



International Conference on Health Sciences

Abstract book

May 26-28th, Kaunas, Lithuania

Organisers:

Lithuanian University of Health Sciences (LUHS),
LUHS Student Scientific Society,
Lithuanian Medical Students Association

Special thanks from the Organising Committee goes to:

Prof. Remigijus Žaliūnas, Rector of LUHS
Prof. Vaiva Lesauskaitė, Vice rector for research of LUHS
Prof. Algidas Basevičius, Scientific supervisor of LUHS Student Scientific Society

Compilers:

Rytė Giedrikaitė, Jonas Bernotas

Note: responsibility lays on the authors of the scientific works

WELCOMING MESSAGE FROM RECTOR



Dear organizers and participants,

It is a great honour for our university and me personally to greet so many ingenious students. I honestly congratulate you for gathering at the International Health Sciences Conference in Lithuania.

I am glad to see that traditions of the Students Scientific Society are being passed for more than 60 years. The Lithuanian University of Health Sciences has always been among the leaders of medical sciences in Lithuania. Our university is a place in which many scientists, most of whom started their careers in the Students Scientific Society, successfully cooperate. This year the conference is one of the most prominent events at our university assigned for international knowledge exchange of and efforts.

I wish you to disclose your passion for discoveries as early as possible and believe that this passion will guide you through your entire lives. I hope that you will contribute to the world scientific heritage.

Good luck!

Professor Remigijus Žaliūnas
Rector of Lithuanian University of Health Sciences

WELCOMING MESSAGE FROM VICE RECTOR FOR REASERCH



Dear Colleagues,

My honour and pleasure to welcome you at the International Conference on Health Sciences held at the Lithuanian University of Health Sciences. Mission of health sciences is to improve human health through world class research. It is obvious that the research experience you are accumulating together with professional knowledge will benefit this mission

The Conference brings together fundamental, clinical and population based young researchers. It is an ideal opportunity for you to compare experience and exchange views. I wish that the communication with each other would generate new ideas and long lasting friendship. Success during Conference!

Sincerely yours,

A handwritten signature in blue ink, belonging to Professor Vaiva Lesauskaitė. The signature is stylized and cursive.

Professor Vaiva Lesauskaitė
Vice rector for research of Lithuanian University of Health Sciences

WELCOMING MESSAGE FROM SCIENTIFIC SUPERVISER



Dear participants and guests of the International Students Conference,

On the 26-28th of May of this year a very important event for Kaunas, Lithuanian and European medical students societies will take place – the 1st International Health Science Conference. This event will be held in the biggest institution of health practice, studies and research of Lithuania – Lithuanian University of Health Sciences (LUHS), the newest university body, developed in the process of union of former Kaunas University of Medicine and Lithuanian Veterinary Academy.

The Students Scientific Society (SSS) of LUHS is successfully operating already for more than 60 years, unifying more than 1000 members in their research work in more than 40 scientific sections. Students of Medical, Odontology, Pharmacy, Public Health, Nursing, Veterinary Faculties are engaged in scientific activities, lead by experienced and highly competent scientists, professors, active PhD students. The relations between students, former lecturers and scientists are successfully developed in the frame of Alumni club, which, together with Lithuanian Medical Students Association (LMSA) and SSS of LUHS are the key organizers of this significant conference.

The Conference is a nice occasion for demonstration of potential of international cooperation and collaboration, the variety of presentations and achievements. This event is a unique opportunity to meet ones new colleagues or old friends, as well as to present the scientific achievements of participants and their universities in the international level. This meeting is a great chance to develop new scientific international contacts for future collaboration and research activities, improve scientific quality and grasp new ideas. I believe that this meeting will be a nice opportunity for multicultural international student contacts outside the frames of the Conference agenda, which could be even more important than official black-tie collaboration.

I strongly believe that the Conferences will turn into tradition and wish all the participants excellent presentations, refreshment of knowledge, successful work. Also I wish you remarkable glimpses of Kaunas together with impressions of students' summer.

Sincerely yours,

A handwritten signature in black ink, consisting of a series of fluid, connected strokes that form a stylized representation of the name.

Professor Algidas Basevičius
Scientific Supervisor of SSS of LUHS

The Organising Committee of IHSC

Karolis Bumblauskas, President of IHSC

Lukas Sveikata

Dainora Butkutė

Edgaras Diržius

Kirilas Zimarinas

Eglė Tamulevičiūtė

Jonas Bernotas

Eugenijus Žvykas

Vytautas Augustinavičius

Gediminas Šemeklis

Giedrius Juodelis

Greta Aleknavičiūtė

Akvilina Krasauskaitė

Gabrielė Mačionytė

Žygimantas Misevičius

Dovilė Mitkutė

Dovilė Krivickaitė

Sandra Motiejūnaitė

Laura Navasaitytė

Marius Vaičiulis

Mantas Žibas

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I. ANESTHESIOLOGY AND INTENSIVE CARE SESSION

1. AN OBSERVATIONAL STUDY TO EVALUATE THE CORRELATION BETWEEN DEVIATIONS OF CARDIAC STROKE VOLUME AND NONINVASIVELY MEASURED HAEMODILUTION IN THE CAPILLARIES UNDER THE FINGER NAIL DURING CRYSTALLOID FLUID LOADING

Justas Mažūnaitis, Indrė Sakavičiūtė

*Vilnius University Emergency Hospital, Clinic of Anesthesiology and Intensive Care,
Medical Faculty, Vilnius University, Lithuania*

Introduction:

Goal directed fluid management is known to improve patient outcomes after surgery. It implies maximization of flow-related target parameters by means of fluid loading. Currently cardiac stroke volume (SV) is considered the most sensitive and specific target parameter. However, its measurement requires invasive techniques. SV and arteriolar-venular tone in capillaries are both affected by the same neurohumoral stimulus during fluid challenges.

Aim:

The aim of the prospective observational study was to investigate the correlation between deviations of SV and noninvasively measured haemodilution in the capillaries under the finger nail during i.v. crystalloid fluid loading.

Methods:

After approval by the Ethics Committee and a signed consent, fifteen ASA II patients scheduled for elective primary total knee arthroplasty were included in the study, but only 12 have completed the study. The minimal volume loading test (mVLT) was performed just before induction of anesthesia and after 24 hours in the intensive care unit. The subjects were given three consecutive boluses (5ml/kg) of acetated Ringer's solution separated by 5 minutes without fluid. During the mVLTs, noninvasive capillary haemoglobin concentration under the finger nail (Radical 7, Masimo Corporation, USA) and stroke volume by means of arterial pulse contour analysis technique (LiDCOTMPlus, London, UK) were simultaneously recorded. The mathematical model of bolus induced response of deviations (BIRD-math) was used to calculate the deviations of capillary plasmadilution and stroke volume following each infusion (peak) and after 5 minutes without fluid (residual).

Results:

Three patients were excluded from the study because they received blood transfusions during the trial. There was a very strong and statistically significant correlation ($r_{xy}=0.959$, $p=0.003$) between the shifting residual-to-baseline deviations of capillary haemodilution and stroke volume. There was also a strong negative and very close to significant ($r_{xy} = -0.81$, $p=0.051$) correlation between peak-to-residual deviations.

Conclusions:

There was a good correlation between the residual deviations of noninvasive capillary haemodilution and invasive SV in response to the perioperative fluid loading in TKA patients.

2. CHANGES IN HEMODYNAMIC PARAMETERS DURING INTERSCALENE BRACHIAL PLEXUS BLOCK

Linas Šikarskas, Andrius Bubliauskas, Rasa Jankauskaitė

Anesthesiology Clinic, Lithuanian University of Health Sciences, Lithuania

Supervisor: Associate Professor, MD, Ramūnas Tamošiūnas

Introduction:

Anesthetic technique options are determined by considerations such as patient comfort and safety as well as postoperative pain management. Regional anesthesia allows to minimise the involvement of organ systems, reduce many of the body's normal stress reactions to surgical intervention, and decrease the probability of anesthesia related side effects and complications. Interscalene brachial plexus block (ISBPB) regional anesthesia is increasingly gaining popularity in shoulder surgery. Risks related to the use of ISBPB are generally low as regards hemodynamic change although there is evidence of fluctuations in arterial blood pressure (ABP) during the surgery. The changes can be

ascribed to the factor of sitting position (decrease in preload), effects of the Bezold-Jarisch reflex, and the block of sympathetic trunk cervical ganglions.

Aim:

The present study aimed to investigate fluctuations of central circulatory variables during the surgery.

The focus is on the examination of ISBPB affected changes in central circulatory variables such as systolic index, cardiac output, cardiac index, systemic vessels resistance index and acceleration index.

Material and methods:

The analysis is based on data of 36 patients who underwent shoulder surgery. The patient population includes both sexes between 18 and 60 years of age with the ASA physical status I and II, weight from 50 to 100 kg and height between 155 and 190 cm. The patients were divided into 2 groups: the first group consists of 19 patients who underwent left shoulder surgery applying ISBPB; the second group of 17 patients had right shoulder surgery applying ISBPB. Patient exclusion criteria: refused consent of enrollment in the investigation, coexisting diseases that were likely to impact changes in hemodynamics during the surgery. Central circulatory variables were assessed by noninvasive transthoracic approach. The data was measured before and after the interscalene brachial plexus block, after the patient was placed in a semi-seated position, and every ten minutes during the first hour of the surgery. Data were recorded on the systolic, diastolic and mean arterial blood pressure, heart rate (HR), systolic index (SI), cardiac output (CO), cardiac index (CI), systemic vessels resistance index (SVRI), and acceleration index (ACI) combined with assessing changes in these parameters during the surgery. Data analysis was performed using SPSS 17 software. The statistical significance level was set at $p < 0.05$.

Results:

No significant differences were found between the groups in certain time intervals, it means that the changes in hemodynamic parameters were the same in both groups. However, statistically significant changes in hemodynamic parameters were observed in both groups on the particular time periods. Left hand: SI during the 40th, 50th minute of the surgery was lower compared with the primary parameter (parameter before the ISBPB), accordingly CO during the 50th, 60th, 100th minute, CI during the 40th, 50th minute, ACI during the 50th, 60th, 70th, 90th minute were lower compared with the baseline measurements ($p < 0.05$). Right hand: SI at semi-seated position and during the 50th, 60th, 70th, 80th minute, CO during the 50th, 60th, 70th, 80th, 90th, 100th minute, CI during the 50th, 60th, 70th, 80th, 100th minute, ACI during the 50th, 60th, 70th, 80th minute were lower compared with the baseline measurements ($p < 0.05$). In both cases SVRI during the 30th and 60th minute were higher compared with the baseline measurements ($p < 0.05$).

Conclusion:

No statistically significant differences were observed between the groups. In separate groups, statistically significant changes were observed during the operation compared with central circulatory variables before the performance of the interscalene brachial plexus block.

3. MINIMAL VOLUME LOADING TEST: OBSERVATIONAL STUDY TO EVALUATE HYDRATION STATUS IN ELECTIVE TOTAL KNEE ARTHROPLASTY PATIENTS

Skaistė Sendžikaitė, Gerda Sakalauskaitė

Vilnius University Clinic of Anaesthesiology and Intensive Care, Lithuania

Head of scientific work: Associate Professor Audrius Andrijauskas, MD, PhD

Introduction:

The clinician often struggles with decisions concerning the choice of fluids, its amount and times of such interventions. Derangements of fluid balance are complex and include many factors. Goal directed fluid therapy aims for optimization of cardiac performance by intravenous colloid fluid infusion without taking into account the whole-body hydration. Although it has improved outcome for particular patient groups, there still is a risk of imprecise administration of fluid. Such protocols do not take into account the state of whole-body hydration. The Volume Loading Test (VLT) was introduced in 2006 for the evaluation of body hydration by assessing the plasmadilution induced by relatively large (7.5-15.0 ml/kg) fluid boluses. Its latest development is the minimal Volume Loading Test (mVLT) that deploys smaller fluid loads.

Aim:

The aim of our prospective observational study was to determine the ability of mVLT to detect the difference of baseline hydration on two perioperative occasions by administration of three relatively small (5 ml/kg) boluses of crystalloids. Primary hypothesis is that there is a significant difference between the individual plasma volume expanding efficacy (PVEE) of at least one of three boluses infused in a differently hydrated subjects, while the sum plasmadilution is similar in both mVLTs. Secondary hypothesis is that PVEE of 2nd and/or 3rd load is significantly higher in presumably better hydrated. Main outcome measures were (a) plasmadilution during and (b) individual PVEE of every fluid loading step.

Methods:

Fifteen patients undergoing elective primary knee arthroplasty were enrolled, and twelve (9 females, 3 males) completed the study. Three boluses (5ml/kg) of acetated Ringer's solution separated by 5 min without fluid (3 mVLT steps) were administered during mVLT. Each patient underwent two mVLTs. Preoperative mVLT was performed after overnight fast just before induction of anaesthesia. Postoperative mVLT was administered after 24 postoperative hours in the intensive care unit. The fluid management between two mVLTs was targetted to achieve the zero fluid balance, and wound drainage was kept closed. Arterial and venous haemoglobin concentration was obtained seven times during each of the two mVLTs: before each infusion (baseline), at the end of infusion (peak) and 5 min later (residual). These Hb values were used for evaluation of plasmadilution and PVEE by the mathematical model of Bolus Induced Response of Deviations (BIRD-math). Statistical analysis was performed using PASW Statistics 17, SPSS, IBM Corporation, NY. Mean values were compared by using Students t-test and Levenes test was used for comparison of variances. $P < 0.05$ was considered significant.

Results:

Plasmadilution was similar in both mVLTs ($p < 0.147$) with no difference of variances ($p < 0.521$).

Only the PVEE of the 3rd mVLT step was significantly different - postoperatively it was higher ($p < 0.014$) with no difference of variances ($p < 0.716$).

Conclusion:

The posed hypotheses were proven, and the mVLT was shown to be able to detect the presumed postoperatively better hydration status of TKA patients.

4. OUTCOME AND CHARACTERISTICS OF OUT-OF-HOSPITAL CARDIOPULMONARY RESUSCITATION IN RIGA

Elina Snucina

Department of Anaesthesiology and Reanimatology, Rīga Stradiņš University, Latvia

Head of the Scientific work: Anita Kaleja

Introduction:

Sudden cardiac arrest is a leading cause of death in Europe, affecting about 700,000 individuals a year.

Aim:

To determine risk factors affecting the outcome of out-of-hospital cardiopulmonary resuscitation.

Methods:

A retrospective, quantitative study of all cardiac arrest patients (except trauma victims and terminal cancer patients) older than 18 years treated between January 2010 and December 2010 by the Emergency medical service (EMS) in Riga and Riga region. The study was approved by the Ethics Committee of the Rīga Stradiņš University. Data was collected from EMS case records. Main outcome measure was the return of spontaneous circulation and survival to hospital admission. Data was analyzed using SPSS 17.0 software. Statistical significance was defined as $p < 0.05$.

Results:

During the study, 451 patients met the inclusion criteria. 102 (22,6%) patients were admitted to the hospital with spontaneous circulation. The majority of patients were male (58,5% vs. 41,5% female). The age of the patient was ranging from 24 to 96 years. Female cardiac arrest patients were older than males by an average of ten years (73 vs. 63 years). The majority of cardiac arrests occurred in a residential location (74.5%; $n=336$). The largest single location for a public cardiac arrest was the street (14.6%; $n=66$). 50% ($n=228$) of cardiac arrests were witnessed (seen or heard) by a bystander. 14% ($n=61$) of cardiac arrests were not witnessed. 36% ($n=162$) of cardiac arrests were witnessed by EMS team. Bystander CPR was attempted in 19.7% ($n=57$) of cases. Patients who were witnessed by EMS personnel had a 24.5% increase in survival rate compared with those not witnessed by EMS personnel. The initial rhythm of arrest was classified as VF in 26.6% ($n=120$), pulseless VT in 1.3% ($n=6$), pulseless electrical activity (PEA) in 52.8% ($n=238$), or

asystole in 19.3%. The highest survival rate was observed in cases of VF and pulseless VT (41.3%), while patients with asystole and PEA had the least chance of survival (14.9% and 15.5%). The average 112 call to arrival on scene interval was 8.9 minutes in Riga and 11.8 minutes in Riga district. CPR within 3 min of collapse produce survival rates 35.5%. CPR within >12 min of collapse produce survival rates 4.8%.

Conclusions:

Age, gender, location and bystander CPR did not affect the outcome of cardiopulmonary resuscitation. The factors influencing the outcome of out-of-hospital CPR were EMS personnel witnessed cardiac arrest, VT/VF as the initial rhythm of arrest, time to CPR and early defibrillation.

5. PATIENTS' DESIRE FOR INFORMATION ABOUT ANAESTHESIA IN LITHUANIA

Dovilė Karoblytė, Vitalijus Valančius

Department of Anaesthesia,

Lithuanian University of Health Sciences, Lithuania

Head of the Scientific work: assoc.prof. A. Karbonskienė

Introduction

Patients' desire for information about anaesthesia has been examined in a number of countries. In connection with the development of the legal framework in Lithuania, there are more and more questions – do we give enough information? A questionnaire was distributed to form a basis for giving Lithuania patients more appropriate preoperative information.

Aim:

To evaluate patients' expectations concerning pre-anaesthesia information in tertiary care center in Lithuania and to look at the factors which may influence them.

Methods:

A cross sectional study was carried out at a major tertiary care hospital in Kaunas, Lithuania, on 21st-25th of February, 2011. An original standardized questionnaire (27 questions) covering information on all peculiarities of anaesthesia care were presented to all adult elective (excluding obstetric, cardiothoracic, neurosurgical) patients on preoperative day before visit of anaesthesiologist.

Data analysis was performed using SPSS 13 software: for internal consistency of the questionnaire estimated Cronbach's coefficient α , calculated the sample mean characteristics, standard deviations, means comparisons used Student's test, nonparametric chi-square values (χ^2) criteria.

