined. Caries risk prediction was also made by Clinpro Cario L-Pop test of 3M ESPE company. The risk of caries ranged from low (1) to high (9), but on average – high (7). The risk of caries ranged from 6% to 96%, the required frequency of dentist visits per year was on average 4 (1-6) times.

Conclusions:

- Educational material about different caries diagnostic methods for the dental students and dentists was developed.
- Cariogramms were developed, individual risk of caries and required frequency of visits for 64 patients was determined.
- The determined caries risks remarkably differ depending on the applied method - cariogramm or 3M ESPE Clinpro Cario L-Pop test. As 3M ESPE test reflect only one parameter (the formation intensity of lactic acid), it is not advisable as the only test for caries risk

determination. It doesn't provide complete information about the current situation and recommendations about the possibilities to reduce the risk of caries as a cariogramm.

- Saliva buffer capacity express diagnostic tests are approximately 70 % precise (hardly determinable color differences), therefore they give a rough result and can be used as one of the parameters in determining caries risk, but not as the only parameter.
- Saliva buffer capacity has important, but not an equipollent role in caries progression, as it changes in different saliva pH.
- The risk of caries for examined persons on average was high, which means that 4 visits to dentist or dental hygienist per year were indicated.

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7. COMPARISON OF THYMUS ANATOMY IN PRENATAL MRI 3D RECONSTRUCTION AND DISSECTED SPECIMENS

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The thymus (T) is a central lymphopoietic organ which lies in the anterior and superior mediastinum. For a long time its function was said to be important only at an early stage of development of immunological system. Recent findings shown that simultaneous co – transplantation of T and other solid organ significantly reduces the host response to the graft and prolongs its vitality. Furthermore, there is evidence that sonographically assessed decrease in T size is connected with intrauterine infection and higher risk of preterm labor and bronchopulmonary dysplasia. Basing on our earlier studies over the anatomy of T, we concluded that ultrasonography is not a optimal tool to assess T due to its complicated shape and problems with visualization of the gland.

Purpose of the investigation: The aim of this study was to compare 3D reconstruction of the prenatal magnetic resonance imaging (MRI) of the thymus with results from dissection and evaluate the accuracy of MRI in anatomical assessment of the thymus.

Method: We dissected 40 human fetuses aged 14 – 21 Hbd of both sexes, taken from the collection of the Department of Anatomy, Medical University of Warsaw. Circulatory systems were injected with latex and specimen fixed in 4% formaldehyde. We dissected vessels under the operation microscope using microsurgical tools.

The MRI examinations were conducted in Mother and Child Institute in Warsaw on 1.5 Tesla GE hardware, during rutine diagnostic procedures, on pregnancies over 22 Hbd. Data was stored as DICOM files and reconstructed using 3D rendering software.

Result: We studied accuracy of visualization of different parts of the thymus, shape and size of the gland and overall quality of images and compared it with the dissected matherial.

Conclusions: This study shows that magnetic resonance is still a method of choice to visualize most of soft tissues in prenatal examinations, althought numerous problems caused by the movements of the fetus must be taken into consideration.

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8. DISTRIBUTION OF SOME GROWTH FACTORS AND GENES IN DIFFERENT TISSUE OF HUMAN EMBRYO

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Introduction. Distribution of different growth factors and genes is still unclear in various human embryonic tissues. Many cells synthesize Transforming Growth Factor beta1 (TGF beta1) which proliferation, differentiation of the cells. Fibroblast Growth Factor Receptor 1 (FGFR1) also is a widely expressed membrane receptor of developing human tissues. Studies of BarX1 suggest its role in developing sclerogenic mesenchyma and neuromesenchyma. Msx2 is believed to play a role in growth and development of bone, skin and skin appendages.

The aim of the study: the immunohistochemical analysis of 4 embryo (8/9 and 11/12 weeks of gestation) tissue; determination of distribution of growth factors and genes in different human embryonic organ system.