Results:

A total of 124 (48 male and 76 female, age 54.7 ± 17.1 yrs, ASA class I-IV) elective patients filled the questionnaire (response rate: 88.6%). Questionnaire's Cronbach's $\alpha = 0.905$. General anaesthesia was planned in 71.6% of patients, regional – in 28.4%. 78.2% of patients had experienced anaesthesia before. 36.1% had a complicated postanaesthesia period. Information about method of anaesthesia (84.4 % of patients), possible perianaesthetic complications (84.6%), whom can be addressed in case of unpleasant events/sensations (86.2%) was given the highest priority. 98.4 % patients related that anaesthesia care is very important and 82.3% of operations' success depends on anaesthesiologists' work. 56.9 % of patients were willing to get all anaesthesia information directly from doctor-anaesthesiologist, 2.4 % – from information leaflet only. Other patients pointed that they would like to read a leaflet and then meet doctor-anaesthesiologist. Patients' gender, age, living place had no influence desire for preanaesthesia information ($p > 0.05$). Patients for whom regional anaesthesia was planned were more interested in duration of anaesthesia and operation ($p = 0.036$).

Conclusions:

1. The most important things to patients were method of planned anaesthesia, possible perianaesthetic complications and whom to contact in case of unpleasant events.
2. The most important things to patients about planned anaesthesia did not depend on their demographic factors.
3. Patients pointed that they would like to get all the information about planned anaesthesia directly from doctor – anaesthesiologist.

6. PATIENTS' EXPECTATIONS FOR TREATMENT OF MODERATE AND SEVERE PAIN

Vaida Babachinaitė, Indrė Vaitekonytė

Department of Anesthesiology and Intensive Care, Vilnius University, Lithuania

Head of the scientific work: Alfredas Vaitkus

Aim:

The aim of the study is to define expectations for treatment and its success for moderate and severe pain from the patient's perspective.

Methods:

This is a cross-sectional analysis, which was conducted, at the Pain Clinics of Vilnius University Hospital VUL SK in 2010-2011. The participants were 102 patients, suffering from moderate or severe pain (5-10 points, according to the international pain-scale), who completed the adapted and enlarged Patient Centered Outcomes Questionnaire (PCOQ). The patients' expectations of the treatment success were analyzed across 5 domains: pain (P), fatigue (F), emotional distress (ED), interference with daily activities (DA) and sleeplessness (S). Each of these domains was evaluated in points from 0 (none) to 10 (worst imaginable). The second part of the study aimed at comparing and defining the parallels between the patients' expectations for treatment across the domains and the demographic data of the patients' subgroups. All collected data was processed by using the SPSS programme.

Results:

Out of 102 participants, 33 (32,4%) were men, 69 (67,6%) were women. The average age was $59,49 \pm 15,35$ years. Education: secondary - 38 (37,3%), higher - 35 (34,3%), highest (university) - 29 (28,4%). Work status: working - 45 (44,1%), non-working - 57 (55,9%). Pain duration: 1-6 weeks - 6 (5,9%), 6 weeks-3 months - 7 (6,9%), 3 months -1 year - 15 (14,7%), >1 year - 74 (72,5%). Usual average rate of the domain: $P=8,10 \pm 1,51$, $F=6,78 \pm 2,41$, $ED=5,55 \pm 2,83$, $DA=6,46 \pm 2,42$, $S=5,91 \pm 2,98$. Patients considered a mean reduction in pain of 5,61 points (69%) to represent treatment success. Mean reduction in fatigue, emotional distress, interference and sleeplessness of 4,10 (59%), 3,55 (64%), 3,81 (59%), 3,48 (59%) signified treatment success. The participants also defined their expected results after treatment being $P=0,36$ (14%), $F=0,88$ (33%), $ED=0,81$ (41%), $DA=0,74$ (28%), $S=0,68$ (28%) higher as compared to their definition of the successful treatment. The age was positively correlated with the success criteria in domains F, ED, DA ($p<0,01$), and with the expectations criteria for ED ($p<0,05$). Education was negatively correlated with usual level for F ($p<0,01$), also successful and expected levels for F ($p<0,05$). Pain duration was positively correlated with the success criteria for F, ED, DA ($p<0,05$), S ($p<0,01$) and with expectations criteria for DA ($p<0,05$), P and S ($p<0,01$). Working status was positively correlated with success criteria for F, ED ($p<0,01$) and DA, S ($p<0,05$).

Conclusions:

Patients expected their complaints to decrease after treatment, although they did not hope that actual results would manage to reach the level of their defined successful treatment. The expectations of elderly, non-working, with long-term pain duration patients were lower, whereas the participants with more formal education showed higher expectations considering their life quality after treatment.

7. PATIENTS' EXPERIENCE BEFORE AND AFTER ELECTRICAL CARDIOVERSION AND ANALYSIS OF THEIR KNOWLEDGE ABOUT PROCEDURE BEFORE IT

Ruslanas Vyrtosu

LUHS Anaesthesiology Clinic

Head of the Scientific work: Dr. Andrius Macas

Electrical cardioversion (EC) - is an affect with short electrical impulse to a patient's heart, synchronized with the ECG R wave to restore sinus rhythm. Procedure performed by general intravenous anesthesia, using a sodium thiopental. Despite adequate anesthesia, patients are still believe the procedure is painful and become anxious before EC. This belief often determines imperfect patient knowledge of the EC. The treating physicians' attention and in-depth information rendering before the procedure is simple and effective tool that allows patients to expect an effective, safe and high quality service.

Aim:

To evaluate the quality of anesthesia during EC, patients' knowledge about anesthesia before EC, and patients' condition before and after the procedure.

Methods:

An anonymous questionnaire consisting of 11 closed and 4 open questions about patients' knowledge about anesthesia before EC and patients' condition before and after the procedure. I analyzed the following data: patient age, sex, education level, the type and dose of anesthetic, numbers of electrical impulses. It was evaluated: patient's knowledge, causes of an anxiety, pain sensation during and after the procedure, patients' satisfaction of the EIT, and will patients resolve EC if necessary. Performed the statistical analysis of the data obtained using the IBM SPSS 19 program, using level of significance when $p < 0.05$.

Results:

Forty patients, 24 (60%) were males and 16 (40%) women, underwent elective EC for various atria arrhythmias. All patients were haemodynamically stable before the procedure. Patients ranged in age from 34 to 84 years, the average age of 63.88 ± 1.762 . The dominant patients' education was medium 19 (47.5%) and higher (university) 16 (40%). For 23 (57.5%) patients, the procedure was planned, and for 17 (42.5%) - urgency. 39 (97.5%) patients knew that the anesthesia will be applied prior to EC and that will be given an intravenous anesthetic, and 31 (77.5%) knew about the possible complications. For 39 (97.5%) patients' anaesthesiologists - reanimatologists paid enough attention. The majority of patients - 21 (52.5%), information on anesthesia was given in an intensive care unit (ICU). 18 (45%) patients had an anxiety before the procedure. The urgency of the procedure didn't have the influence to anxiety before procedure ($P > 0.05$). Most of anxious patients were afraid of treatment failure 12 (66.7%). For 35 (87.5%) patients ICU environment was acceptable. None of the patients didn't feel pain during the procedure, but 6 patients felt chest ache after the procedure, 3 of which required analgesia. 38 (95%) patients were satisfied EC and 2 (5%) patients were dissatisfied because heart rhythm didn't restore. 39 (97.5%) patients after performed procedure will resolve other EC if necessary.

Conclusions:

The vast majority of patients were satisfied procedure, physician care and ICU environment. Patients were adequately informed about the anesthesia before the procedure. Thiopental anesthesia during EC is appropriate, because EC experienced patients didn't feel any discomfort during the procedure.

8. POSTOPERATIVE DELIRIUM AFTER CARDIAC SURGERY IN THE INTENSIVE CARE UNIT

Dovilė Šeikytė, Roberta Petrauskaitė, Sergej Gavrilov

Hospital of Lithuanian University of Health Sciences, Department of Cardiothoracic and Vascular Surgery

Ph.D. E. Širvinskas, MD J. Andrejaitienė

Postoperative delirium significantly prolongs the days of hospitalization in the cardiac surgery intensive care unit (ICU) and all the postoperative stay in hospital. Moreover, it could lead to the development of multiple complications. For these reasons, it is important to detect delirium as early as possible.

Aim:

The aim of this study is to identify the predisposing factors for postoperative delirium after the heart surgery with cardiopulmonary bypass (CRB) and to evaluate the impact of them in the early postoperative period.

Methods:

According to the consecutive series of charts, 90 patients, who had an elective heart surgery with CRB and delirium after cardiac surgery in the early postoperative period in the HLUHS Clinic of Cardiosurgery from January, 2008 to September, 2010, were chosen for the study retrospectively. Four subgroups to assess severity of delirium were formed according to the criteria by Richmond Agitation - Sedation Scale (RASS), Confusion Assessment Method (CAM) and Intensive Care Delirium Checklist (ICDSC). The data are presented as the mean and the standard deviation (M(SD)). Statistical significance was accepted at a level of $P < 0.05$.

Results:

In this study, 4.17% of all the patients had delirium: 2008 postoperative delirium developed in 26 (3.46%), 2009 - 41 (5.18%), 2010 - 23 (3.74%) patients. The majority of patients were male 72.2% and the mean age was - 71.51 (8.87) years, their mean BMI test - 28.83 (4.38) kg/m². Patients had underlying diseases: hypertension 82 (91.1%), diabetes mellitus 24 (26.7%), metabolic disorders 35 (38.9%). They were after surgeries: coronary artery bypass grafting (CABG) - 67.8% (n = 61), valve surgery - 11.1% (n = 10) and combined (CABG and valve surgery) surgery 21.1% (n = 19).

= 19). Fentanyl anesthesia used an average of 0.91 (0.41) mg. The study found that delirium occurs 2.5 (1.9) postoperative day, the mean length of stay in ICU 8.4 (8.6), the mean length of hospital stay after surgery - 25.3 (17.5) days. A correlation had been found between the severity of delirium and used doses of fentanyl ($P = 0.021$).

Conclusions:

Our data suggest that early post-cardiac surgery delirium couldn't be common complication, but it significantly prolonged the length in stay at the ICU and hospital stay. The delirium risk factors such as age > 70 years and overweight > 28 kg/m², could be modified and could rapidly indicate a postoperative delirium. We observed a significant correlation between the severity of delirium and used fentanyl doses.

9. POSTOPERATIVE PERIOD FEATURES FOR GYNECOLOGICAL PATIENTS WITH REGARD TO THE PAIN AND PATIENTS EMOTIONAL STATE

Agnė Gaidelytė, Dovilė Karoblytė

Department of Anaesthesiology, Lithuanian University of Health Sciences, Lithuania

Head of the Scientific work: Vilmeta Kačiuriniene, MD

Aim:

To assess how neuropathic pain, fatigue, hospital anxiety and depression affects gynecological patients first postoperative day.

Methods:

Prospective, observational study in Lithuanian Kaunas Clinics Gynecology department was done in 2010 January - February. The study included women who are covered by the general anesthesia, To evaluate pre-anaesthetic and post-anaesthetic state were used the original questionnaire, for neuropathic pain - Leeds neuropathic symptoms and signs pain scale (LANSS), fatigue - a standard fatigue questionnaire, to assess hospital anxiety and depression - a standard hospital anxiety and depression scale (HADS), all translated into Lithuanian language. Statistical analysis was performed using Microsoft Excel and SPSS Statistics 19.0 software: calculated the sample mean characteristics, non-parametric values used to calculate the chi-square (χ^2) criteria. The data were statistically reliable differences, if the significance level of $p < 0.05$.

Results:

150 women were interviewed, 97 of them completed the questionnaires and returned them. 52.8% of women felt pain during the survey, 28% of them felt, and neuropathic pain. Women over 50 years neuropathic pain feel 1.3 times often than youngers ($p = 0.028$). Women feeling neuropathic pain before anaesthesia, the first day after surgery feel more pain ($p = 0.048$) and the first night after surgery wake up more frequently ($p = 0.036$). Women with signs of neuropathic pain, felt the pain more than in one location ($p = 0.001$) and on the first day after surgery often feel obstipations or decreased appetite ($p = 0.027$). 27.6% of women with signs of neuropathic pain, and feeling tired. Women, who had fatigue and symptoms of neuropathic pain, in hospital feel anxiety and depression ($p = 0.046$). Women, who feel pain and depression during survey, in the hospital feel anxiety and depression ($p = 0.007$), first day after operation feel moderate or hard pain ($p = 0.03$), and the first postoperative night wake up 2.8 times often ($p = 0.019$). Women, who feel hospital anxiety and depression on the first day after surgery feeling moderate or hard pain ($p = 0.032$) and the first night after surgery wake up often ($p = 0.047$). There is no statistically reliable evidence that fatigue may affect the postoperative period.

Conclusions:

1. Women feeling for neuropathic pain, the first day after surgery feeling more pain, constipation or decreased appetite.
2. Hospital Anxiety and Depression increases the pain after surgery.
3. Fatigue does not affect the postoperative period.

10. SUDDEN CARDIAC ARREST – STILL TOPICAL, STILL UNSOLVED

Aurimas Peckauskas, Lina Staniukyniene

Cardiac intensive care unit, Lithuanian university of health sciences, Lithuania

Head of the scientific work: Linas Pieteris

Introduction:

Treatment of patients after sudden cardiac arrest (SCA) remains significant problem. SCA is leading cause of death in Europe, affecting ~700,000 individuals a year. Although very few patients survives after SCA most of them have complications such as postanoxic brain injury.

Aims:

1. Estimate survival time for patients who had sinus rhythm restored after cardiac arrest, but had neurological deficiency.
2. Estimate basic pathology which triggers cardiac arrest.

Methods

Retrospective trial took place in Coronary care unit of Kaunas Medical University Hospital. Records of 78 patients were analysed (35.9% women and 64.10% men). Patients were grouped in out-of-hospital (66) and in-hospital (12) event groups. Age ranged from 43 to 90 years. Average age was 67.46 (\pm 12.42). All patients had sinus rhythm restored after cardiac arrest, but had a neurological deficiency.

Results:

84.62 % of patients suffered out of hospital cardiac arrest. For 15.15 % of patients it was enough to make CPR less than 15 minutes, before revival of sinus rhythm; 59.09 % - needed 15 – 30 min. and 25.76 % patients had to be resuscitated more than 30 min. One third of patients – 30.77 % - did not survive 24 hours after out-of-hospital resumption of spontaneous circulation. Dominating basic pathology was acute myocardial infarction of anterior wall (48.49%). Most common neurological deficiency was post anoxic coma (87.88 %).

66.67% of patients in in-hospital cardiac arrest group were enough to resuscitate less than 15 min. and only 2 patients did not survive 24 hours after initial resuscitation.

Conclusions:

1. One third of patients, which had revival of sinus rhythm after cardiac arrest and had neurological deficiency, did not survive 24 hours after resuscitation.
2. Most common basic pathology, which caused cardiac arrest, was acute myocardial infarction with dominating anterior wall affaaction.

II. CARDIOLOGY SESSION

1. ANXIETY, DEPRESSED AFFECT, HOPELESSNESS AND THE QUALITY OF LIFE IN PATIENTS WITH STABLE ANGINA PECTORIS

Giedrė Čėsnaitytė, Simona Kušleikienė

Clinic of Cardiology, Medical Academy, Lithuanian University of Health Sciences

Leaders: prof. R. M. Babarskienė, assoc. prof. V. Adomaitienė

Aim:

The aim of this study was to evaluate the relation of depression, anxiety and hopelessness to organic cardiac pathology and quality of life in patients with stable angina pectoris (SAP).

Methods:

All the patients enrolled in the study underwent coronary angiography procedure and echocardiographic evaluation. Data regarding medical and family history was collected by an interview and obtained from each patient's medical records. Emotional status was evaluated using Beck Hopelessness Scale and HAD Scale for depression and anxiety. Health related quality of life was measured using SF-36 instrument. Results were statistically analyzed using SPSS 17.0. P values less than 0.05 were considered as statistically significant.

Results:

The study population consisted of 103 patients (mean age $64,4 \pm 8$ years, 65 male/ 38 female) referred to the Clinic of Cardiology for diagnostic coronary arteriography. In all patients presenting diagnosis was SAP. Emotional status evaluation revealed higher levels of hopelessness ($p < 0,001$), anxiety ($p = 0,003$) and depression ($p = 0,001$) in women than in men. Depression and hopelessness levels were also higher in patients with negative family history of coronary artery disease (CAD) ($p = 0,015$, $p = 0,002$) and in patients older than 65 years comparing with younger ones ($p = 0,023$, $p = 0,011$). Anxiety was more expressed in men diagnosed with occlusion of coronary arteries than in patients who had no coronary arteries stenoses ($p = 0,031$). In women group anxiety levels were higher in patients with no clinically significant coronary arteries stenoses ($p = 0,032$). Statistical T test analysis showed positive correlation of hopelessness to dyslipidemia ($p = 0,013$) and pain ($p = 0,041$), negative correlation to general health perceptions (GHP) ($p = 0,018$) and physical activity ($p = 0,030$). Pain was more expressed in women than in men ($p = 0,003$). Pain correlated positively with hopelessness ($p = 0,041$), anxiety ($p < 0,001$) and depression ($p = 0,008$) and demonstrated negative correlations to physical activity ($p = 0,001$), physical role functioning ($p < 0,001$), vitality ($p = 0,034$) and emotional role functioning ($p = 0,009$). GHP score was lower in patients with coronary artery stenosis $> 75\%$ ($p = 0,019$). Emotional role functioning score correlated negatively to LVEF $< 50\%$ ($p = 0,028$).

Conclusions:

1. Hopelessness and depression levels are higher in patients with longer SAP history, negative family history for CAD and in older individuals.
2. Anxiety, hopelessness and depression are more expressed in women than in men.
3. Anxiety is more expressed in women with no organic evidence of SAP and in men with higher level of coronary arteries stenosis.
4. Pain is associated with worse physical and mental health and is more expressed in women.

2. FEATURES OF INFECTIVE ENDOCARDITIS IN RELATION TO AGE IN SURGICALLY TREATED PATIENTS

Irina Alitoit

Vilnius University Hospital Santariškių Klinikos, Lithuania

Head of the Scientific work: Assoc. Prof. Pranas Šerpytis, MD. Palmyra Semėnienė, MD

Introduction:

Epidemiologic characteristics of infective endocarditis have changed significantly in past decades. Despite the progress in diagnosis and treatment, mortality rates remain high.

Aim:

To evaluate an impact of age on etiological, clinical, microbiological profile of infective endocarditis in surgically treated patients.

Methods:

Retrospective analysis of 101, older than 22 years, patients, with Duke criteria based diagnosis, surgically treated during the period of 2007-2009 years in Vilnius University Hospital Santariškių Klinikos, was made. Clinical, microbiological, laboratory variables, transthoracic/transesophageal echocardiographic findings, surgery reports, presented in health histories and electronic health histories, analysed. Patients were defined into three different age groups: I group consisted of 22-39 years old patients, II group – 40-59 years, III group – older than 60 years. Data analysis performed using statistical package SPSS 17.0. Student t-test analyses of variance and chi-square test were used for continuous and categorical variables respectively. Fisher's exact test (two-tailed) was used if the expected count in any cell was less than 5. $p < 0,05$ was considered as statistically significant.

Results:

There were 73 (72,3%) men and 28 (27,7%) women among 101 participants with a mean age - $55,82 \pm 14,9$ years. 20 (19,8%) patients constituted the I group, 32 (31,7%) – II group, 49 (48,5%) – III group. In I group tricuspid valve was usually affected – 8 (40,0%) cases, in II group - aortic valve – 18 (56,3%) cases, in III group - mitral valve – 19 (38,8%) cases; $p < 0,001$. Intravenous drug abuse was the main etiological factor in I group – 8 (40,0%) cases; $p < 0,001$. No significant etiological factors were found in II group. 11 patients (10,9%) suffered from rheumatic heart disease, 10 (90,9%) of them were III group patients; $p = 0,011$. The main causative microorganisms in I group were *Staphylococcus aureus* or *Staphylococcus coagulase negative*, found in 11 (64,7%), comparing to II group – 5 (17,9%) and III group – 10 (25,0%); $p = 0,002$. NYHA IV congestive heart failure set in 22 (48,9%) cases in III group; $p = 0,037$. Sepsis was more frequently diagnosed among the patients of III group – 26 (53,1%) cases; $p = 0,043$. Septic pneumonia evaluated barely among the patients of I group – 7 (35,0%); $p < 0,001$. Affected heart valve prosthesis implantation was made in 98 (97,0%) cases. Biological valve was the most frequently implanted heart valve in I group – 9 (45,0%) cases; $p = 0,010$. An overall in-hospital mortality rate was 14,9% (15 cases), respectively 1 (5,0%) in I group, 1 (3,1%) in II group, 13 (26,5) in III group; $p = 0,006$.

Conclusion:

Young patients more often used intravenous drugs, were infected with staphylococcal microflora, suffered from tricuspid valve infective endocarditis, complicating with septic pneumonia usually. Older patients were more often diagnosed with rheumatic heart disease, mitral valve infective endocarditis, usually complicating with NYHA IV congestive heart failure or sepsis. These might be the causes of higher in-hospital mortality rates.

3. GLOBAL MYOCARDIAL DEFORMATION RATES VALUE IN THE DIAGNOSIS OF MYOCARDIAL ISCHEMIA IN STRESS ECHOCARDIOGRAPHY

Laura Ciparytė

Vilnius University, faculty of medicine, Lithuania

Head of the scientific work: doctor Jelena Čelutkienė

Aim:

To investigate a global value of myocardial deformation rates in the diagnosis of myocardial ischemia during stress echocardiography.

Methods:

There were 104 patients analyzed retrospectively in Vilnius University Hospital Santariškių Clinics. The investigated patients who were underwent dobutamine stress echocardiography, coronarography, without previous MI, with normal left ventricular (LV) ejection fraction ($\geq 50\%$), without significant LV hypertrophy. In the study used a special software Echopac (GE Healthcare), which allowed to use the speckle tracking imaging method. Four, three and two cameras standart apical images were chosen. Global longitudinal systolic strain (SS), post – systolic strain (PSS), systolic strain rate (SSR) and post – systolic strain rate (PSSR) at rest and during stress were obtained. Global myocardial deformation parameters dependence on sex, age, coronarography and dobutamine test results, body mass index (BMI), probability of coronary heart disease was checked. Statistical data was processed using SPSS 14.0 program.

Results:

Analyzed 104 patients - 41 women (39,4%) and 63 men (60,6%), age $61,4 \pm 8,9$. Positive dobutamine test was for 71 (68,3%), negative – for 33 (31,7%) patients. Considerable stenoses had 51 (49%) and 53 (51%) patients were found normal coronary arteries or stenosis $< 50\%$. Changes of quantitative parameters during the moment of work load: SS - $1,51 \pm 3,81$ ($p < 0,001$), PSS $1,45 \pm 6,26$ ($p = 0,028$), SSR $0,64 \pm 0,50$ ($p < 0,001$), PSSR $0,12 \pm 0,20$ ($p < 0,001$). Women myocardial strain and strain rate are higher than men: rest PSS $-15,02 \pm 4,67$ ($p = 0,024$), stress PSSR $-0,29 \pm 0,20$ ($p = 0,019$), but was not found a reliable relation between sex and coronarography test results ($p = 0,213$). During stress SSR rate significantly lower for patients with stenosis over 50%: with stenosis (47) – $1,48 \pm 0,48$, without stenosis (49) – $1,71 \pm 0,54$ ($p = 0,028$). Significantly correlate probability of coronary heart disease with coronarography, but not with

dobutamine test results. Patients with significant stenosis: low – 4 (3,8%), intermediate – 23 (22,1%), high 24 (23,1%). Without significant stenosis: low – 17 (16,3%), intermediate – 27 (26,0%), high 9 (8,7%), $p=0,001$. We observed a positive correlation between BMI and strain rates. Rest SS ($p=0,011$, $r=0,253$), PSSR ($p=0,029$, $r=0,218$) during stress: SS ($p=0,001$, $r=0,323$), SSR ($p=0,002$, $r=0,306$), PSSR ($p=0,002$, $r=-0,316$). ROC analysis has shown that out of 8 parameters only one was eligible (area under ROC curve (AUC) significantly differed from 0,5). It was SSR at stress (0,629, $p=0,032$).

Conclusion:

In this study had not been found reliable difference between myocardial deformation rates and dobutamine test groups, but the deformation rate – systolic strain rate (SSR) reliably predicted coronary artery stenosis. During exercise was noticed that myocardial strain was decreased, and women post – systolic strain rate was higher than men. Significantly relation between probability of coronary heart disease and coronarography were observed. It was found statistically significant positive correlation between body mass index and deformation characteristics: increasing body mass index, strain rates are increased also.

4. PATIENTS WITH PNEUMONIA IN CARDIAC INTENSIVE CARE UNIT

Žilvinas Vaičiulis

*Cardiac Intensive Care Unit, Kaunas Clinical Hospital of
Lithuanian University of Health Sciences, Lithuania*

Head of the Scientific work: Prof. Dalia Adukauskienė, Dr. Andrius Macas, Dr. Giedrė Bakšytė

Aim:

The aim of this study was to evaluate the type of prevailing pneumonia, mortality and the influence to survival of effective empirical antimicrobial treatment and the usage of mechanical ventilation.

Methods:

We have made retrospective analysis of 64 patients who were admitted to Cardiac Intensive Care Unit (CICU) in Kaunas Clinical Hospital of Lithuanian University of Health Sciences between years 2005 and 2010 and who had complication – pneumonia. Patients were grouped by the type of pneumonia: 1) community-acquired pneumonia (occurring within 48 hours of hospital admission), 2) early-onset nosocomial pneumonia (occurring within 96 hours of hospital admission) and 3) late-onset nosocomial pneumonia (occurring after 96 hours of hospital admission). The empirical antimicrobial treatment was effective if patient's state improved clinically within 48 hours from the start of said treatment.

Results:

Patients mean of age was $63,8 \pm 2,5$ years. 30 (47,6%) patients were admitted to CICU with acute myocardial infarction (AMI), 6 (9,5%) patients with cardiomyopathy, 3 (4,8%) patients with ischaemic heart disease and 17 (38,1%) patients with other diseases. Community-acquired pneumonia was diagnosed in 34 (55,7%) patients, early-onset nosocomial pneumonia – in 12 (19,7%) and late-onset nosocomial pneumonia – in 15 (24,6%) patients. 34 (54,8%) patients have died. Empirical antimicrobial treatment was effective in 22 (36,1%) cases. When empirical antimicrobial treatment was effective 68,2% ($n=15$) patients survived and only 30,8% ($n=12$) survived if empirical antimicrobial treatment was ineffective ($p=0,007$). When mechanical ventilation was used only 34,7% ($n=17$) patients survived, compared to 84,6% ($n=11$) patients that survived if mechanical ventilation was not needed ($p=0,002$).

Conclusions:

Almost half of the patients that contracted pneumonia were admitted to CICU because of AMI. Community-acquired pneumonia was the most prevalent. Half of the patients that were admitted to the CICU and had contracted pneumonia died. Empirical antimicrobial treatment was effective in one third of the patients. The survival was superior of those patients whose empirical antimicrobial treatment was effective and when mechanical ventilation was not needed.

5. POST OPERATIVE RESULTS IN PATIENT WITH SIGNIFICANT AORTIC STENOSIS AND LEFT VENTRICLE DYSFUNCTION

Jūratė Jurkutė, Florina Puzemskaja

LSMU Cardiology Clinic

Head of scientific work: doc. R.Jonkaitienė, doc. Š.Kinduris

Introduction:

Significant aortic stenosis(AS) carries a poor one year prognosis when associated with left ventricle (LV) disfunction.

Aim:

The aim is to analyse patients (pt) with AS and LV disfunction (ejection fraction (EF) $\leq 35\%$), post operative results (in 30 days), after aortic valve (AV) replacement and combined (aortic valve replacement and aortocoronary shunting) operations.

Methods:

Analysed case histories of 53 pt who had AS and LV disfunction and since 2004-2010 were operated in LSMU Heart center. Evaluated diastolic LV diameter (LVDd), miocard mass index (MMI), velocity through the AV, EF, pre-operative and post-operative complications (C) and risk factors: atrium fibrillation (AF), hemodynamic significant coronary artery (CA) stenosis (at least one CA stenosis $>50\%$) heart failure functional class (f.cl.) according to New York Heart Association (NYHA). There are 4 groups of pt according to LVDd and IF: I group (gr.) –LVDd ≤ 55 mm, EF 10-20%, II gr. –LVDd > 55 mm, EF 10-20%, III gr. –LVDd ≤ 55 mm, EF 20-35 %, IV gr. –LVDd > 55 mm, EF 20-35%. SPSS/w 13.0 programs were used for statistical analysis. Statistical significant value choosed - $P<0.05$.

Results:

There were operated 15 men (age $73,5 \pm 1,8$) and 38 women (age $68,8 \pm 1,2$). In I gr. were 9 pt (17%), in II gr. – 14 pt (26,4%), in III gr. – 12 pt (22,6%) and in IV gr. – 18 pt (34%). Degenerative AS was identified in 79,2 % of analysed pt, 20,8 % of AS was calcinosis of congenital bicuspid AV. According to heart failure NYHA f.cl. pt arranged I f.cl. – 0%, II f.cl. – 18,9%, III f.cl. – 67,9%, IV f.cl. – 13,2%. At least one hemodynamic significant CA stenosis was 21 (39,6 %) pt, for them combined operation (CO) was made. 12 (22,6%) pt had AF before operation. Biological valve replacement was made for 38 pt (71,7%), mechanical valve replacement for 15 pt (28,3%).

Compared 2 D echocardiography data before and after operation: velocity through the AV (m/s) decreased: I gr. $2,0 \pm 0,21$, II gr. $1,96 \pm 0,2$, III gr. $1,86 \pm 0,23$, IV gr. $1,61 \pm 0,15$ ($p < 0,05$), MMI (g/m²) decreased: I gr. $25,18 \pm 11,39$ ($p > 0,05$), II gr. $19,57 \pm 5,17$, III gr. $17,50 \pm 5,40$ and IV gr. $33,75 \pm 7,01$ ($p < 0,05$); EF (%) rised: I gr. $19,63 \pm 2,78$, II gr. $8,58 \pm 1,86$ and III gr. $12 \pm 2,58$ ($p < 0,05$), IV gr. $5,0 \pm 3,0$ ($p > 0,05$), 35 (76,1%) of pt EF rised $> 10\%$ ($p < 0,05$); LVDd (mm) decreased: II gr. $9,2 \pm 2,45$ and IV gr. $6,6 \pm 1,12$ ($p < 0,05$), I gr. $2,38 \pm 3,18$ and III gr. $3,1 \pm 1,72$ ($p > 0,05$).

Post operative C were estimated in 20 (37,7%) pt: cardiogenic shock– 9, bleeding – 4, rhytm and conduction disorders – 8, neurological C– 3. Before operation (AF) had 7 pt ($p>0,05$), after CO 13 pt had C ($p=0,003$). After operation died 6 (11,3 %) pt. 5 of them was made CO ($p=0,02$). In II NYHA f.cl. nobody died, 3 (8,3 %) pt of 36 III NYHA f.cl. died, 4 (75 %) pt of IV NYHA f.cl. died ($p=0,014$).

Conclusion:

Evaluated poor prognosis of significant aortic stenosis associated with left ventricle disfunction, post operative results are good. After operation statisticly significant decreased velocity through AV, MMI, LVDd for patients in II and IV gr., EF rised $>10\%$ in 76,1 % of patients. More often complications are after combined operation. Post operative mortality was 11,3 %. It was influenced by need of combined operation and IV NYHA f.cl. heart failure. Atrium fibrillation had no significant influence on complications.

6. PULMONARY EMBOLISM: DIAGNOSIS, TREATMENT AND OUTCOMES

*Žilvinas Vaičiulis, Radiologic Clinic, Kaunas Clinical Hospital of
Lithuanian University of Health Sciences, Lithuania
Head of the Scientific work: Dr. Antanas Jankauskas, Marija Šimukonienė*

Multidetector computed tomographic angiography (MDCTA) is highly sensitive and specific method for pulmonary embolism (PE) imaging. MDCTA is considered as initial radiologic examination in case of suspected PE in many hospitals. MDCTA helps not only in diagnosing PE but also to evaluate severity of PE and other findings in thorax. These features provide possibility to choose appropriate treatment strategy.

Aim:

To evaluate laboratorial findings and instrumental examination results, treatment and outcomes of patients with suspected pulmonary embolism treated in Kaunas Clinical Hospital of Lithuanian University of Health Sciences.

Methods:

The study was conducted in Kaunas Clinical Hospital of Lithuanian University of Health Sciences, Lithuania. The data of patients who had underwent MDCTA because of suspected PE between January, 2008 and August, 2010 was retrospectively studied. Only patients who presented signs of thrombus in pulmonary arteries during MDCTA were diagnosed with PE. Data was evaluated using IBM SPSS Statistics 19. A value of p less than 0.05 was considered statistically significant.

Results:

Pulmonary embolism was diagnosed in 123 patients (41 percent) of 300 who underwent MDCTA. Statistically significant differences between patients without PE and patients with diagnosed PE were observed of the end-diastolic volume of right ventricle (respectively $36,0 \pm 0,7$ mm and $39,1 \pm 0,9$ mm ($p=0.004$)) and D-dimer concentration (respectively $3,6 \pm 0,8$ mg/l and $7,3 \pm 1,1$ mg/l ($p=0.007$)). The treatment was different for patients with verified PE compared to patients without PE ($p=0.000$). 112 patients (63,3 percent) without PE received only oxygen through nasal cannula or no treatment, compared to 13 patients (10,9 percent) with verified PE. 65 patients (36, 7 percent) received heparin and/or vitamin K antagonists, compared to 104 patients (87,4 percent) with verified PE. Any patients without PE underwent thrombolysis, compared to 2 patients (1,7 percent) with verified PE. Mortality rate was higher in group of patients who received thrombolysis compared to patients who did not receive thrombolysis ($p=0,047$). D-dimer concentration was higher in patients who died compared to patients who survived (respectively $16,6 \pm 6,0$ and $4,6 \pm 0,6$ mg/l ($p=0.002$)).

Conclusions:

PE was diagnosed in nearly half of the patients who presented signs of PE and underwent MDCTA to confirm the diagnosis. For patients without PE oxygen through nasal cannula was usually chosen treatment. Patients with verified PE received heparin and/or vitamin K antagonists and thrombolysis more often. Higher D-dimer concentration was suggestive of higher risk of negative outcome.

7. THE ASSOCIATIONS BETWEEN ENVIRONMENTAL FACTORS AND ACUTE MYOCARDIAL INFARCTION AND STROKE

*Ieva Malinauskaitė, Jūratė Jurkutė
Cardiology Clinic, Lithuanian University of Health Sciences, Lithuania
Head of Scientific work: professor Rimvydas Šlapikas*

Aim:

To evaluate the acute myocardial infarction and stroke risk associations with weekdays and weekends, seasons, meteorological and heliophysical factors.

Methods:

The study comprised 1115 patients with acute myocardial infarction (AMI) and 801 patients with stroke hospitalized in Lithuanian University of Health Sciences Cardiology and Neurology Clinics. *National Geophysical Data Centre* (NGDC) data was used to evaluate Solar activity, Geomagnetic activity and cosmic radiation activity. Kaunas Meteorological station data was used to evaluate meteorological conditions. SPSS 13.0 for Windows was used in the statistical analysis. T-test for comparison of means, Poisson regression analysis were applied. The associations between investigated variables and AMI and stroke were evaluated in relative risks and *their 95% CI*, $p < 0.05$ was considered statistically significant.

Results:

Data of 705 (63.2%) men, 410 (36.8%) women with AMI (mean age 66.0 ± 12.1 years) and 403 (50.9%) men, 398 (49.1%) women with stroke (mean age 65.3 ± 13.3 years) were analyzed. In Poisson regression model, AMI risk was 1.71 times higher on weekdays than on weekends ($RR = 1.71$, 95% CI 1.47-1.99). Stroke risk was 1.35 times higher on weekdays than weekends ($RR = 1.35$, 95% CI 1.12-1.62). The mean of hospitalized patients with AMI per day in June and July was 2.40 ± 0.18 , in other months 3.18 ± 0.18 , $p = 0.004$. The mean of hospitalized patients with stroke per day in June and July was 2.02 ± 0.18 , in other months 2.23 ± 0.09 . Stroke seasonal frequency variation was not statistically significant. When a day before hospitalization wind speed was ≤ 1.3 m/s, AMI mean was 3.06 ± 0.179 . When wind speed was from 1.3 m/s to 2.7 m/s, AMI mean was 2.95 ± 0.17 . When wind speed was ≥ 2.7 m/s, AMI mean was 3.17 ± 0.19 . Wind speed one day before hospitalization influenced the mean of the number of hospitalizations with AMI. When wind speed increased 1 m/s, AMI relative risk increased by 6%, ($RR = 1.06$, 95% CI 1.02-1.09). When atmosphere pressure a day before hospitalization was lower than 995 mmHg, AMI relative risk $RR = 1.23$, 95% CI 1.08-1.41. When relative humidity a day before hospitalization was lower than 88%, AMI relative risk $RR = 1.18$, 95% CI 1.03-1.34. The frequency of AMI increased when a day before there was low atmosphere pressure and dry weather. When geomagnetic index $A_p \geq 16$, AMI and stroke means were higher than when $A_p < 16$. When $A_p \geq 16$, stroke standardized risk $RR = 1.16$, 95% CI 0.87-1.53. When geomagnetic activity was low ($A_p < 4$) and cosmic ray activity was high (≥ 9500 imp/min), AMI mean was 3.7. When geomagnetic activity was low ($A_p < 4$) and cosmic radiation activity was lower than 9500 imp/min, AMI mean was 2.88, $p < 0.05$. When geomagnetic activity was high ($A_p \geq 16$) or geomagnetic activity was low together with high cosmic radiation activity, AMI standardized risk $RR = 1.19$, 95% CI 1.01-1.40.