Materials and methods. We analyzed AAI Embryology department's collection material of various tissue of 4 human embryos (8/9 and 11/12 weeks of gestation abortion material). 8µm histological sections were stained with haematoxylin and eosin. We used biotin-streptavidin (Hsu et al., 1981) for determination of TGF beta1 (mouse monoclonal [TB21] to TGF beta (ab1279), dilution 1:1000, *Abcam* UK); FGFR1 (rabbit polyclonal to FGFR1 (ab10646), dilution 1:100, *Abcam* UK); BarX1 (rabbit polyclonal to BarX1 (ab26156), dilution 1:250, *Abcam* UK); Msx2 (mouse monoclonal [2E12] to Msx2/Hox8 (ab22601), dilution 1:250, *Abcam* UK). Distribution of these factors was detected semiquantitatively (0/- occasional, +/- weak positive, ++/- positive, +++ strongly positive) (Pilmane et al., 1996).

Results. The expression of TGF beta1, FGFR1 and BarX1 was established in sclerogenic mesenchyma, perichondrium, in the proliferating cartilage area and in degenerating chorda dorsalis. BarX1 was absent in ossification centers of spine cartilage, however, Msx2 and other factors were widely distributed. Msx2 was also found in the chondrocyte nuclei of apoptotic cartilage, in the cartilage proliferating area and in perichondrium. The largest part of muscles, nerve fiber's plasmolemma and endothelial cells contained TGF beta1, FGFR1, Msx2 and BarX1. The explore growth and transcription factors stained spinal cord meninges, but only BarX1 and FGFR1 concentrated in the spinal ganglions. BarX1 was expressed by motoneurons of the spinal cord and by gangliocytes of the periphery nerve system. Epithelium of skin and its appendages tongue and salivary glands were positive for all factors, but respiratory epithelium of bronchi was weakly positive for Msx2 and BarX1. Mesothelium of pleura and pericardium contained TGF beta1, FGFR1 and BarX1. Myocardium was positive for BarX1 and weak positive for TGF beta1 and FGFR1. Extraembryonic mesoderm and amniotic epithelium of the umbilical cord contained TGF beta1, BarX1 and Msx2.

Conclusions. TGF beta1 and FGFR1 are widely expressed in actively developing and differentiating human tissue. BarX1 participates in differentiation of heart and motoneurons. Msx2 is important in development of all organs of mesodermal origin in 8-12 gestation weeks.

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9. GLYOXALASE I ACTIVITY IN HUMAN AND ANIMAL BLOOD SAMPLES

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Introduction: Glyoxalase I (lactoglutathione lyase; EC 4.4.1.5; GO I) is an intracellular enzyme that prevents the accumulation of the pro-oxidant compounds including methylglyoxal (MG). MG and other α -oxoaldehydes are involved in the formation of advanced glycation endproducts (AGEs) that are supposed to contribute to the development and progression of late complications of diabetes mellitus. Therefore, the investigation of GO I enzyme activity as a measure of glycation processes could be a crucial step in the better understanding of development of to clinical manifestations of diabetic complications.

The aim of the present study was to standardize the conditions for blood sample handling and storage in clinics. Additional aim of the study was to compare GO I activity in blood samples of different species.

Materials and methods: The human blood samples after collection were kept at +4°C, -20°C and -80°C for up till 4 weeks. Activity of GO I was determined at different time points. After storage, the blood samples were lysed in ice-cold water (1:40; v/v) for 10 min and centrifuged (15000g, +4°C, 10min). GO I activity was measured in supernatant by following the S-(D) - lactoylglutathione formation from substrate of GO I, hemithioacetal. To ensure the formation of hemithioacetal in a non-enzymatic reaction, the equimolar mixture of MG and reduced glutathione (GSH) was pre-incubated for 10 min at +37°C before the addition to the assay mixture. The final assay mixture contained 20 μ l of lysate, 2 mM MG and 2 mM GSH in 50 mM sodium phosphate buffer pH 6.7 in a 200 μ l of total volume. The formation of S-(D)-lactoylglutathione was monitored at 240 nm for 5 min. The enzyme activity was calculated based on a standard curve generated for S-lactoylglutathione and expressed as μ mol of S-(D)-lactoylglutathione formed per min per ml. To test the effect of addition of protease inhibitors on degradation of GO I activity during the storage of frozen blood samples, PMSF (1 mM), pepstatin A (10 μ g/ml), and aprotinin (10 μ g/ml) were added to samples before freezing.