Conclusions:

1. AMI and stroke relative risk was significantly higher on weekdays than on weekends.
2. In summer AMI frequency was lower than in other seasons.
3. There were tendencies for stroke risk to be higher when geomagnetic activity was high.
4. AMI risk was associated with wind speed, atmosphere pressure, relative humidity, geomagnetic activity and cosmic radiation activity.

8. THE EFFECT OF CARDIAC RESYNCHRONIZATION THERAPY ON THE LEFT VENTRICULAR FUNCTION: EVALUATION OF ELECTROCARDIOGRAPHIC AND ECHOCARDIOGRAPHIC CHANGES

Ieva Zasytyte, Dovile Jonaityte, Vilnius University Hospital Santariskiu Clinics,
Cardiology Department, Vilnius University
Head of the Scientific Work: prof. Germanas Marinskis; Vyte Maneikiene, MD

Aim:

To evaluate the effect of cardiac resynchronization therapy on the left ventricular function by analyzing changes in the left ventricular ejection fraction (LVEF) and the QRS complex width.

Materials and methods:

A retrospective study was held at the Vilnius University Hospital Santariskiu clinics. We analyzed 55 patients (18 women, 37 men, age 61.5 ± 14.5 years) who had biventricular pacing system implantation due to II-IV NYHA heart failure in the period of 2002-06-14 – 2010-10-06. The primary implantation was performed on 45 patients, system upgrade – for 10. We analyzed the data of electrocardiograms and heart ultrasound before and after the implantation (the QRS width, the LVEF and the clinical status). Microsoft Excel and STATISTICA software was used for data processing and statistical analysis. The Student t-test was used to evaluate the difference between continuous variables in the two groups. The Pearson correlation coefficient was used to measure the correlation between the changes of the QRS width and the LVEF. $p < 0.05$ was considered statistically significant.

Results:

The QRS width average before implantation was 185 ± 26 ms, after – 152 ± 19 ms ($p < 0.05$). The QRS width decreased by mean value of 31 ± 22 ms ($p < 0.05$). The QRS width remained the same in 4 patients. The LVEF mean value before implantation was $26 \pm 10\%$, after – $31 \pm 9\%$ ($p < 0.05$). On average the LVEF after the implantation increased by $6 \pm 10\%$ ($p < 0.05$). Changes in the QRS width correlated with the LVEF changes ($r = -0.276$, $p = 0.048$). The broader QRS complexes were before treatment, more significantly, they shortened after implantation of the resynchronization system ($r = -0.52$, $p = 0.00078$). The clinical status (followed from 3 to 76 months after treatment) of 23 (42%) patients improved, 21 (38%) remained stable, 3 (5%) worsened, 8 (15%) patients died.

Conclusions:

Cardiac resynchronization therapy statistically significantly improves the clinical status in patients with systolic heart failure. Shortening of the QRS complex correlates with improvement of the left ventricular function.

III. INTERNAL MEDICINE SESSION

1. CONTINUOUS SUBCUTANEOUS INSULIN INFUSIONS VERSUS MULTIPLE INSULIN INJECTIONS FOR YOUTH WITH TYPE I DIABETES MELLITUS

Rokas Laurinaitis, Aistė Kurpiūtė, Silvijus Abramavičius

Endocrinology department, Lithuanian Health Science University, Lithuania

Head of the Scientific work: Dr. E. Danytė

Intensive type I diabetes mellitus management can be achieved either with the use of continuous subcutaneous insulin infusions (CSII) or with multiple insulin injections. The goals of diabetes mellitus type I management are to achieve nearly normal glycaemia, to avoid short-term crises, to minimize longterm complications and to improve the quality and length of life in persons suffering from diabetes. So the question, which of the mentioned methods is the best, should be answered.

Aim:

The main purpose is to compare continuous subcutaneous insulin infusions (CSII) with multiple insulin injections in psychological and Physiological aspects.

Methods:

The standartized DTSQ (Diabetes treatment satisfaction questionnaire) was used for the research. It was filled in with some extra questions about Physiological factors. There were 27 questions in the final questionnaire. Permission to do a reasearch was received from the bioethics centre (Be-MF-168).

Questionnaire was filled in by 109 respondents, who were 16-26 years old people with type I diabetes mellitus. Data were analysed with statistics packet SPSS 17.0

Results:

109 cases of type 1 DM were investigated. Subject average age was 19.89 yrs. 52 Subjects used CSII to treat type 1 DM and 57 subjects used MDI, who have had type 1 DM for 8.23 yrs on average. Conducted callculations revealed mean HbA1c of 7.88% in the MDI group and mean HbA1c of 8.73% in the CSII group, applied Mann-Whitney test (U test) showed, that the difference between the two groups was statistically significant ($p=0.002$). Average insulin amount used (UA/kg per day) was 0.81 in the MDI group and 0.79 in the CSII group. According to the applied U test, the later difference was statistically insignificant ($p=0.618$). Quality of life was measured in scale graded 1 to 6, ("1" meaning the worst, and "6" meaning the best quality) using DTSQ (Diabetes treatment satisfaction questionnaire by Clare Bradley). Quality of life was compared between the two groups. Results showed that quality of life in CSII group was slightly better (mean 4.03; standart deviation 1.025) then in the MDI group (mean 3.83; standart deviation 1.083). ($p=0.112$)

Conclusions:

1. HbA1c was statistically significantly lower in the MDI group then in the CSII group.
2. Quality of life was statistically insignificantly greater in the CSII group, then in the MDI goup.
3. Insulin amount used (UA/kg per day) was statistically insignificantly greater in MDI group compared to CSII group

2. DETERMINING RESISTANCE LEVEL OF *KLEBSIELLA PNEUMONIAE* STRAINS, PRODUCING β -LACTAMS OF EXTENDED SPECTRUM, FOR NON- β -LACTAM ANTIBIOTICS

Greta Žindžiūtė

Labaratory medicine clinic, LSMU, Lithuania

Head of the Scientific work: PhD A.Vitkauskienė, MD A. Dambrauskienė

Currently concerning problem is increasing resistance of *Klebsiella pneumoniae* (*K. pneumoniae*) for antibiotics which is caused by the synthesis of extended spectrum β -lactams (ESBL). ESBL hydrolyzes most β -lactam antibiotics (penicillins, cephalosporins and monobactams).

Aim:

Determine the resistance level of *K. pneumoniae* strains, producing ESBL, for ertapenem, amikacin and ciprofloxacin and evaluate their correlation.

Methodology:

K. pneumoniae strains, producing ESBL, were analyzed. The strains were taken from secretion from lower respiratory tract of the patients treated in Kaunas Clinics during 2009-2010 year. The ESBL synthesis of strains was confirmed by E-test method, using strips of ceftazidime (TZ) – ceftazidime plus clavulanic acid (TZL) and cefotaxime (CT) – cefotaxime plus clavulanic acid, according manufacturers' directions. Resistance level for ertapenem, amikacin and ciprofloxacin were evaluated by determining minimum inhibitory concentration (MIC). Resistance for antibiotics was determined according breakpoints recommended by CLSI (Clinical and Laboratory Standards Institute). For statistical analysis statistical package SPSS 15.0 was used. Data were considered statistically significant if value $p < 0.05$.

Results:

During 2009 and 2010 years 124 *K. pneumoniae* strains, producing ESBL, were analysed and their resistance to non- β -lactam antibiotics were determined. The results showed: 4 strains (3.2%) are resistant to ertapenem, 11 strains (8.9%) are intermediately sensitive, 109 strains (87.9%) are sensitive to ertapenem, 2 strains (1.6%) are resistant to amikacin, 122 strains (98.4%) are sensitive for it, 61 strains (49.2%) are resistant to ciprofloxacin, 63 strains (50.8%) are sensitive to ciprofloxacin. Most repetitive value of MIC: ertapenem – 0,094 $\mu\text{g/ml}$, amikacin – 16 $\mu\text{g/ml}$, ciprofloxacin – 3 $\mu\text{g/ml}$. The *K. pneumoniae* strains which were sensitive to amikacin also were more frequently sensitive to ertapenem: 87.9%. ($n = 109$, $p < 0.001$).

Conclusions:

K. pneumoniae strains, producing ESBL, were more resistant for ciprofloxacin. Sensitivity of *K. pneumoniae* strains to amikacin and ertapenem correlates, thus for treating infections caused by *K. pneumoniae* strains, producing ESBL, these two antibiotics are recommended.

3. DIAGNOSTIC VALUE OF THE ULTRASOUND IN PROGNOSING UTERINE CAVITY PATHOLOGY IN PERIMENOPAUSAL AND POSTMENOPAUSAL WOMEN

Skaistė Jankauskienė, Tautvydas Jankauskas, Alina Tvarušytė

Department of Obstetrics and Gynecology,

Medical Academy, Lithuanian University of Health Sciences

Head of the Scientific work: Dr. E.Tvarijonavičienė

Aim:

To determine the diagnostic value of the ultrasound in diagnosing uterine cavity pathology in perimenopausal and postmenopausal women.

Methods:

Two hundred fifteen cases from MA LUHS Gynecology and Obstetrics department were enrolled in this retrospective study. Diagnostic hysteroscopies and abnormal uterine biopsy analysis for all patients were performed from 2010 January to June. The youngest women were 45 years old. The ultrasound was performed transvaginally to detect abnormalities in uterine cavity and muscles by various specialists in gynecology and obstetrics unit and consulting department. All specialists used conventional 2 dimensional grey scale UG. The clinical diagnosis was formulated according to the hysteroscopy and histological findings. The statistical analysis considered sensitivity, specificity, positive diagnostic likelihood ratio and negative diagnostic likelihood ratio (TS + and TS-). Calculations were carried out and processed by using Spss.17.0.

Results:

The mean age of women was 56.5 (11.9) years old. Among this women 83.3% had various complaints. The most common complaints were: irregular bleeding and pain in lower abdomen.

Ultrasound results showed: endometrial hyperplasia was suspected in 51% of cases, endometrial polyp – 35.3 %, mucometra - 7.1 %, endometrial cancer – 9%, uterine myoma- 7.8%, submucous myoma – 2%. Abnormalities found during hysteroscopy were: 43.5% of women had intrauterine polyps, 34.1% - thick endometrium, 12.9% - atrophy, 4,3% -submucous myomas and 2% had Asherman's syndrome.

The most endometrial biopsy findings were: polyp - 42% of cases, various endometrial abnormalities associated with the menstrual cycle – 31,4 %, atrophy - 15.7%, endometrial cancer - 8.6%, endometrial hyperplasia - 4.7% and myomas were found in 0.4% of cases.

UG diagnostic value and accuracy in determining uterine cavity pathology showed:

1. uterine polyp a sensitivity of 62.5%, a specificity of 74%, the likelihood ratios for uterine polyp were: TS+ = 2.43 and TS- = 0.57.
2. endometrial hyperplasia a sensitivity of 83.3%, a specificity of 36.7%, TS + 1.32 and TS-0.45.
3. endometrial cancer - sensitivity of 36.4%, a specificity of 91.5%, TS + 4.29 and TS-0.69.
4. submucous myoma – sensitivity of 3.7%, a specificity of 98.9%, TS + 3.47 and TS - 0.97.
5. endometrial atrophy - sensitivity of 21.6%, a specificity of 93.9%. TS + 3.55 and TS -0.84.

Conclusion:

1. Ultrasound showed that endometrial hyperplasia and polyps were the most common pathological findings.
2. This study concluded that conventional 2 dimensional grey scale UG had low diagnostic value in predicting uterine cavity pathology in this investigated patient group.

4. FEATURES OF OVARIAN HYPERSTIMULATION SYNDROME TREATED IN LSMU KK GYNECOLOGY DEPARTMENT DURING 2000 - 2010 YEARS

*Alina Tvarušytė, Skaistė Jankauskienė, Tautvydas Jankauskas
Department of Obstetrics and Gynecology, Medical Academy,
Lithuanian University of Health Sciences
Head of the Scientific work: Dr. E.Tvarijonavičienė*

Aim:

To analyze backgrounds and characteristics of ovarian hyperstimulation syndrome(OHSS) and to examine the expression of clinical features and principles of treatment and outcomes of OHSS.

Methods:

The retrospective survey of women with OHSS, treated in LSMU KK Gynecology department in 2000-2010, medical records and questionnaires were analyzed. Calculations were carried out and processed by using Spss.17.0. Statistical significance was set at a P value of ≤ 0.05 and r(Spearman correlation) value [-1;1].

Results:

Results of analysis revealed that in 2000-2010 in Gynaecology department 26 patients were treated (one patient treated twice). The mean age of women was 30.7 (4.4) years old. The average duration of infertility was 3.7 (1.7) years. More than a half of patients (59.3 %) were treated for primary infertility. The most frequently indicated causes were: ovulatory disorder - 8 cases, sperm pathology -1, pathology of the fallopian tubes - 3, severe endometriosis - 4, unknown origin - 9, the reasons remain unknown in 1 case. 11 women had polycystic ovary syndrome. OHSS has developed in 7 cases after ovulation stimulation with antagonist protocol, 3 - after a long agonist administration, 3 - after short agonist protocol, 2 - after a combined antiestrogens (CA) and gonadotropins (GN), 1 - after the CC, 1 - GN-administration, 10 cases were unknown protocol. 5 of OHSS were diagnosed as mild, 10 – average, 11 - severe, 1 - critical. Severity of OHSS and the sort of stimulation protocol were independent manners ($P = 0.2$). After ovarian stimulation IUI was performed for 5 women and IVF was performed in 19 cases. Women with OHSS indicated the following complaints: abdominal discomfort, abdominal volume increase, weight gain, nausea, vomiting. Decreased urination, ascites and hypoproteinemia were also diagn. The main treatment method was infusion of crystalloids, albumins and anticoagulants. Ascites puncture was carried out in 11 cases, pleural puncture in 2 cases and hemodialysis one case. The invasive procedures were performed more frequently in women with severe OHSS ($P < 0.00$). After OHSS treatment intrauterine pregnancy developed successfully in 9 women. Multiple pregnancies were in 3 cases. Major complications of pregnancy were: gestational diabetes, preeclampsia, liver dysfunction /cholestasis. 3 women gave birth in natural way and 5 caesarean section were performed, 1-pregnancy still continues. The average duration of pregnancy was 34 (1,5) weeks. Women gave a birth on average 34(1.5) week. The average weight of babies was 2895g (408,6).

Conclusion:

1. OHSS was developed because of use of various ovarian stimulation medication and developed more frequently in patients, who were prepared for assisted reproduction methods.
2. To correct vital function more invasive procedures were performed for women with severe OHSS
3. In 1/3 part of cases women successfully developed intrauterine pregnancy.
4. Women after OHSS treatment more often gave premature birth.

5. INTERRELATIONSHIP AMONG SECOND TO FOURTH (2D:4D) DIGIT RATIO AND OTHER ANTROPOMETRIC INDICES (CORRELATION ANALYSIS)

Aušra Tomkutė

Department of Anatomy, Histology and anthropology,

Faculty of Medicine, Vilnius University, Lithuania

Head of the Scientific work: prof. J. Tutkuvienė

Aim:

To investigate the 2nd to 4th digit length ratio (marker of prenatal sex hormones level), to determine its relationship with the main indices of body size of Lithuanian youth.

Material and methods:

A cross-sectional study was carried out in Vilnius city in 2011: in total 29 (14 girls, 15 boys) were investigated. The following indices of size and proportion (hand, body); dynamometry of the hands were investigated: BMI, height, waist-shoulder and waist-hip ratio; 2nd, 4th finger length, 2nd to 4th digit and metacarpus ratio, strength of grip). Analysis of Pearson's correlation ratio of these indices was carried out.

Results:

1. The average of digit length: girls 2nd digit– 6,95cm(SD=0,34), 4th digit– 6,97cm(SD=0,49); boys 2nd – 7,52 cm (SD=0,47), 4th – 7,69(SD=0,51). The length of digits of girls and boys differs statistically significant, $p < 0,001$.
2. The strength of hand: girls-27,29(SD=5,85); boys- 46,93(SD=8,75), the difference is statistically significant $p < 0,001$.
3. 2D:4D digit ratio of girls correlates with height($r=0,02$), BMI ($r=0,05$), waist-hip ratio ($r=0,24$), strength of grip ($r = -0,07$).
4. 2D:4D digit ratio of boys correlates with height($r=-0,28$), BMI ($r=-0,25$), waist-hip ratio ($r=0,24$), strength of grip ($r=-0,02$).
5. The correlation among 2D:4D metacarpus ratio and strength of grip is strong: girls $r=0,49$, boys $r=-0,45$.

Conclusion:

1. Digits of girls are statistically significant shorter.
2. Recent research data shows that low 2D:4D digit length ratio is a marker of high prenatal testosterone. Our research has confirmed this statement. 2D:4D ratio of boys negatively correlates with height and BMI – these indices show higher androgenisation level. However this 2D:4D ratio positively correlates with waist-hip ratio, which means higher predisposition to body fat (more characteristic to women). 2D:4D digit length ratio of girls positively correlates with waist-hip ratio, but not with height and BMI.
3. There is no correlation between 2D:4D digit length ratio and strength of grip, but we identified strong correlation among length and ratio of metacarpus and strength of grip (girls negative, boys - positive).

6. MAXIMUM COLOUR CONTRAST SENSITIVITY TEST USING FOR COLOUR DISCRIMINATION IN CASE OF AGE-RELATED MACULAR DEGENERATION

Dzastina Sarkunaite, Laura Lisauskaite

Lithuanian University of Health Sciences, Lithuania

Head of the Scientific work: Doctoral student Rasa Liutkeviciene

Aim:

To determine Maximum colour contrast sensitivity test results in patients with age-related macular degeneration.

Methods:

We have performed a 80 persons case-control study, including healthy controls 40 (80 eyes) and 40 patients (80 eyes) with age-related macular degeneration. For visual acuity testing, a typical Snellen chart (the direction of the gap in Landolt C) was used. A computerised Maximum colour contrast sensitivity test was used for color discrimination.

Results:

The results of visual acuity and the Maximum colour contrast sensitivity test results in the healthy controls were better than in the patients (1.0 vs. 0.82 ± 0.18 , $p=0.01$; 1.43 ± 0.70 vs. 1.74 ± 0.87 $p=0.01$, respectively). Patients with age-related macular degeneration have the highest error score in blue color diapason, but the best differentiate colour was red. In healthy patients group the best differentiate colour was blue, and the worse was green.

Conclusions:

The study revealed that the presence of age-related macular degeneration was associated with decreasing perception of colors, extremely blue colour diaposone.

7. PERMANENT HYPOPARATHYROIDISM AFTER THYROID SURGERY: THE CHARACTERISTICS OF INCIDENCE AND TREATMENT

Milda Girdžiūtė

Faculty of Medicine, Vilnius University, Lithuania

Head of the Scientific work: Prof. Vaidotas Urbanavičius

Aim:

1. To estimate incidence of permanent hypoparathyroidism after thyroid surgery.
2. To analyze the characteristics of treatment of permanent hypoparathyroidism after thyroid surgery.

Methods:

The retrospective analysis was made of 58 patients, who were diagnosed with permanent hypoparathyroidism after thyroid surgery in Vilnius University Hospital Santariškių Klinikos (VUHKS). The data was collected from medical documentation. We analyzed patients' complaints, plasma ionized calcium and doses of alphacalcidol and calcium. The statistical analysis was made using SPSS 14.0 and Microsoft Excel.

Results:

58 patients were analyzed: 55 (94,8%) women and 3 (5,3%) men. The average age at the time of diagnosis – $47,31 \pm 12,94$ years. The average incidence of permanent hypoparathyroidism after thyroid surgery in 1993-2010 in VUHKS was $0,84 \pm 0,64\%$ and any consistent changes of this number were not noticed. We divided treatment into three periods: at the time of diagnosis, after 1 year and later than after 1 year and there was no statistically significant difference in time between plasma ionized calcium and doses of calcium. There was statistically significant lower alphacalcidol dose at the time of diagnosis ($1,01 \pm 0,58$ µg) compared with the dose later than after 1 year ($1,36 \pm 0,72$ µg), $p=0,006$. We divided patients into two age groups: younger than 50 years old (<50) and patients older than 50 years old (>50) and we found statistically significant lower plasma ionized calcium and alphacalcidol doses in younger than 50 years old group (the averages of plasma ionized calcium: <50 - $0,92 \pm 0,18$ mmol/l, >50 - $0,99 \pm 0,16$ mmol/l, $p=0,001$; the averages of alphacalcidol doses: <50 - $1,04 \pm 0,64$ µg, >50 - $1,37 \pm 0,69$ µg, $p=0,002$). There was no statistically significant difference between those age groups at the time of diagnosis but after 1 year and later we found statistically significant lower plasma ionized calcium in younger than 50 years old group: averages after 1 year were: <50 - $0,92 \pm 0,17$ mmol/l, >50 - $1,05 \pm 0,14$ mmol/l, $p=0,033$; and later than after 1 year: <50 - $0,94 \pm 0,17$ mmol/l, >50 - $0,99 \pm 0,15$ mmol/l, $p=0,043$ and statistically significant lower alphacalcidol dose after 1 year: <50 - $0,91 \pm 0,5$ µg, >50 - $1,63 \pm 0,52$ µg, $p=0,012$; and later than after 1 year: <50 - $1,15 \pm 0,7$ µg, >50 - $1,5 \pm 0,74$ µg, $p=0,034$. There was no statistically significant difference between men and women. In a group of patients, who had hypocalcemia symptoms, there were statistically significant lower plasma ionized calcium levels (average $0,96 \pm 0,17$ mmol/l) than in asymptomatic patients group (average $0,99 \pm 0,15$ mmol/l), $p=0,029$. There was no statistically significant difference between calcium and alphacalcidol doses in symptomatic and asymptomatic patients groups. According to patients' complaints at their last visit and other clinical signs and symptoms, we classified them into stages using Wuerzburg classification: I (asymptomatic or mild symptoms) – 25 (44%), IIa (paresthesias) – 7 (12%), IIb (muscular symptoms and tetany) – 14 (25%), III (severe reversible general symptoms, reversible pathological alterations to the integument and bone system) – 8 (14%), IV (irreversible sequelae) – 3 (5%).

Conclusions:

1. The average incidence of permanent hypoparathyroidism after thyroid surgery in VUHKS is 0,84%, there were no consistent changes of this number found.
2. Younger than 50 years old patients receive lower alphacalcidol doses and their plasma ionized calcium is lower than those over fifty.

8. PLATELET COUNT/SPLENIC SIZE RATIO AS A NON-INVASIVE PARAMETER IN DIAGNOSING ESOPHAGEAL VARICES IN PATIENTS WITH LIVER CIRRHOSIS

Justina Greičiūtė, Giedrė Putelytė

Head of the Scientific work: doc. Jūratė Kondrackienė

Introduction:

The esophageal varices are a common finding in patients with liver cirrhosis. They are potentially life threatening if variceal bleeding occurs. Sometimes patients refuse to undergo diagnostic endoscopy, so it would be more convenient both for the patients and for the physicians if a non-invasive method in diagnosing esophageal varices was found.

Aim:

To evaluate platelet count/ splenic size ratio as a non-invasive parameter to predict the presence and absence of esophageal varices in patients with liver cirrhosis.

Methods:

A retrospective analysis of 109 case histories of patients treated at the Gastroenterology department of Kaunas Clinics, the Internal diagnostics department of Kaunas 2nd Clinical Hospital and the Internal medicine department of Klaipėda University Hospital from January 1, 2009, to December 31, 2009, was conducted. The results were analysed using MS Excel (2003) and SPSS (13.0, 2004).

Results:

Out of 109 patients, 64 (58,7%) were male, 45 (41,3%) female. Average age 53,42 yr. (min. 29 yr., max. 89 yr.). Etiology of cirrhosis: 46 (42,2%) alcoholic, 39 (35,8%) origin not clear, 16 (14,7%) Anti-HCV (+), 6 (5,5%) HBsAg (+), 2 (1,8%) primary biliary cirrhosis. Cirrhosis were classified in 12 (11%) patients in Child-Pugh class A, 60 (55%) patients – Child-Pugh class B, 31 (28,4%) patients – Child-Pugh class C, in 6 (5,5%) cases Child-Pugh class remained unclear because of a lack of laboratory examinations. Esophageal varices were present in 81 (74,3%) patients, absent in 28 (25,7%). In the group of patients with esophageal varices average platelet count/ spleen size ratio was 7,44 (min. 0,75 max. 23,68), in the group that did not have the varices - 19,87 (min. 5,49, max. 38,6), the difference statistically insignificant ($p > 0,05$).

Conclusion:

Although there is a tendency that patients who had esophageal varices had a lower average platelet count/spleen ratio than those who did not have the varices, the difference was not statistically significant enough. Therefore, this non-invasive parameter can not be considered equally reliable as the endoscopic diagnostics when diagnosing esophageal varices in patients with liver cirrhosis.

9. PREVALENCE OF FOOD AND AERO ALLERGENS SENSITIZATION

Eglė Skaisgiryte, Marta Kudžmaitė

Laboratory medicine clinic, LSMU, Lithuania

Head of the Scientific work: PhD A.Vitkauskienė, MD R.Steponavičiūtė,

Aim:

1. To assess the most common food and aeroallergens.
2. To compare sensitization to most common allergens among children and adults.

Methods:

Retrospective analysis of allergen-specific immunoglobulin E (IgE) antibody tests performed in Department of Laboratory Medicine, LSMU in 2008. Allergen specific IgE for a panel of aeroallergens were assayed in 728 serum samples and a panel of foods in 302 serum samples, using HITACHI CLA-1 luminometer. The results by the MAST CLA were graded into five levels (0-4), where level 1-4 were defined positive and levels 0-0/1 negative. The subjects were divided into two groups according to age: children (0-17) and adults (18-80). Data were analyzed using SPSS version 17; Chi-square (χ^2), $p < 0,05$ were considered statistically significant.

Results:

Food allergen-specific IgE test was performed for 155 children and 147 adults. The presence of sensitization to at least one allergen was in 93 (60%) children and 71 (48,3%) adults. The highest rates of sensitization, in descending order, were for egg white 45 (29%), oats 42 (27,1%), casein 41 (26,5%) among children and to oats 40 (27,2%), chocolate 40 (27,2%), baker's yeast 37 (25,2%) among adults. The sensitization rate was compared among children and adults: to

egg white 45 (29%) and 16 (10,9%) ($\chi^2=15,86$, $p<0,05$); to oats 42 (27,1%) and 40 (27,2%) ($\chi^2=0,008$, $p>0,05$); to casein 41 (26,5%) and 21 (14,3%) ($\chi^2=7,18$, $p<0,05$); to chocolate 27 (17,4%) and 40 (27,2%) ($\chi^2=4,43$, $p<0,05$); to baker's yeast 30 (19,3%) and 37 (25,2%) ($\chi^2=1,62$, $p>0,05$).

Aeroallergen-specific IgE test was performed for 591 children and 137 adults. The presence of sensitization to at least one allergen was in 381 (64,47%) children and 73 (53,3%) adults. The highest rates of sensitization, in descending order, were to hamster 227 (38,4%), wheat 216 (36,5%), mite D.Farinae 216 (36,5%), mite D.Pteronyssinus 213 (36,0%) among children and to mite D.Pteronyssinus 40 (29,2%), mold Aspergillus 39 (28,5%), hamster 35 (25,5%) among adults. The sensitization rate was compared among children and adults: to mold Aspergillus 166 (28,1%) and 39 (28,5%) ($\chi^2=0,001$, $p>0,05$); to hamster 227 (38,4%) and 35 (25,5%) ($\chi^2=8,2$, $p<0,05$); to mite D.Pteronyssinus 213 (36,0%) and 40 (29,2%) ($\chi^2=2,4$, $p>0,05$); to wheat 216 (36,5%) and 36 (26,2%) ($\chi^2=4,87$, $p<0,05$); to mite D.Farinae 216 (36,5%) and 34 (24,8%) ($\chi^2=6,79$, $p<0,05$).

Conclusions:

1. White eggs, oats, casein are most common sensitizing food allergens among children and oats, chocolate and baker's yeast among adults. There was statistically significant difference among adults and children: egg white and casein were found to be more predominant in children and chocolate in adults.
2. Hamster epithelium, wheat pollen, mites (D.Farinae, D.Pteronyssinus) are most common sensitizing aeroallergens among children and mite (D.Pteronyssinus), mold Aspergillus, hamster epithelium among adults. Compared to adults, children had statistically significant higher rates of sensitization to hamster epithelium, wheat pollen, mite (D.Farinae).

10. THE EFFECT OF DIANATAL OBSTETRIC GEL ON THE DURATION OF LABOUR AND THE RISK OF GENITAL TRACT INJURIES

Justina Motiejūnaitė, Simona Juciūtė, Žygmantas Misevičius
Lithuanian University of Health Sciences Obstetrics and Gynaecology Clinic
Supervisor: Assoc. prof. M.Kliučinskas

Aim:

To evaluate the effect of Dianatal obstetric gel on the duration of labour and the risk of injuries of genital tract.

Objectives:

1. To examine the effect of Dianatal gel on the duration of labour.
2. To examine the effect of Dianatal gel on the risk of injuries of the genital tract.

Methodology:

An ongoing prospective analysis is being conducted since October 2010 in Lithuanian University of Health Sciences (LUHS) Obstetrics and Gynaecology Clinic. Until March 15th 2011 there were 78 female patients involved, who satisfied these criteria: consent to participate in the investigation, age from 18 to 40 years, pregnancy of minimal risk (gestation period from 37 to 42 weeks), first and naturally started childbirth, occipito-anterior position of the fetus, expected weight of the newborn 2500 – 4500 grams.

The study group was chosen randomly by drawing envelopes before delivery. The study group included 49 patients. During every vaginal examination these patients were injected with 3-4 millilitres of Dianatal gel into the vaginal vault and the cervical canal. During the first stage of labour, after the cervix had opened 3 centimetres, gel of high density and bio-adhesion was injected into the cervix. During the second stage of delivery, liquid and moderately bio-adhesive gel was injected into the posterior vaginal vault and vagina. The control group, which consisted of 29 patients, was did not receive the studied gel at all. 11 patients dropped out of the investigation due to the termination of labour by the Caesarean section or vacuum extraction.

The objects of analysis included the duration of the first and second stages of labour as well as injuries of genital tract (vaginal, cervical and perineal injuries as well as episiotomies). The efficacy of the gel was evaluated by obstetricians and also the patients, who had to fill out special forms.

The obtained results were considered valid when $p<0.05$.

Results:

Duration of the first stage of delivery: study group (1G) - $9:06\pm0:40$ hours, control group (2G) - $10:53\pm0:46$ hours, $p=0.1$.

Duration of the second stage of delivery: 1G - $0:56\pm0:06$ hours, 2G - $0:59\pm0:08$ hours, $p=0.7$.

Genital tract injuries: 1G - no injuries observed in 11 patients (24.4%), 2G - 4 patients (13.8%), $p=0.3$.

Conclusions:

1. Dianatal gel tends to decrease the duration of the first stage of delivery.
2. The number of genital tract injuries was smaller when Dianatal gel was used during delivery.

The sample was too small to be statistically significant, therefore it is recommended to continue the investigation and increase the sample.

11. THE INFLUENCE OF GLAUCOMA AND AGE-RELATED MACULAR DEGENERATION ON TEAR FILM BREAK-UP TIME AND QUALITY OF PATIENTS LIFE

Dovilė Mitkutė, Indrė Steponkutė

Clinic of the Eye Diseases, Medical Academy,

Lithuanian University of Health Sciences

Head of the Scientific work: Assoc. Prof. I. Janulevičienė

Aim:

The aim of this study was to evaluate the influence of glaucoma and age-related macular degeneration on the tear film break-up time and the quality of patients life.

Methods:

This was a questionnaire study among 50-70 years patients with glaucoma (40 patients) and age-related macular degeneration (40 patients) of MA LUHS Clinic of the Eye Diseases between the years 2010 and 2011. Questionnaire of ocular surface diseases (OSDI) and glaucoma symptoms scale (OSSG) were used.

Data was analysed using SPSS Statistics 17.0. P values less than 0,05 were considered as statistically significant. Regression coefficient (V).

Results:

80 patients were enrolled to the study. There were 40 patients with glaucoma (23 women, 17 men) and 40 patients with age-related macular degeneration (25 women, 15 men). The mean of glaucoma research group $61,3 \pm 5,1$, AMD $64 \pm 6,1$. The symptoms observed in different groups are expressed in percentages and points (max. 5). Eyes that are sensitive to light in glaucoma group $51,7 \pm 4,4\%$, AMD group $14,5 \pm 2,7\%$ ($p < 0,0001$). Eyes that feel gritty in glaucoma group $54,5 \pm 4,7\%$, AMD $10,9 \pm 1,5\%$ ($p < 0,0001$). Painful or sore eyes in glaucoma group $30,6 \pm 2,6\%$, AMD $10,9 \pm 1,7\%$ ($p < 0,0001$). Blurred vision in glaucoma group $16 \pm 3\%$, AMD group $52,6 \pm 6\%$ ($p < 0,0001$). Poor vision in glaucoma group $67 \pm 6\%$, AMD group $60,75 \pm 4\%$ ($p < 0,0001$). Problems with eyes limited patients activities in glaucoma group $32,3 \pm 2,8\%$, AMD group $64,28 \pm 4\%$ ($p < 0,0001$). Problems with eyes limited patients in reading in glaucoma group $36,6 \pm 3,7\%$, AMD group $64,1 \pm 5,4\%$ ($p < 0,0001$). Problems with eyes limited patients in watching TV in glaucoma group $21,37 \pm 2\%$, AGMD group $53 \pm 5\%$ ($p < 0,0001$). Patients felt uncomfortable in glaucoma group $40,62 \pm 2,7\%$, AMD group $19,45 \pm 2,8\%$ ($p < 0,0001$). Patients felt uncomfortable in windy conditions in glaucoma group $60 \pm 2,5\%$, AMD group $30,5 \pm 3,3\%$ ($p < 0,0001$). Eye dryness in the last two weeks in glaucoma $4,1 \pm 0,1$ points, AMD group $1,6 \pm 0,1$ points ($p < 0,0001$). Blurred vision in the last two weeks in glaucoma group $2,7 \pm 0,1$ points, AMD group $4,3 \pm 0,1$ points ($p < 0,0001$). Eye itching in the last two weeks in glaucoma group $3,55 \pm 0,1$ points, AMD groups $1,8 \pm 0,1$ points ($p < 0,0001$). Mucus around the eyes in glaucoma group $1,8 \pm 0,1$, AMD group $3 \pm 0,1$ points ($p < 0,0001$). Frequent or fast eyes winking because of the dry eyes in glaucoma group $3,1 \pm 0,1$ points, AMD group $1,2 \pm 0,1$ points ($p < 0,0001$). Hard to wink because of the dry eyes in glaucoma group $3,5 \pm 0,1$ points, AMD group $1,4 \pm 0,01$ points ($p < 0,0001$). Tear break-up time in glaucoma group was $3,5 \pm 0,1$ seconds, in AMD group $8,88 \pm 0,1$ seconds ($p < 0,0001$). Statistically significant association exists between the tear break-up time and the discomfort of the eyes: when tear break-up time is decreasing, the discomfort is increasing ($p < 0,0001$, $V = -0,51$, $0 \leq V \leq 1$);

Conclusions:

1. Glaucoma has a greater influence on the decreased tear break-up time, independent of gender.
2. Life quality in glaucoma patients is negatively affected because of the decreased tear break-up time and dry-eye symptoms.
3. Life quality in age-related macular degeneration patients is negatively affected because of the general vision impairment.