The animal blood samples after collection were kept at +4°C and GO I activity was determined within a four-day period.

Results: Our results demonstrate that freezing at -20°C leads to a significant decrease in GO I activity of collected human blood samples, which can not be reversed by addition of protease inhibitors. In contrary, blood samples can be kept at +4°C for up till 2 weeks without any essential loss in enzyme activity and -80°C freezer is the most suitable choice for the long-term storage of samples in clinics for up till 1 month. The activity order of GO I in blood samples of different species was: rat >mouse >human \cong cow >dog >rabbit \cong cat.

Conclusion: For the future investigations of correlation of diabetes complications and GO I activity in blood samples, as a most convenient we choose the storage of patient samples at +4°C with following measurement of enzyme activity within 4 days after collection of samples;

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10. GROWTH FACTORS AND THEIR RECEPTORS IN TISSUES OF FISTULAE OF ANAL REGION

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Introduction: Fistula of anal region is an ectopic anal communication to the skin or the urogenital system. Aim of our work was to investigate the division of different growth factors and their receptors in tissue of anal region in case of a fistula and then to correlate the results with morphological changes in the tissue.

Methods: Material for investigation was obtained from three girls at the age of seven months till 13 years with rectovaginal fistula (two cases) and rectocutaneous fistula (one case). The material was investigated immunohistochemically by use of protein gene peptide 9.5 (PGP 9.5), bone morphogenetic protein 2 and 4 (BMP 2/4), fibroblast growth factor receptor 1 (FGFR 1), nerve growth factor receptor (NGFR), epidermal growth factor receptor (EGFR), neurofilaments (NF), serotonin (SER), transforming growth factor beta (TGF β). TUNEL method was used to determine apoptosis. Biopsy sections were stained also routinely with haematoxylin and eosin. For structure quantity analysis semiquantitative counting method had been used.

Results: FGFR1 richly stained cells of epithelium, sweat glands, connective tissue, walls of blood vessels, cytolemma of muscle fibres and nerve fibre bundles. There were also nerve fibres containing NGFR and PGP 9.5. BMP was expressed in cells of epithelium and some endothelial cells. PGP 9.5 presented neuropeptide-containing innervation in neuroendocrine cells of epithelium in epidermis, in walls of fistula, in basal epithelial cells of vagina and in nerve fibres of connective tissue.

Conclusions: FGFR1 and PGP 9.5 are most often observed factors in fistula disordered tissue with growth stimulating properties that may influence growth and regeneration processes of the tissue and the development of nerve fibres.

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11. GROWTH FACTORS IN PROXIMAL AND DISTAL PART OF ESOPHAGUS IN PATIENTS WITH ESOPHAGEAL ATRESIA

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Introduction: Esophageal atresia (EA) is a relatively common congenital anomaly with an incidence of 1 in 3000 live births. The pathogenesis of esophageal atresia with or without tracheoesophageal fistula remains still unknown. The aim of this study was to examine relative distribution of growth factors and neuropeptide-containing innervation in the proximal and distal part of the esophagus.

Methods: Histopathological study of proximal and distal parts of esophagus was conducted on 15 EA patients from which 13 had been diagnosed for EA with distal TEF and 2 – for EA with proximal TEF. Two control specimens were also investigated. Tissues were processed for haematoxylin - eosin (HE) staining and immunohistochemistry (IMH) for nerve growth factor receptors (NGFR), protein gene product 9.5 (PGP 9.5), transforming growth factor beta (TGF β) and fibroblast growth factor receptors (FGFR). For structure quantity analysis semiquantitative counting method had been used.