12. THE INFLUENCE OF HLA-A, B AND DR LOCI MISMATCHING ON CADAVERIC RENAL ALLOGRAFT SURVIVAL

Vaida Babachinaitė, Indrė Vaitekonytė
Department of Nephrology, Vilnius University, Lithuania
Head of the scientific work: Laurynas Rimševičius

Aim:

The aim of the study is to define the influence of HLA-A, B and DR loci mismatching on cadaveric renal allograft survival in a period of 1, 3, 5, 8 years.

Methods:

This is a retrospective analysis, which was conducted at the Transplantation Bureau of Vilnius University Hospital VULSK in 2010-2011. The participants were 327 patients, who underwent a cadaveric renal transplantation in a period of 2001-2009. During the study 3 HLA groups (A, B, DR) were made. Each of the HLA groups had its own subgroups of mismatches (MM): 0 MM, 1 MM, 2 MM. Every recipient was labeled as a participant of one subgroup in an every HLA group according to the number of mismatches. The 1, 3, 5, 8 years survival of the renal allograft was evaluated in the each HLA group, independently one from another. The survival rate was calculated by using the Kaplan-Meier method. Also there was considered to other factors, such as the age of the recipient and PRA (Panel Reactive Antibodies), which could have had an influence to the study. All collected data was processed by using SPSS programme.

Results:

Out of 327 participants, 178 (54,4%) were men, 149 (45,6%) were women. The average age was $42,03 \pm 11,5$ years. The average MM = $3,55 \pm 0,9$. Investigated participants, according to HLA A: 0 MM – 33 (10,1%), 1 MM – 208 (63,6%), 2 MM – 86 (26,3%); HLA B: 0 MM – 23 (7%), 1 MM – 200 (61,2%), 2 MM – 104 (31,8%); HLA DR: 0 MM – 37 (11,3%), 1 MM – 205 (62,7%), 2 MM – 85 (26%). Survival time in months: HLA A 0 MM – 108,6 (95% PI 96,8-120,8); 1 MM – 97,4 (95% PI 90,2-104,6), 2 MM – 90,9 (95% PI 82,3-99,6); HLA B 0 MM – 77,7 (95% PI 64,4-91,1), 1 MM – 101,2 (95% PI 94,0-108,4), 2 MM – 94,2 (95% PI 87,5-100,9); HLA DR 0 MM – 96,1 (95% PI 85,9-106,2), 1 MM – 93,8 (95% PI 88,2-99,4), 2 MM – 81,7 (95% PI 72,2-91,2). The survival of the allograft in 1, 3, 5, 8 years period, respectively is: HLA A 0MM – 93%, 93%, 87%, 87%; 1MM – 91%, 89%, 84%, 70%; 2MM – 88%, 85%, 85%, 72%; HLA B 0MM – 90%, 90%, 70%, 70%; 1MM – 89%, 85%, 85%, 75%; 2MM – 93%, 93%, 88%, 77%; HLA DR 0MM – 94%, 94%, 84%, 84%; 1MM – 92%, 88%, 87%, 77%; 2MM – 86%, 86%, 81%, 67% ($p < 0,05$).

Conclusions:

There is a reliable prove that with the increasing of mismatches in HLA DR group, the survival of renal transplant in 1, 3, 5, 8 years period is reliably decreasing.

13. VIRUS LIKE PARTICLES FOR SPECIFIC INTERACTIONS WITH EUKARYOTIC CELLS

Arnīs Strods, Indulis Cielēns, Dagnija Ārgule, Gints Kalniņš, Regīna Renhofa
Latvian Biomedical Research and Study Centre, Latvia
Head of the Scientific work: Dr. chem Regīna Renhofa

Introduction:

A new dimension in biopharmaceuticals is designed with incoming of virus like particles (VLPs). VLPs are supramolecular protein assemblies and represent very stable self-organizing architectures with precise highly symmetric arrangements for potential packaging of drugs, genes, other nanomaterials, also inorganic source. Non-infective VLPs need addresses for more or less specific attachment to eukaryotic (human) cells. For that purpose are used gene engineering methods, where composition and surface properties of the recombinant particles are influenced and controlled by involvement of fusion proteins composed from self-assembled structural proteins and from ones supplemented with desired sequences.

Aim and Results:

We elaborated recombinant addressed virus like particles (AVLPs), formed from coat protein of RNA bacteriophages, namely AP 205 and GA, and also from hepatitis B virus core protein particles. As addresses – cell targeting agents – were chosen many variants:

* Well-known HIV Tat sequence (14 aminoacids (aa));

- * Another transduction structure, sc., protein transduction domain PTD-4 (11 aa);
- * N-terminal part of viral macrophage inflammation protein vMIP II (21aa), which is known as nonselective receptor ligand;
- * Functionally important N-terminal fragments (19 aa and 43 aa) of stromal cell derived factor SDF-1, which is only natural ligand for cell surface receptor CXCR4.

Methods:

In this report are discussed the synthesis, expression and purification of above mentioned AVLPs, and also estimated results of interaction of obtained particles with human cell cultures.

Conclusions:

Obtained AVLPs will be examined more extensively on different cell lines in order to find opportunity for AVLPs practical usage. Acquired results from studies of AVLPs and cell interactions will serve as base for even further construction of new types of AVLPs.

IV. NEUROLOGY SESSION

1. ANXIETY ABOUT RISK OF INJURIES AND SUDDEN UNEXPECTED DEATH AMONG PATIENTS WITH EPILEPSY

Birutė Vasiliauskaitė, Ieva Malinauskaitė

LSMU Clinic of Neurology, Lithuanian University of Health Sciences, Lithuania

Head of Scientific work: Prof. Milda Endzinienė, Dr. Giedrė Jurkevičienė

Aim:

To investigate the frequency of accidents and factors associated with anxiety about the risk of injuries and sudden unexpected death in epilepsy (SUDEP) among patients with epilepsy.

Methods:

The study was conducted in LSMU Clinic of Neurology between October 2009 and December 2010. 117 adults were interviewed. Questionnaires were based on epilepsy-related injuries to various body parts, the severity of these injuries, their circumstances, associations with the severity of epilepsy, the approach to the complications and avoidance of them, knowledge about accidents and SUDEP, the level of anxiety induced by accidents and SUDEP, and acceptable way for acquiring such knowledge.. SPSS 13.0 for Windows was used in the statistical analysis. The associations between investigated variables and anxiety were evaluated by **Spearman correlation coefficients (Sp. c. c.) and Odds ratios (OR) and their 95% CI**, $p < 0.05$ was considered statistically significant.

Results:

Data on 59 (50.4%) men and 58 (49.6%) women were analyzed. The mean age was 22.01 ± 1.49 years. The duration of epilepsy was from 1 to 49 years, mean duration being 9.74 ± 0.89 years. Seizures only during sleep occurred to 17.1% of the patients, seizures during sleep and waking were experienced by 13.7% of the subjects, and 69.3% of the subjects experienced seizures only when they were awake. Those who experienced seizures felt greater anxiety about the risk of SUDEP (OR = 2.94, 95% CI 1.01-8.59). Seizures with falling down were experienced by 49.6% of patients. **Sp. c. c.** between the frequency of seizures with falling down and anxiety about the risk of injuries was 0.279, $p < 0.05$. The majority of patients (68.0%) had not experienced accidents during seizures. However, 3.5 % of patients experienced drowning during seizures, and traumas occurred to 26.3% of the subjects. Head and face was injured for 35.0% of patients, upper or lower extremities were injured for 10.7%, spinal column was injured for 6.8%. The majority of the investigated subjects (87.2%) expressed anxiety about the risk of injuries. Anxiety about the risk of SUDEP was also common (81.2%). These two types of anxiety were correlated (**Sp. c. c.** was 0.743, $p < 0.001$). More than 2/3 (76.1%) of the investigated subjects never talked about SUDEP with physicians, 1.7% asked but did not receive clear answers, 6.0% asked and received satisfying answers, and for 16.2% of the investigated subjects, physicians explained about SUDEP without asking. 61.5% wanted to deepen their knowledge about SUDEP, while 38.5% did not want to learn more about SUDEP. 33.3% of the subjects preferred written information, 17.1% - spoken information, and 12.0% - both. . Those who felt greater anxiety about the risk of SUDEP wanted to find out more about SUDEP (OR = 6.07, 95% CI 2.16-17.08). Those who talked to physicians about SUDEP tended to feel greater anxiety about SUDEP (OR = 2.26, 95% CI 0.62-8.30).

Conclusions:

1. Accidents during seizures were experienced by 32.0% of the patients.
2. Anxiety about the risk of injuries was felt by 87.2% of the investigated. Anxiety about the risk of injuries was associated with the frequency of seizures with falling down
3. Anxiety about SUDEP risk was felt by 81.2%. Anxiety about SUDEP risk was associated with seizure occurrence while being awake and the willingness to find out more about SUDEP.

2. COGNITIVE AND MOTOR FUNCTION ASSESSMENT IN PATIENTS WITH HIGH GRADE ASYMPTOMATIC CAROTID STENOSIS

*Jekaterina Parastajeva, Ala Tumlovskaja
Neurology Center at Santariškių Clinics of Vilnius University Hospital,
Vilnius University of Medicine, Lithuania.
Head of the Scientific work: dr. Kristina Ryliškienė, doc. Dalius Jatužis.*

Aim:

The aim of the study is to assess difference of Mini Mental State Examination (MMSE), shortened Montreal Cognitive Assessment (MoCA) and motor function reflecting tests between patients with high grade asymptomatic internal carotid artery (ICA) stenosis and control group.

Materials and methods:

Cross-sectional case control study was carried out at Santariškių Clinics of Vilnius University Hospital in 2009. 28 patients with high grade asymptomatic ICA stenosis participated, but only 10 patients were selected for the final analysis. They had no neurological deficiency and MMSE score ≥ 25 (age $65,90 \pm 10,96$ y., education $13,85 \pm 3,04$ y.). Control group was composed of 16 people, with no cardiovascular illnesses (age $67,31 \pm 11,59$ y., $p=0,792$, education $14,69 \pm 2,39$ y., $p=0,381$). Cognitive function was assessed using shortened MoCA test (Cronbach $\alpha=0,588$, correlation with MMSE $r=0,811$, $p<0,001$). Motor functions were assessed using Nine Hole Peg Test and Timed 25 Foot Walk.

Results:

Cognitive tests results did not differ significantly between patients and control group: respectively MMSE score $28,10 \pm 1,52$ vs $27,63 \pm 1,26$ ($p=0,218$); MoCA score $12,40 \pm 1,58$ vs $12,19 \pm 1,72$ ($p=0,726$). Mild Cognitive Impairment (MCI) was detected using MMSE for 2 (20,0 %) of patient group and for 3 (18,8 %) from controls ($p=0,979$), using MoCA test - 6 (60,0 %) among patients and 10 (62,5 %) from control group ($p=0,938$) were diagnosed with MCI. Patients with ICA stenosis to compare with control group were worse at completing motor tests: respectively Nine Hole Peg Test dominant hand $35,80 \pm 7,73$ s vs. $30,66 \pm 8,99$ s ($p=0,062$), non-dominant hand $37,70 \pm 11,08$ s vs. $28,35 \pm 7,31$ s ($p=0,027$), Timed 25 Foot Walk $7,5 \pm 1,67$ s vs. $5,95 \pm 0,92$ s ($p=0,037$).

Conclusions:

MoCA test detects cognitive function impairment more often, than MMSE test, but results were independent of ICA stenosis or other cardiovascular illnesses. Patients with asymptomatic ICA stenosis made motor tests significantly slower, than those in control group.

Keywords:

High grade asymptomatic carotid stenosis, cognitive and motor function assessment, Mild Cognitive Impairment (MCI), Mini Mental State Examination (MMSE), Montreal Cognitive Assessment (MoCA), Nine Hole Peg Test (NHPT), Timed 25 Foot Walk (T25-FW).

3. DEPRESSION, ANXIETY AND THE FEELING OF COHERENCE AMONG STUDENTS OF THE MEDICAL UNIVERSITY OF SILESIA

*Sandra Halina Radecka, Dawid Jan Zajac
The Institute of Neurology in Zabrze
The School of Medicine and Division of Dentistry in Zabrze
Medical University of Silesia in Katowice, Poland
Head of the scientific work: Paweł Dobrakowski, MD*

Aim:

Evaluation of the level of depression, anxiety and the feeling of coherence among students of the School of Medicine and Division of Dentistry of Medical University of Silesia, correlation between them and the relationship between the parameters and some selected features.

Methods and Materials:

The research with the use of BDI, the SOC-29 test and STAI questionnaire and self-prepared questionnaire has been conducted among 121 students, including 38 students of the School of Medicine and Dentistry and 83 students of the School of Medicine. The results have been analyzed with respect to specialization, the year of studies, sex, material

status and the relationship of an individual with a group of students. Statistical methods were used with the program STATISTICA (e.g. correlations between questionnaires). Statistical significant was ($p = 0.05$).

Results:

The level of coherence, the feelings of understanding and resourcefulness have been significantly different with respect to sex and specialization; it was considerably lower among students with moderate relationships with their groups. The study has shown that 22 students suffer from mild depression (12-26 points in Beck scale) whereas 3 students suffer from moderate depression (27-49 points). The strongest correlations have shown the value of coherence with the data gathered on the basis of the State-Trait Anxiety Inventory as features STAI X1 and STAI X2 while the feelings of understanding and resourcefulness have shown the correlation only with STAI X2.

Conclusions:

People with stronger feelings of coherence have better relationships with their groups. Feeling of manageability will be higher for students with better material status. According to the STAI questionnaire form the majority of students is presenting the average level of anxiety with reference to the „standard ten” norms. Women are achieving a little higher results. Medical studies don't lead to depression. Women have higher level of anxiety as a state and a trait. Women notice problems as challenges. Medicine students perceive their career as a mission. First years of studies aren't worse than the next one.

4. DISTRIBUTION OF VERTIGO TYPES. ITS INFLUENCE TO DEPRESSION, ANXIETY OCCURRENCE, MENTAL AND PHYSICAL HEALTH

Evelina Zaromskyte

KMUK Neurology clinic

Head of the Scientific work: dr. A.Vaitkus

Vertigo it is a loss of sense of orientation in space. Despite the fact that this is one of many symptoms, vertigo by itself may worsen the quality of life. Only a good collection of history and the identification of the reasons may be the clue to the adequate and proper treatment.

Aim:

To research the most common type of vertigo and its influence to quality of life.

Tasks:

1. To research efficiency of vertigo treatment.
2. To research dependency between depression, anxiety and the type of vertigo.
3. To reaserch dependency between type of vertigo and education.

Methods:

One hundred patients, who were treated in Neurology Ambulatory clinics, were interviewed. Four groups of patients with vertigo were made: patients with central, peripheral, psychogenic and mixed types of vertigo. Questionnaire, which was used for the interview, was made from 3 parts. To identify type of vertigo were used specific questions, which are characteristic to one or another type of vertigo. To evaluate quality of life questionnaire SF -36 was used. For depression and anxiety evaluation HAD scale was used. MS Excel program, SF – 36 Health Survey demo version were used for data processing. Statistical analysis was made by programs set SPSS 13.

Rezults:

84 women and 16 men were interviewed. Age: among 19 -83 years. Complaints percentage: central vertigo – 40%, peripheral – 14%, psychogenic – 28%, mixed – 18%. In both sexes the most common was central type of vertigo. The lowest life's quality scores had patients with psychogenic vertigo. Patients' with psychogenic vertigo Mental Component Summary residual value is 43,29%, phisical functioning – 64,82%, general health -41,57%, vitality – 45,89%, role - physical 30,35%, mental health 54,35%. Body pain was statistically significant in patients with central type of vertigo ($p<0,01$). Patients' with psychogenic vertigo mental health is lower then patients' with peripheral or central types of vertigo ($p<0.01$). Vertigo is most common among people who have graduated colleges (38%), and the most common type was psychogenic vertigo. Central vertigo was more frequent in patients, who graduated universities. Research showed that 43% of patients get adequate treatment, 34% take medicaments which do not eliminate vertigo or their taking is not necessary and 23% told that they do not take medicaments at all for vertigo elimination. Depression and anxiety scores are statistically significant higher in patients with psychogenic type of vertigo (depression $p< 0.02$, anxiety $p<0.01$).

Conslusions:

1. 34% of patients do not get adequate treatment.
2. The highest values of depression and anxiety have patients with psychogenic vertigo.
3. Vertigo is the most common among patients, who have graduated colleges.

5. EARLY COGNITIVE DISORDER RESEARCH AMONG PATIENT WITH DIABETES MELLITUS

Edita Abromavičiūtė, Evelina Žaromskytė, Edgaras Diržius

LSMU Neurology department

Head of the Scientific work: dr. K. Petrikonis, dr. L. Barsienė

Aim:

To evaluate cognitive impairment in patients with diabetes mellitus (DM) and possible risk factors for impairment occurrence.

- Examine patients with DM in the early cognitive dysfunction using MMSE and 6CIT questionnaires.
- To compare diagnostic sensitivity of 6CIT and MMSE questionnaires.
- To evaluate tendency to depression and anxiety among patients with DM.
- Evaluate other factors and parameters of the DM, which may affect cognitive functions.

Methods:

We investigated two groups of patients: patients with DM treated at LSMUL KK at Endocrinology department and patients treated at Dermatology department (patients without DM). For patients survey four parts questionnaire was used: the original questionnaire, 6CIT, MMSE and clock drawing test to assess cognitive functions, HAD scale to assess the tendency to depression and anxiety. The data was processed using MS Excel program, statistical analysis was made by programs set SPSS 19.

Results:

We interviewed: 50 patients with DM and 53 patients without. We found out 22 (44%) patients in investigated group with MMSE assessment, indicating possible cognitive impairment (≤ 26 points). Mild level of dementia (21-24 points) was found in 6 patients (12%), the average level (10-20 points) in 7 patients (14%). 6CIT questionnaire > 6 points - possible cognitive impairment found in 20 (40%) patients. The correlation between MMSE ≤ 26 and 6CIT > 6 -point is average ($r = -0.620$, $P = 0.02$). MMSE score ≤ 26 had a correlation with the lower scoring in the clock drawing test ($r = 0.505$, $p = 0.016$). We found correlation between clock drawing test and 6CIT questionnaire scores ($r = -0.476$, $P = 0.025$). MMSE average estimate in investigated group is 25.90, comparing with a control group (average estimate is 28.17) is statistically significant lower ($p = 0.01$). The average estimate of 6CIT questionnaire in the experimental group was 6.3 scores, control group - 2.87 ($p = 0.00$).