Results: Histological examination of EA tissue revealed epitheliocyte vacuolization, in some cases even dystrophic epithelial changes. In most sections arrangement of muscle fibers was chaotic and whole muscular layer hypertrophied. Auerbach's and Meisner's plexus in the disorganized muscular layer could be distinguished only in some specimens. Nerve fiber bundles were smaller than in control material. Control material showed strong and very strong staining for NGFR, PGP 9.5 and FGFR, while the expression of TGF β varied a lot. PGP 9.5 – containing nerve fibers and nerve fiber bundles were observed in wall of small blood vessels and intermuscular plexus. In distal pouch PGP 9.5 displayed moderate and strong expression. But in proximal part although we mainly observed moderate and large amount of positively stained neuronal structures, in two cases expression was poor. NGFR was seen in basal epithelial cells, nerve fiber bundles and nerve fibers among smooth muscle cells in the wall of small blood vessels. NGFR positive neuronal structures in proximal part were seen in slightly less number than in control material, however in distal part expression varied from negative to very strong. TGF β marked endotheliocytes, but the number of positive cells was small and observed only in one fourth of patients. Weak expression of TGF β in proximal esophageal pouch correlated with strong expression of FGFR. FGFR was seen in epitheliocytes, fibroblasts, endotheliocytes, macrophages and nerve fibers. In most cases FGFR excreting cells were found in large and very large numbers, only one section revealed moderate amount of positive structures. Weak and negative expression was not observed. FGFR expression did not differ among control tissue and proximal and distal esophageal pouches.

Conclusions:

1. The density of neuronal structures immunostained by NGFR and PGP 9.5 was reduced in EA tissues that support insufficient innervation in patients with EA later possibly following by development of gastroesophageal reflux disease.
2. Low expression of TGF β in proximal esophageal pouch might deal with disturbances in cell growth and differentiation despite no difference between FGFR expression in control and EA.

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12. IMMUNITY AND OXIDATIVE/ANTIOXIDATIVE RATIO IN ALCOHOLIC PATIENTS UNDER THE IMMUNOMODULATING TREATMENT

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|--|----------------------------|-----------------------------------|
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Introduction: Immunomodulator Polyoxidonium® is a physiologically active compound with molecular weight 100 kD. It is a copolymer of N-hydroxy-1,4-ethylenepiperazine and (N-carboxyethyl)-1,4-ethylenepiperazine bromide. It has a pronounced immunomodulating activity and also detoxifying and antioxidative properties.

Methods: Alcoholic patients in withdrawal were examined. The experimental group (n=7, mean age 38.1±8.5 years) was treated with conventional methods with addition of Polyoxidonium (6 mg in 400.0 ml of saline injected intravenously drop-by-drop the first two days, on the third day 6 mg were introduced intramuscularly). The group of comparison (n=7, mean age 41.1±8.5 years) was treated similarly except for Polyoxidonium. Control group comprised 10 healthy subjects (mean age 31.1±7.5 years). Immune examination was performed on admission and 14 days after the beginning of treatment. Lymphocyte subsets were detected using flow cytometry. Spontaneous and mitogen-induced proliferation of peripheral blood lymphocytes, cytotoxic activity of the natural killer (NK) cells, and phagocytic activity of neutrophils were assessed by conventional methods. The humoral immune parameters included serum immunoglobulins (G, M, and A classes), circulating immune complexes, and C-reactive protein. The leucocytic index of intoxication (LII) was calculated. Biochemical examination was performed on admission, day 7, and 14. Oxidative homeostasis was assessed with biochemical and spectrophotometric methods for detection of the lipid peroxidation metabolites and the NO metabolites (nitrites/nitrates). The antioxidative activity was assessed by the free SH-groups of proteins in plasma, α -tocopherol, and the erythrocyte catalase activity. The indices of endogenous intoxication (creatinine, middleweight molecules) were measured.

Results: Before treatment, immunity of patients showed a significant decrease in the absolute lymphocyte count and some lymphocyte subsets (CD3+, CD4+, CD8+, CD38+, and CD95+), and an increase in activated lymphocytes (CD25+). Lymphocytes had a decreased functional activity (sensitivity to mitogen activation: phytohemagglutinin or concanavalin A). The cytotoxic activity of NK cells was also reduced. The antioxidative factors were decreased (free SH-groups), whereas creatinine concentration, oxidative/antioxidative ratio, and LII were increased. After treatment with Polyoxidonium patients had a significant increase in the content of cytotoxic lymphocytes, immune regulatory index (CD4+/CD8+), and activity of NK cells. Intoxication indices significantly decreased (concentration of creatinine and middleweight molecules, and LII). The oxidative/antioxidative ratio normalized. The group of patients taken for comparison did not show these favorable changes.

Conclusion: Addition of immunomodulator Polyoxidonium to conventional treatment of alcoholic patients leads to a more complete normalization of immune and biochemical disorders and, therefore, may be recommended for wide clinical application.

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13. INFLUENCE OF CARNITINE REGULATION ON MALE RAT SEXUAL BEHAVIOR

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Introduction: L-carnitine is a key molecule in mitochondrial metabolism of fatty acids in muscles, as well as in the maturation of spermatozoa within the reproductive tract. It has been shown that the long-term administration of cardioprotective compound mildronate decreases carnitine content in blood plasma and regulates the carnitine dependent energy metabolism in heart tissues. However, the question if administration of mildronate alters the carnitine content in testes and, consequently, influences the sexual activity has not been addressed before.

The aim of the present study was to investigate the influence of mildronate on male rat sexual behavior and carnitine concentration in rat testes and plasma. Since gamma-butyrobetaine, a precursor of carnitine, is thought to be involved in pharmacological activity of mildronate, we measured also its concentration in plasma and testes.

Materials and methods: Experiment subjects were *Wistar* rats weighing 200-220 g at the beginning of the experiment. Sexually inexperienced male rats were divided into four groups of 10 rats. Mildronate were given to male rats at dose of 30 mg/kg/day, 100 mg/kg/day, & 300 mg/kg/day, 14 days, *p.o.* Behavioral tests were conducted during the dark phase of the day/night cycle (2:00 – 14:00 h) under dim light illumination. Each rat was placed individually into a clear plastic observation chamber for 30 min adaptation period prior to the introduction of a receptive, sexually inexperienced female. After experiment, blood plasma samples were collected and testes homogenates (1:10 w/v in distilled water) prepared, centrifuged and supernatants saved for analysis. A 100 µl aliquot of sample was loaded on preconditioned Supelco SAX cartridge. Elution was performed with 3ml of 0,01M KH₂PO₄ buffer (pH=3.5). The LC-MS analysis of samples was then performed on Alliance 2695 Separations Module coupled with Micromass Quatro micro™ API tandem massspectrometer operated in ES+ mode.

Statistical analysis: Data are expressed as mean ±SEM. Statistical analysis of data were performed by ANOVA followed by post-hoc 't' test. L-carnitine comparison between controls and treated groups was made with unpaired Student's t-test. *P* value <0.05 was considered as significant.

Results: In mildronate-treated rats, we found a dose-dependent and significant decrease in the plasma concentration of carnitine and, in contrary, increase in concentration of gamma-butyrobetaine. Similar effects of mildronate were observed in rat testes homogenates. Interestingly, the behavioral tests showed that mildronate administration not only did not reduce the measures of sexual activity, but, in contrary, slightly improved the sexual performance of male rats by increasing the number of intromissions in series, and significantly decreasing the post-ejaculatory interval. Further experiments are needed to clarify the pharmacological mechanisms of the observed behavioral effects.

Conclusions: We conclude that the mildronate administration and consequent decrease in carnitine concentration in rat tissues of does not reduce the sexual activity of male rats and even might have an advantage in overcoming the cardiovascular disease-induced complications related to sexual function.

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14. LITERATURE REVIEW: DEGRADATION OF PATERNAL MITOCHONDRIA

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It has been postulated that all zygote mitochondria are inherited from ooplasm. Yet it has been proved that spermatozoa enter the ovum and accordingly all paternal mitochondria which are localized in midpiece of sperm enter too. This phenomenon raises a lot of questions about fate of these mitochondria and their possible role in human pathology.

The aim of this work is to show the mechanism of mitochondria degradation and its essential role in eliminating the risk of pathology development.