The average clock drawing test results are 3.08 and it is statistically significant lower ($p = 0.00$) in the DM group. The survey also showed that propensity to anxiety in patients with DM is statistically significant higher than in a control group ($p = 0.032$). Logistic regression analysis showed that older age ($p = 0.001$), BMI ($P = 0.027$), education ($p = 0.012$), and glyca-ted hemoglobin in blood plasma ($P = 0.047$) has bad implications to MMSE performance.

Conclutions:

1. Early cognitive dysfunction using MMSE and CIT questionnaires was found about 40% patients with DM.
2. The average correlation between MMSE and 6CIT questionnaires was established.
3. Patients with DM are more prone to anxiety disorders.
4. Cognitive function is influenced by patient's age, education level, glycatated hemoglobin plasma levels, BMI.

6. MULTIPLE SCLEROSIS: A RETROSPECTIVE ANALYSIS OF CASE HISTORIES OF PATIENTS DIAGNOSED WITH RELAPSING REMITTING MULTIPLE SCLEROSIS AND CURRENTLY ON SPECIFIC TREATMENT

Sigita Kudriūtė, Justina Vaivadaitytė

Department of Neurology, Lithuanian University of Health Sciences, Lithuania

Head of the Scientific work: Dr. Lina Malcienė

Aim:

To analyze clinical and demographic features of relapsing-remitting multiple sclerosis (RRMS) in adult patients on disease modifying therapy and to assess benefits of disease modifying drugs on the course of disease and functional disability.

Methods:

From a total of 1115 patients with MS we selected 48 adult outpatients with RRMS treated with disease modifying drugs (DMD) in Klaipėda University Hospital and performed retrospective analysis of their case histories. Functional disability was measured with Kurtzke Expanded Disability Status Scale (EDSS). Statistical data analysis was performed with PASW 18.0. $P < 0.05$ level of statistical significance was used.

Results:

From a total of 48 adult patients with RRMS 30 (62.5 %) were females and 18 (37.5 %) were males (female:male ratio 1.66) and mean ages were $37,10 \pm 3,16$ and $38,56 \pm 4,91$ years respectively. Among females the mean age at onset was $27,01 \pm 3,01$ years compared to $29,73 \pm 3,73$ years in males ($p = 0,352$). Mean delay between the onset and diagnosis was 3.30 months. Mean disease duration was $9,3 \pm 1,59$ years. Functional disability was measured with EDSS: 38 (80.9 %) patients had pyramidal function impairment at onset and 23 (48.9 %) during last visit, cerebral function impairment – 15 (31.9 %) and 15 (31.9) patients, brainstem function impairment – 17 (36.2 %) and 1 (2.1 %) patient, sensory function impairment – 16 (34.0 %) and 5 (10.6 %) patients, bowel and bladder function impairment – 5 (10.6 %) and 14 (29.8 %) patients, visual function impairment – 11 (23.4 %) and 7 (14.7 %) patients and mental function impairment – 5 (10.6 %) and 0 (0.0 %) patients respectively. Mean treatment duration was $3,98 \pm 0,56$ years. 30 (62.5 %) patients were on Rebif, 8 (16.7 %) on Copaxone, 8 (16.7 %) on Betaferon and 2 (4.2 %) were on Avonex. Mean EDSS was 2.25 at MS onset and 1.85 during last visit and there was a statistically significant difference ($P = 0.05$). Mean number of relapses in females was 2 and in males it was 1.94 and it was not significantly different ($P = 0.059$).

Conclusions:

More women developed MS compared to men although there was no statistically significant difference in mean age and mean age at onset between genders. Most popular DMD was Rebif and the least popular was Avonex. There was a statistically significant difference between mean EDSS at MS onset and mean EDSS during last visit and it suggests that disease modifying therapy for this patient group was effective.

7. NEUROPATHIC PAIN IN PATIENTS WITH CHRONIC ALCOHOLISM

Lukas Sveikata, Laura Šinkūnaitė

Clinic of Neurology, Lithuanian University of Health Sciences, Lithuania

Head of the scientific work: MD Kęstutis Petrikonis

Aim:

To evaluate the experience of neuropathic pain in patients with chronic alcoholism:

1. To measure the rate of neuropathic pain symptoms, pain parameters and relation to the duration of chronic alcoholism.
2. To assess the rate of anxiety and depression symptoms and the their relation to experienced pain.

Methods:

The study included 73 patients from the Center of Dependency Diseases of Kaunas with alcohol dependence diagnosis. A standardized questionnaire survey and a short sensation test was performed on the subjects. The following questionnaires were applied in the survey: sociodemographic, alcohol dependence, Lithuanian pain, KMU Clinic of Neurology with VAS pain scale, Lithuanian version of neuropathic pain diagnostics (DN4), HAD (Hospital Anxiety Depression) scale. The sensations test included: dynamic touch (with brush and cotton) and pressure – stab (with wooden tooth picks) test.

Results:

The study included 12 (16.4%) females and 61 (83.6%) males out of 73 total subjects. The mean age of the subjects were 45.4 years and a mean duration of alcohol consumption – 22.4 years. A total of 20 subjects stated that at the moment of the interview they experienced pain, which was 40.8 mm according to VAS scale. Also 9 (12.3%) and 30 (41.1%) subjects stated that they recently experienced pain in upper and lower limbs respectively, while 35 (47.9%) and 33 (45.2%) experienced sensation of numbness in upper and lower limb respectively. Three or more positive answers to DN4 Questionnaire answers No. 1-7 were provided by 30 (41.1%) subjects, while 25 (34.2%) subjects answered positively to 4 or more DN4 Questionnaire No. 1-10. A total of 58 out of 73 subjects completed the Lithuanian Pain Questionnaire with a mean of 5.1 pain words selected from each list: sensory and affectory. While filling the HAD scale 56 (76.8%) subjects scored 7 and more in anxiety questions and 42 (57.6%) scored 7 and more in depression questions. The correlation ratio between positive answers of DN4 Questionnaire and the duration of alcohol consumption $r = 0.037$. A statistically significant weak correlation between the expression of neuropathic pain symptoms (DN4) and the level of depression (HAD) $r = 0.31$ ($p=0.009$).

Conclusions:

1. The symptoms of neuropathic pain among patients with chronic alcoholism were evidenced in more than third of the cases.
2. Although the expression of neuropathic pain did not correlate with the duration of alcohol consumption, there was a correlation with the level of depression.
3. Anxiety and depression was established in more than half of the subjects with chronic alcoholism.

8. SILDENAFIL CITRATE (VIAGRA) IN TREATMENT OF ERECTILE DYSFUNCTION(ED) ,DUE TO PARKINSON DISEASE(PD).

Odazie Henry, Chukwuebuka Igwe

Vinnitsia National medical university.

Department of Neurology .Ukraine. LIVIV National medical university

Head of the Scientific work: Proff: Demitry Gernnidrich

Introduction:

Erectile dysfunction were complaints in a significant proportion although in general terms sexual dysfunction seemed to be multifactorial with no single cause identified. There is experimental evidence that dopaminergic mechanisms are involved in determining libido and causing penile erection.

Estimates of the prevalence of erectile dysfunction in men with Parkinson's disease show that it is a significant problem, affecting 60%. Aim, to assess the efficiency in treatment of ED due to PD using SILDENAFIL CITRATE.

Method:

Patient (n=10), with a definite neurological diagnosis of PD and a confirmed history of ED. Mean age 61yrs(50-70yrs), SBP (90-170mmHg) and DBP(60-110mmHg). Duration of treatment was for 10weeks. Patient Must have a regular partner. The international index of erectile function questionnaire(IIEF) was used in assessment. It explores 5 domains. Erectile Function(EF), Orgasmic function(OF), Sexual Desire(SD), Intercourse satisfaction(IS), Overall Satisfaction(OS). OF ,SD ,OS have a(minimum score of 2 and maximum 10), IS (minimum of 2 and maximum of 15), EF(minimum of 2 and maximum 30). Patient were grouped into A(received 75mg viagra) & B(received 50mg), all PO once daily 1hour on empty stomach before sexual activity begins. Grouping was based on IIEF Erectile function(EF) severity. IIEF was assessed before treatment(week 1)and on the last visit(10th week) after treatment. Results mean compared. On 10th week BP was taken before and 1hour after taking medication.

Result:

week 1: Group A(n=4). Mean EF scores (5.75), OF(3.75), SD(4.25), IS(3.25), OS(2.50)

Group B(n=6) Mean EF scores (11.50), OF(5.83), SD (5.50), IS (6.50), OS(4.60)

10th week(after treatment) Group

Group B. Mean EF scores (25.00), OF(9.16), SD(9.83), IS(12.83), OS(9.75).

Group A. Mean EF scores (26.75), OF(8.75), SD(9.00), IS(12.83), OS(9.00)

In IIEF interpretation, scores for, SD, OS, OF, on ranges 0-2(severe dysfunction), 3-4(moderate dysfunction), 5-8(mild dysfunction), 9-10(No dysfunction). For IS ,0-3(severe dysfunction), 4-6(moderate dysfunction), 7-12(mild dysfunction), 13-15(no dysfunction). For EF, 0-6(severe dysfunction), 7-12(moderate dysfunction), 13-20(mild dysfunction), 25-30(no dysfunction).

There was minimal change on BP hour after taking the pills.

Conclusion:

Our research confirms that SILDENAFIL CITRATE (50 and 75mg) was effective in treatment of ED. Observed increase in mean of each group and when interpreted by IIEF scoring it confirms Viagra was effective. we observed that the degree of erectile dysfunction needs to be assessed to determine dosage. However it may unmask or exacerbate hypotension.

9. THE ACCURACY AND VALUE OF ACCIDENTAL EYEWITNESS'S DESCRIPTION OF A TRANSIENT LOSS OF CONSCIOUSNESS

Dawid Jan Zajac, Sandra Halina Radecka

The Institute of Neurology in Zabrze, The School of Medicine and Division of Dentistry in Zabrze

Medical University of Silesia in Katowice Poland

Head of the scientific work: Agnieszka Machowska - Majchrzak

Aim:

To examine the accuracy and value of accidental eyewitness's description of a transient loss of consciousness.

Materials and methods:

Two groups of students (AGH, Kraków) during a lecture on an unrelated subject were shown a short video. The first group (n=111) watched a video presenting a tonic-clonic seizure, the other group (n=73) got a material with a reflex syncope. Directly afterwards, students were asked to fill in a multiple-choice questionnaire regarding: muscle tone, head and eyes position, twitches, sialorrhoea, face colour. The questionnaire also included details which were not possible to be ascertained from videos. Statistical methods were used with the program STATISTICA (e.g. correlations). Statistical significant ($p = 0.05$).

Results:

Regarding the syncope video, 34% of all responses (12 questions) were correct. Students who were asked to fill in questionnaire based on seizure video had better results- 53% of correct responses. The difference between the number of correct responses in both questionnaires was statistically significant. Taking into account the sex of our respondents, we can say that there was also statistically significant difference between men and women. Men responded much more accurately (5,7 correct responses in 12) than women (4,3 correct responses in 12). According to our studies, students who had witnessed the similar situation (seizure, syncope) in real life before we presented them our videos did not have better results. Sialorrhoea (68.5%), closed eyes (43.8%) and lack of face twitches (35.6%) were the most accurately noted symptoms on syncope video. In case of seizure video muscle tone (91.5%), left lower limb twitches (69.5%) and left upper limb twitches (63.4%) were the easiest features to observe.

Conclusion:

An eyewitness's description of a transient loss of consciousness should be always treated with caution because he or she may misinterpret or overlook many important clinical details. By using "helping questions", we often suggest a wrong answer which may elongate or disturb reaching the correct diagnosis. Every single symptom is reported with different accuracy. In our investigation we didn't take into account "emotional element" which accompanies such situations in real life and may have an impact on the quality of witness's perception.

10. THE INFLUENCE OF PARKINSON'S DISEASE ON PATIENTS' QUALITY OF LIFE

Ruta Zakareviciute

Neurology Clinic, Lithuanian University of Health Sciences, Lithuania

Head of the Scientific work: M.D. Danguole Surkiene

The treatment of patients with Parkinson's disease (PD) includes motory function preserving and symptoms correction, keeping in mind the progressive nature of the disease. The standardized questionnaires, filled by PD patients, are the best reflection of disease's severity and complications. It is becoming the objective instrument for the physician to improve the PD patient care.

Aim:

To determine the influence of Parkinson's disease (PD) on patients' quality of life by using the subjective scales and questionnaires, to find out the main effecting factors and compare with patients in the control group (CG) that suffer from other chronic neurological diseases.

Methods:

The study has been carried out of 102 patients, who visited the ambulatory or were hospitalized in Kaunas Hospital of Lithuanian University of Health Sciences, Neurology Clinic in 2010-2011. Five standardized questionnaires were used: 1) 4-point Lawton Instrumental Activities of Daily Living (4-IADL) scale; 2) The Schwab and England Activities of Daily Living scale (SEADL); 3) The EQ-5D; 4) The Parkinson's Disease Quality of Life questionnaire (PDQ-39); 5) The Beck depression scale (BDS). The patients' demographic, disease anamnesis and neurological examination data has been collected as well.

Results:

The target group consists of 54 patients (68.1 ± 9.5) with stage I-III idiopathic Parkinson's disease (PD) (7.7 ± 4.1), diagnosed according to Hoehn-Yahr. It consists of 34 (62.96%) women and 20 (37.04%) men. The control group (CG) consists of total 48 patients, who meet the age and gender of PD patients and have multiple sclerosis (N=17, 35.42%), peripheral nervous system diseases (N=14, 29.17%), chronic cerebral ischemia (N=7, 14.58%), epilepsy (N=6, 12.50%) and myasthenia (N=4, 8.33%). The analysis of Lawton 4-IADL, Schwab and England SEADL and the EQ-5D scale questionnaire results show statistically significant differences between the CG and PD groups only for women, while comparing PD and CG patients: the mean value of the 4-IADL questionnaire results for patients from the PD group is 8.96 ± 0.39 and 7.69 ± 0.35 for the CG group ($p = 0.017$). According to the results of the SEADL scale, the PD group patients' daily self-care rating is worse than CG group ($p = 0.051$). According to the EQ-5D results, 16.7% patients with PD and 47.9% from the CG do not have self-care problems ($p = 0.001$); 64.8% of patients with PD and 50% from the CG have self-care problems; 18.5% of patients with PD and 2.1% from the CG are unable to wash up and dress up ($p=0.001$). PDQ-39 data shows statistically significant differences in self-care ($p=0.001$), regardless of patients' gender. Meanwhile, among men the results show statistically significant sensory symptoms subscale rating, whose score is lower for CG patients than patients with PD ($p=0.012$). The analysis of BDS questionnaire results shows statistically significant differences between CG and PD groups ($p = 0.024$): minimal symptoms of depression for patients from the CG (43.8%) and severe depression symptoms for PD patients (38.9%).

Conclusions:

1. The extensive usage of subjective questionnaire scales provide valuable information for making comprehensive assessments of PD patients' quality of life worsening factors, that should be adjusted.
2. Affective symptoms and daily self-care difficulties are the factors most worsening the PD patients' quality of life, even at the initial stages of the disease.

V. ODONTOLOGY SESSION

1. AETIOLOGY AND RISK FACTORS IN MAXILLOFACIAL TRAUMATOLOGY AND ODONTOGENIC INFECTIONS

Artūras Stumbras

Department of oral and Maxillofacial Surgery,

Lithuanian University of Health Sciences, Kaunas

Head of the Scientific work: PhD Gintaras Janužis

Aim:

The aim of this study was to analyze the external (material deprivation, social, economic determinants, living place, gender, age) and internal (oral health behaviour, education, lifestyle) factors in of maxillofacial traumatology and odontogenic infections aetiology.

Methods:

Fifty nine patients who were treated for maxillofacial fractures at the Department of Oral and Maxillofacial Surgery at the Lithuanian University of Health Sciences Kaunas Clinics were contrasted with a group of thirty three patients treated for odontogenic infections at the same department.

Observation included questionnaire consisted of 104 questions. Current study was based on this questionnaire.

The data were computerized and statistically analyzed implementing statistical X^2 test.

Results:

The prevalence of maxillofacial fractures was higher in males of all age groups, with an overall male to female ratio of 9:1. The prevalence of odontogenic infection was also higher among men than women (71,9% : 28,1%).

Among patients treated for maxillofacial fractures, the highest prevalence of fractures (35,6%) occurred in the third decade ($P<0,05$), whereas among patients treated for infections the highest prevalence occurred after the age of 50 (43,8%).

A comparison of the different socio-economic groups revealed that men with no higher education and working hard physical job suffered maxillofacial traumas more often ($P<0,05$).

Half of the patients treated for maxillofacial fractures live in countryside (48%), whereas majority of the patients (81%) treated for odontogenic infection live in urban areas.

Majority of the patients treated for maxillofacial fractures referred straight to Lithuanian University of Health Sciences Kaunas Clinics avoiding referring to primary health care center.

44% of the patients with odontogenic infections referred to Kaunas Clinics by family doctor referral.

More than half (60%) patients suffered odontogenic infections referred to Kaunas Clinics too late

Alcohol consumption is one of the predisposing factors in maxillofacial traumas etiology (33,4% of the study population fell within the category of heavy drinkers consuming alcohol every day, while 37,3% affirmed consuming alcohol 2-3 times per week).

This research revealed that one of the most important factors in odontogenic infections etiology is insufficient oral hygiene (59,4% of the patients do not brush teeth regularly).

Conclusions:

Males suffered from maxillofacial injuries nine times more than females.

Educated people experienced less traumas and odontogenic infections.

The frequency of traumas and odontogenic infections depends on alcohol consumption and also the.

Personal hygiene has a direct weight on origin of inflammations in the face and jaw area and healing of traumas.

Dental health care system is unfavorable for adequate care of patients with odontogenic infections.

2. ETIOLOGY, PREVALENCE AND DIAGNOSIS OF BRUXISM IN TWINS

*Eglė Rupšytė, Eglė Vinčaitytė, Saulenė Guobytė
Dentistry Department, Medical Academy,
University of Lithuanian Health Science, Lithuania
Head of the scientific work: Adomas Auškalnis*

Introduction:

Bruxism is defined as a parafunctional daily or nightly activity that includes grinding, gnashing, or clenching of the teeth. The etiology of bruxism is described in many theories, but most often is the genetic factor. Many children and adults grind their teeth and different studies report various rates (6-91%). Early diagnosis of bruxism is extremely important, as it allows patients to be aware of their habit.