Methods. In order to detect the presence of the paternal mitochondrial DNA(mtDNA)denaturing gradient gel electrophoresis(DGGE)method and nucleotide sequencing are used.

Result: Key protein of paternal mitochondria degradation is prohibitin - it is placed in the inner membrane of mitochondria, and is marked with ubiquitin for degradation. Prohibitin is conjugated with ubiquitin in testis, then, in caput epididymidis, ubiquitination is masked with disulphide bonds. Ubiquitin tag is again unmasked in zygote, so it is possible to identify the correspondent protein for degradation. After fertilization prohibitin is sent to proteasoma S26 where it is degraded. It should be mentioned that exist additional mechanisms, which can also prevent paternal mitochondria inheritance (e.g. Tom 22 and Tom 40, so called translocators of mitochondrial outer membrane).

Sperm mitochondria degradation protects human embryos from heteroplasmy(the presence of two or more mtDNA variants in the one individual), wich can lead to severe pathology. In 2002 it has been reported about a Danish patient with severe exercise intolerance since childhood Schwartz and Vissing, 2002). MtDNA samples were analysed from the patient's and his closest relatives blood, fibroblasts, hair roots and muscles using PCR and solid-phase minisequencing. it was found that MtDNA from the patient's muscles matched with those from the patient's father's and uncle's mtDNA. The pathology was caused by spontaneous 2bp deletion in gene ND2(NADH dehydrogenase subunit 2).

Conclusion: Up to now this case has been considered as phenomenon. However, there are some concerns that paternal mitochondria degradation may be delayed after intracytoplasmic sperm injection (ICSI). Nowadays, when ICSI is widely used procedure, it is necessary to exclude all possible doubts about safety of this process. Until now, there is no scientific evidence that confirms these worries.

Possibility to deliver paternal mitochondria, however, gives the opportunity to prevent mitochondrial pathology in the future. It would be very important for reduction of possibility to pass maternally mitochondrial pathology to offsprins, if there would be the chance to transfer healthy paternal mitochondria straight in to the ovum. Thereby heterosplasmia would be achieved and mutant mitochondria concentration in ooplasm reduced.

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15. PECULIARITIES OF COOLING PROTOCOL USAGE IN PICU OF KMU CLINICS

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|---|---|---|
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Introduction: Secondary brain injury after head trauma or hypoxaemia is the leading cause of inhospital deaths and poor neurological outcome. Mild hypothermia (32- 34°C) reduces oxygen consumption, cerebral blood flow and intracranial pressure.

Aim of the study: To compare real and protocol indicated onset, mean time from injury to the achievement of target body temperature of 34°C and duration of cooling. To evaluate duration of mechanical ventilation and hospitalization time in two patients groups according to type of brain injury.

Materials and methods: We reviewed data of the patients which were treated 2005- 2006 y. in PICU of KMU Clinics by means of induced hypothermia. We grouped patients according to the type of brain injury: 1st group- traumatic, 2nd group- posthypoxic brain injury. We compared and evaluated real and protocol indicated onset, mean time from injury to the achievement of the target body temperature of 34°C, duration of cooling, duration of mechanical ventilation and hospitalization time generally and in two groups separately.

Results: 2005- 2006 y. in PICU of KMU Clinics mild hypothermia was applied to 13 patients: 7 (54%) boys and 6 (46%) girls. Mean age 11,2 y. (1 y. 1 month- 17 y. 7 month). 8 (61,5%) patients were after severe head trauma, 5 (38,5%) patients- with posthypoxic brain injury (after near drowning or hanging).

The mean time of cooling onset was 6,5 h. (1- 24 h.), in 1st group- 7 h. (5- 9 h.), in 2nd group- 7 h. (1- 24 h.). The target body temperature of 34°C was averagely achieved in 11,8 h. (0-31 h.), in 1st group- in 12 h. (0-31 h.), in 2nd group- in 10 h. (4- 27 h.). Mean time of cooling duration was 43,1 h (24- 64 h), in 1st group- 48,8 h (32- 64 h), in 2nd group- 34 h (24- 48 h).

According to the protocol the onset has to be no longer than 6 h., the target body temperature 34°C has to be achieved in 3 h. and duration of cooling- 48- 72 h. In 8 (61,5%) patients the onset of cooling accorded the protocol, in 5 (38,5%) patients it was longer. Only 2 (15%) patients achieved the target body temperature of 34°C in required protocol time. Mean duration of cooling generally and in 1st group matched protocol requirements, in 2nd group it was shorter. Comparing the duration of cooling protocol in the 1st group patients it was longer than in the 2nd group patients, but the data was not statistically significant, $p > 0,05$.

1st group patients required longer mechanical ventilation then 2nd group patients, accordingly $7,5 \pm 2,4$ and $4,2 \pm 2,3$ days, $p < 0,05$. The hospitalization time in PICU was longer in 1st group- $11,3 \pm 5$ days, in 2nd group it was $5 \pm 1,6$ days, $p < 0,05$.

Conclusions:

1. The onset of cooling and the achievement of the target body temperature of 34°C was significantly longer then required in the protocol.
2. General duration of cooling and duration of cooling in 1st group matched the requirements of the protocol.
3. The mean diference of mechanical ventilation and hospitalization time in 2nd group was statistically significant.

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16. SCREENING OF PREGNANSY ASSOCIATED FE DEFICIENCY ANEMIA IN PRIMARY CARE UNIT 'PLAVNIEKI'

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Introduction. Fe deficiency anemia is the most common pregnancy complication. It develops in up to 20% of pregnant women. Plasma hemoglobin, transferrin and ferritin are used for diagnostic of anemia's severity level. First level of Fe deficiency anemia is a lack of Fe in woman's organism. In this stage ferritin decreases only. The second level of disease is latent anemia, when ferritin decreases severely, transferrin increases, but hemoglobin does not change. Main diagnostic criterion of Fe deficiency anemia is plasma hemoglobin decreasing. Pregnancy anemia screening program in Latvia includes determination of hemoglobin and ferritin twice during pregnancy. It is important to evaluate anemia for pregnant women and for her fetus before clinical symptoms develop.

The aim of the study was to evaluate the efficacy of pregnancy anemia screening.

Materials and Methods. Study involved 88 pregnant women consulted in primary care unit "Plavnieki" in a year 2006. Study was retrospective, anonym and questionnaire method was used. Computerized data processing using program SPSS 14.0 was made. Was performed T-test to assess the interrelation of above mentioned parameters, correlation was consider to be reliable if $p < 0,05$.

Results. We discovered 39, 8% to be primigravida, but 60, 2% multipara. In 60, 2% of cases it was firs labor. 10 women had pregnancy anemia risk factors such as interval between pregnancies less then 3 years, twin pregnancy, and low social level. In 45, 5% of cases pregnant women had evident gynecologic pathology. 23% of patients had evident somatic disease including endocrine, digestive and mostly urinary system pathology. No reliable difference ($p > 0,05$) between risk factors was found. Plasma ferritin determinates ones in 87, 5% of cases, twice in 8% and not determinates at all in 4, 5%. We discovered plasma ferritin decreasing in 37, 5%. Latent pregnancy anemia was evident in 9, 1% - 5 cases in first trimester and 3 in second trimester. Real pregnancy anemia was determined in 28, 4%. In 8% anemia developed during first trimester, but in 60% during second trimester and 32% in third trimester. Incidence of anemia in second trimester is statistically reliable higher than in first trimester. All patients received an adequate therapy. In all cases labor was near to term. In 28, 4% patients had Sectio Cesarea. Neonate's Apgar score results were 8, 9 in 53, 4%; 7 in 38, 6% and less then 6 in 5, 7%. Evident distress of fetus was seen in 5, 7% of labor.

Conclusions. We recommend to determinate plasma ferritin twice in first and second trimester (16-18 gestation weeks). Diagnostic of latent pregnancy anemia protect pregnant woman of developing severe anemia. We are planning our research to be continued.

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17. THE POSSIBILITIES OF PROPHYLAXIS PROGRAMS ON THE INTERNET

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Nowadays internet is becoming more and more popular. The growth of internet in recent 5 years was 333% and in 2005 there were 40.2% residents of Vilnius using internet. This growth should consider prophylaxis program integration to the internet. Our study brings the background of prophylaxis programs integration possibilities and suggestions where exactly it could be integrated.

Purpose of the investigation:

1. To ascertain what medical articles are interesting to the residents.
2. Analyze medical information needs on the internet.
3. Evaluate possibilities of prophylaxis programs on the internet.

Method: A questionnaire was distributed to 200 randomly selected recipients. 79 of them refused to answer questionnaire or filled-up incorrectly so they did not pass to the final data analysis. 121 respondents were included in the final analysis. Questionnaire consisted of demographic questions and special questions about the usage of internet and it's usage for medical information.

Result: 40.1% internet using respondents search and read medical information in it. Women search and read medical information on the internet more ($p < 0.05$) – 48.14%, than men 30%. Internet browsing persons were superiorly interested in medical articles describing the causes and development mechanisms of diseases (68.6%) and treatment possibilities of selected diseases (58.8%). Secondary interest was given to the articles about body care (45.1%), folk medicine (41.2%) and articles with answers to readers questions (39.2%). The last place of interest was given to the articles with information about drug clinical trials (25.5%) and articles about celebrities' health status and changes (9.8%)

Conclusions:

1. Even 42.1% internet users seek and read medical information in it. In Lithuania this can be about 500 000 residents.
2. Because of growth of internet in recent 5 years was 333% one must consider about prophylaxis programs integration to the internet.
3. Highly reading articles could and should be used for informative type of prophylaxis programs.
4. As the women read more medical information on the internet, prophylaxis programs designed for women would be more efficient.

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18. USAGE OF VITAMINS AND FOOD SUPPLEMENTS AND USAGE DETERMINATIVE FACTORS WITHIN THE RESIDENTS OF VILNIUS (LITHUANIA)

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Usage of vitamins and food supplements in Vilnius is changing fast, while pharmacy industries present newer and newer production. Why residents use vitamins and food supplements and what are the key factors influencing their choice it remains mysterious. Our study helps not only to understand why residents of Vilnius choose to use vitamins and food supplements, but also identifies the major influence range of choosing it.

Purpose of the investigation:

To ascertain:

1. The prevalence of usage of vitamins and food supplements within the residents of Vilnius (Lithuania).
2. The factors determining usage vitamins and food supplements.
3. The factors determining the choice of the specific of vitamins and food supplements.

Method: A questionnaire was distributed to 200 randomly selected recipients. 79 of them refused to answer questionnaire or filled-up incorrectly so they did not pass to the final data analysis. 121 respondents were included in the final analysis. Questionnaire consisted of demographic questions (sex, age, education, monthly income (tax excluded)) and special questions about usage of vitamins and food supplements and the factors determining the choice.

Result: The major part of respondents 85.1% use vitamins and food supplements. 35.5% use it regularly and 49.6% use not regularly.

Residents having chronic diseases do not use vitamins and food supplements more than others.

The main vitamins and food supplements usage causes were: to strengthen “immunity” (28.9%) or “organism” (17%); “compensate inadequate nutrition” (6.7%).

The main cause of vitamins and food supplements disuse was the opinion, that “my nutrition is adequate” (9.5%). The lack of finance as the cause of disuse was selected only by 2% of respondents.

Respondents choose vitamins and food supplements firstly according to recommendation of doctor and pharmacist. They were selected equally and each got 50.14%. Secondary choice was influenced by friends (34.7%), mass media (internet excluded) (31.4%) and the price (28.1%). And the least influence choosing vitamins and food supplements was received from internet and the brand, each received (9.1%).

Conclusions:

1. 85.1% residents of Vilnius (Lithuania) use vitamins and food supplements.
2. Usage of vitamins and food supplements was determined more by imaginative need, than the real appreciable effect.
3. The major influence on choice of vitamins and food supplements is received from doctor and pharmacist.
4. The lack of finance is not the main cause of disuse of vitamins and food supplements.

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