Aim:

The aim of this study: is to review and analyze literature in order to determine etiology, prevalence and the main tools for identifying and assessing bruxism; to evaluate the genetic effect of bruxism and to estimate the prevalence of bruxism in twins. Moreover, the study aims to assess signs of bruxism using models and estimate correlation of bruxism and bony outgrowths – torus and exostosis, as well as to make practical recommendations for diagnosing bruxism.

Methods:

The scientific literature review and analysis was performed using the PubMed search; the key words were: „bruxism etiology“, „bruxism prevalence“, „torus, exostosis and bruxism“. Bruxism was diagnosed after a manual analysis of the models using LSMU Orthodontic Department and LSMU MA Twins Center database. 200 models were examined and teeth attrition, abfraction and cervical lesions according to TWI (Tooth Wear Index), gingival recession, torus and exostosis were estimated. The obtained data were analyzed using the statistical package SPSS 17th. To assess the significance of the results the method of chi-square (χ^2) was used, assuming the results to be statistically significant with $p < 0.05$.

Results:

The literature review showed that the etiology of bruxism is a controversial subject and many hypotheses have been proposed: stress, facial or oral trauma, nervous system malfunction, poor diet, allergies, bad habits. Moreover, there are substantial genetic effects on bruxism. 6-91% of the population grind, approximately 5% of them will present as a clinical condition. Differences among the methodology used for identifying bruxism have a great influence on the reported prevalence. The most frequent methods used to diagnose bruxism: clinical diagnosis – symptoms (questionnaires and personal interview) and signs (observation and mouth, model, and photographic examination to quantify tooth wear), complementary methods (splints, bite force detectors, electromyography, sleep polysomnography).

To summarize, the prevalence of bruxism in this study was 65% and it was diagnosed more frequent in MZ (57,1%) than in DZ (40,7%) twins. Bony outgrowths have been diagnosed for 49% subjects, 88% of them were bruxers. Teeth wear of 16, 21, 26, 36, 31, 46 teeth was mostly noticed in the study. Cervical lesions occurred in 23% of bruxers. The average number of worn teeth was 24 for bruxers and 19 teeth for non-bruxers.

Conclusion:

1. According to the literature it seems that bruxism has a multifactorial etiology indeed and it is mainly centrally mediated, not peripherally.
2. More than half of our studied twins group was bruxers. Hereditary factors play an important role in the genesis and pattern of bruxism. Bruxism prevalence is more frequent in MZ siblings than in DZ. However, the study should be extended enlarging the sample of the twins.
3. The most reliable methods to determine bruxism are clinical signs and complementary investigations. During dental examination one should pay attention to (a) the first incisors and molars attrition, (b) cervical lesions, (c) manifestation of torus or exostosis.

3. HUMANA DENTAL IMPLANT SYSTEM – CLINICAL EVALUATION OF USING DENTAL IMPLANTS IN CONDENSED BONE

*Monika Sakalauskaitė, Artūras Stumbras
Department of Oral and Maxillofacial Surgery,
Lithuanian University of Health Sciences, Kaunas
Head of the Scientific work: PhD Gintaras Janužis*

Aim:

The aim of this study is to describe surgical technique of bone condensation and evaluate different designs of implants, which are used during lateral bone condensation.

Methods:

Literature analyses and clinical investigations were used. The literature was selected in Pubmed, Medline and Science Direct by using keywords: bone condensation, bone density, threaded implants. Patients with insufficient alveolar crest width in maxilla were examined. The cavity of the implant was shaped by bone expansion doing progressive osteotomies. 84 clinical cases were analyzed: 19 cases in anterior region, 32 cases involved canine and premolar area, 33 cases involved posterior region. Pilot drill was used to measure the proper depth: 2mm from the margin of the implant cavity, in the middle and at the bottom. The depth of the cavity, the diameter and the type of implant were evaluated (Humana Dental implants system: BioSink and Reval implants). The fractures of buccal plate and their localization were investigated during condensation and implant placement.

Results:

In 92.6% of the cases no buccal plate fracture was observed during trabecular bone condensation, 7.4% of the cases buccal plate fractured in anterior region. When the bone was expanded more than 1.5 ± 0.5 mm, marginal edge fractures were estimated: 62.2% in anterior region, 20.2% in canine – premolar region and 26.1% in molar region. In all cases after threading implants in condensed bone cortical plate stayed intact when there was still some uncondensed bone. Good implant primary stability was achieved by using BioSink (root form) 3.3/L10 implants in anterior region. No buccal plate fracture around implant's apex was observed during implant placement. Reval implants caused fractures of buccal plates in various depths when condensation was done up to compact bone and the width of the plate was 2.2 ± 0.8 mm. In all cases the "BioSink" implants were used good primary stability was achieved and only 31% failures occurred. During "Reval" implants placement with buccal plate's width up to 2.2 ± 0.3 mm fractures were observed in 56% cases in marginal and middle thirds of posterior regions. In contrast to "Reval" implants "BioSink" implants achieved good results with the width 1.6 ± 0.1 mm of the buccal plate. Differently than Reval implants, BioSink implants achieved better results even with the 1.6 ± 0.1 mm width of the buccal plate.

Conclusions:

1. Bone condensation increases implant primary stability in bone types III – IV.
2. Bone could be safely expanded to 1.5mm in premolar and molar region by using bone expanders.
3. In completely condensed trabecular bone it is more reliable to use BioSink implants.
4. Implant diameter is more important parameter than length.

4. LOCATION OF THE MANDIBULAR CANAL AND THICKNESS OF BUCCAL PLATE FOR AUTOGENOUS BLOCK HARVESTING

*Tatjana Nimčenko
Clinical Department of Maxillofacial Surgery,
Lithuanian University of Health Sciences, Lithuania
Head of the Scientific work: Assist. Vaidas Varinauskas*

The mandibular ramus is one intra-oral site that can supply excellent quality and often quantity of autologous bone for use in augmenting alveolar ridge deficiencies. But often the major complication in dental implant surgery is loss of sensation due to damage to the inferior alveolar nerve resulting from poor characterization of the location of the mandibular canal and the traveling course of the inferior alveolar nerve, artery, and vein.

Aim:

The aim of this study was to determine location of the mandibular canal in horizontal and vertical planes by three-dimensional reconstruction in order to measure thickness of autogenous boneblock that could be harvested from mandible without damaging the nerve.

Methods:

CT scans of 30 patients mandibles (60 sides) were measured using "iCATVision" program. The mean age of patients was 57,5 years (31–87 years), 17 men and 13 women. 9 sides of mandibles had teeth in molar area, whereas 51 were partially or totally edentulous.

The course of the canal, thickness of the bone around the canal in horizontal and vertical directions of transversal sections and thickness of cortical and porous layers of buccal wall were measured.

Results:

1. Three-dimensional reconstruction of the mandibular canal revealed that canal is in the first third (closer to lingual cortical plate) of bone width in bucco-lingual direction, with exception of area that is between coronoid process and distal surface of third molar where canal is in the middle.
2. The average thickness of buccal wall is 4,58mm on the right side and 4,49mm on the left side.
3. On the right side thinnest plate in horizontal plane is 2,83mm (near mandibular foramen), thickest 7,81mm (in the area between third and second molar).
4. On the left side of the mandible thinnest plate in horizontal plane is 2,29mm (near mandibular foramen), thickest 6,6mm (in the area between third and second molar).
5. In the area that extends from second molar to distal surface of third molar's crown buccal plate is at least 5mm thick on both sides of the mandible.
6. The cortical layer composes about two thirds of buccal plate from the beginning of mandibular canal to distal surface of third molar's crown. The rest of the canal is covered by a plate in which almost half of it's thickness is porous bone.
7. Distance from mandibular canal to alveolar crest ranges from 14,49mm in the mandible ascending ramus to 11,37mm in the area of third molar and 11,01mm in the area of second and first molars. Moreover, in the edentulous area bone above mandibular canal is about 2-4mm lower than in the same area on the contralateral side where teeth are still present.

Conclusions:

It is estimated that "safest area" for autogenous block harvesting is between the point anterior to coronoid process and distal aspect of second molar, where thickness of the plate is about 4,58-4,49mm.

Nevertheless, CT scan is advisable in each particular case of boneblock harvesting procedure to evaluate exact course of the canal and it's vertical proceeding to assure that the neurovascular bundle is not entrapped within the graft.

5. METHODS FOR EVALUATION OF MASTICATORY PERFORMANCE AND EFFICIENCY: A LITERATURE REVIEW

Kristupas Gutauskas, Gertrūda Sūdžiūtė

Lithuanian University Of Health Sciences,

Department of dental and maxillofacial orthopaedics

Head of the Scientific work: ass.prof. G. Žekonis, postgrad. in prosthodontics I. Barzdžiukaitė

Evaluating masticatory performance and efficiency is important in clinical prosthodontics. The main purpose of this evaluation is to get aware of the patients dental condition and assess the need of prosthodontic treatment. The evaluation of masticatory efficiency and performance goes back to early 20th century. Nowadays there is a wide range of different methods.

Aim:

To review scientific articles describing the methods for evaluating chewing performance and efficiency and to classify them.

Methods:

A Medline (PubMed) database search was conducted for articles using the search terms: "mastication efficiency", "chewing efficiency methods", "masticatory performance", "particle size distribution". The terms were used alone and in combinations. The search was limited to studies including detailed description of mastication performance and efficiency evaluation methods. Restrictions were not placed regarding type of study design. In total, 49 articles published in dental literature from 1950 up to 2011 year were selected and analyzed.

Results:

The methods for evaluating chewing performance and efficiency were classified into four groups: sieve methods, food particle size measurement by scanning and digital image analyzing, colorimetric determination of masticatory performance and other methods.

Fractional sieving is based on measuring food particles by sieving them through different screen systems containing of one or more screens. This method is considered to be the most popular method due to its simplicity in performing and measurement. A performance score for each sieve was calculated as the ratio of the volume of fine particles that passed through the screen and the total volume of the test food recovered. Sieving method allows the widest variety of test foods. Peanuts and almonds are the most common.

Digital image analysis presents a computer and device with electronic image sensor. Method has been introduced on purpose to simplify the experiment, reduce the required time, to provide more accurate and relevant measures for assessing masticatory function. Particle size measurement by scanning and digital image analyzing has been performed since early nineties.

Evaluation of pulverisation efficiency in colorimetric and spectrophotometric determination tests is based on assessing the colour mixing and measuring the concentration of dye in a solution and is used since 1985 in referring articles.

The group of other methods consists of: measurement of glucose extraction in a solution, light diffraction method, registration of jaw movements, quantifying the work done by masticatory muscles using EMG and transducers, rating general satisfactory by questionnaires.

Conclusions:

1. Sieving is the oldest and the most common method to evaluate masticatory performance and efficiency.
2. The problem in the choice of test food is to use one that will break down when chewed without a significant change of consistency.
3. The only method suggesting self-assessing in pulverisation is colour changeable chewing gum. The method is measured by using an appropriate colour scale with the chewing gum.
4. The index of accuracy can hardly be determined while the general accuracy is rarely indicated. No ideal serving method exists.

6. PERI-IMPLANT DISEASES:PREVALENCE AND RISK INDICATORS

Aušra Ramanauskaitė

Faculty of Odontology, Lithuanian University of Health Sciences, Lithuania

Doc. Dr. Nomeda Basevičienė

Peri-implant diseases are the inflammatory lesions that develop in the tissues around implants. Peri-implant mucositis is defined as a reversible inflammatory reaction in the soft tissues surrounding a functional implant. Peri-implantitis is described as inflammatory reactions associated with bone loss of supporting bone around an implant at function.

Aim:

To describe the prevalence and risk indicators of peri-implant diseases including peri-implant mucositis and peri – implantitis.

Methods:

A MEDLINE search (PubMed) was conducted and work published between December 1990 and December 2010 in English language was included in the review. Keywords used: 'peri-implantitis', 'peri-implant diseases', 'peri-implant mucositis', 'dental implants and risk factors', 'dental implants and biological complications', 'prevalence of periimplant disease', 'prevalence of periimplantitis'. Cross-sectional and longitudinal studies including ≥ 30 implant-treated subjects exhibiting a function time of ≥ 5 years were considered. The search resulted in 3645 articles. Full-text analyses was performed from 149 potentially relevant publications. 38 studies full-filled the criteria and were included to the review.

Results:

Two cross-sectional studies reported that peri-implant mucositis occurs in 73-92% of the implants. The prevalence of peri-implantitis in 2 cross-sectional and 4 perspective studies was reported to be 1-27,4% of the implants. 5 controlled clinical trials comparing the success of implants in periodontitis and non-periodontal patients showed an increased risk for peri-implant disease. Periodontitis patients are 2,6 - 5 times more prone to have peri-implant disease as compared with non-periodontitis patients. Very bad oral hygiene was highly associated with peri-implantitis with an OR=14,3; CI (2,0-4,1); 95%. Poor oral hygiene had a greater influence on marginal bone loss in smokers than non-smokers. For patients with poor oral hygiene, the amount bone loss smokers had nearly three times more as compared with non-smokers. 11 studies report on the frequency of peri-implant disease in smokers and non-smokers. The results show that smokers are at higher risk to develop peri-implant disease defined as suppuration, fistula formation and marginal bone loss. Cement remnants can lead to an acute peri-implantitis process with local swelling, exudation on probing and significant bone destruction. According to the results of one study, 8 out of 10 peri-implantitis cases are caused by

cement remnants. There are few studies, describing the association between diabetes (one cross – sectional study), genetic polymorphism (5 studies), alcohol consumption (one perspective study) and peri-implant infection.

Conclusions:

1. The prevalence of peri-implant mucositis is 72- 92% of the implants. The prevalence of periimplantitis, is 1-27,4% of the implants.
2. The review identified strong evidence that poor oral hygiene, a history of periodontitis, cigarette smoking and cement remnants in peri-implant pocket are risk indicators for peri-implant disease. Future prospective studies are required to confirm that genetic traits, diabetes, alcohol consumption are true risk factors for peri-implant diseases.

7. THE EPIDEMIOLOGY AND CLINICAL MANIFESTATIONS OF DOUBLE TEETH: CLINICAL CASE AND LITERATURE ANALYSIS

Akvilė Gegužytė

Department of dental and oral pathology,

Lithuanian university of health sciences, Lithuania

Head of the Scientific work: PhD Žygimantas Guobis

Aim:

To review the related literature for the epidemiological and clinical aspects of double teeth and present a clinical case where anomaly is present.

Methods:

Patient investigation and treatment. 42-year-old woman presented an upper central incisor of much greater than normal size, with a central groove along entire surface that tended to divide the piece in two. Agensis and peg-shaped maxillary lateral incisors also noted. The panoramic X-ray study showed the fused tooth to present two independent and converging roots, with a single pulp chamber, confirmed by periapical radiography. Management in this case was limited to periodontal treatment.

A literature analysis was made of the results obtained from a PubMed literature search. Key words used: teeth fusion, gemination, double, twined teeth. The articles selected were subjected to descriptive statistical analysis, with evaluation of the gender, distribution (maxilla or mandible), localization, whether the anomaly occurred bilaterally or unilaterally, also clinical manifestations (distribution of the different types of double teeth). Examined 31 clinical cases, statistical analysis made with SPSS – sample values were compared using paired Student's t-test, for two variables dependency was evaluated using the Pearson correlation test. Results are present as mean \pm standard deviation, statistically significant at $p < 0,05$.

Results:

In all examined clinical cases the mean of patients' age was 14 (7) years old, interval 4 - 28. 58,1% of clinical cases presented this anomaly in permanent maxillary incisors. 77,8 % of them were fused and 22,2 % geminated.

The incidence of double tooth in worldwide populations ranges from 0,14 to 5,0 % with no sex predilection, and unilateral expression is more common than bilateral expression. This anatomic irregularity occurs more often in the deciduous 0,5 % than in the permanent dentition 0,1 %. In scientific journals has been reported only six occasions when affecting bilaterally mandibular second premolars. Only a few cases of fusion involving molar and premolar teeth have been reported whereas, in both dentitions, the prevalence is higher in the anterior region. Double primary teeth were found mostly in the mandibular lateral incisors and canines (63.2%). Approximately 56% of cases experienced further problems in the permanent successors. Hypodontia (51.5%) was the most common problem in the permanent successors.

In our case unilateral fusion was seen in maxilla which caused periodontal problems. The main periodontal complication in gemination cases occurs due to the presence of fissures or grooves in the union between the teeth involved. In 1 year follow up there are seen successful tooth survivor and improved periodontal condition. Clinical significance lies in identifying a rare case of fusion tooth and treating the anomaly in the most conservative way.

Conclusions:

1. Double teeth (fusion and germination) is a rare pathology, but not properly documented for adult patients.
2. The terminology dental fusion and germination are used to define two different morphological dental anomalies, characterized by the formation of a clinically wide tooth.
3. Macrodontic teeth are asymptomatic, but can result in a increased susceptibility to subgingival bacterial plaque that can lead to caries or periodontal pathology.
4. Asymptomatic anterior fused tooth should be maintained unless problems arise with esthetics, spacing, severe dental caries or advanced bone loss. We successfully proved that it is possible to preserve fused tooth with severe periodontal disease at the age of 43.

VI. ONCOLOGY SESSION

1. DNA AND BLEOMYCIN ELECTROTRANSFER INTO CHO CELLS IN DEPENDENCE OF ELECTROPORATION MEDIUM VISCOSITY

Sandra Sungailaitė

Faculty of Natural Sciences, Vytautas Magnus University, Lithuania

Head of the Scientific work: Doc. Dr. Saulius Šatkauskas

Introduction:

Electroporation is a new and efficient way to transfer various molecules, including genes into cells. This process is quite simple and safe, therefore has gained wide application for antitumor electrochemotherapy both in animals and clinics. It is known from many studies, that electric pulses applied to cells induce aqueous pores into cell's plasma membrane and consequently various nopermeable exogenous molecules can enter porated cells. These processes are not fully understood, therefore to gain deeper insight into governing mechanisms much of research is performed *in vitro*. However, *in vivo* and *in vitro* conditions are very different: cells *in vivo* are densely packed and are surrounded by extracellular matrix, which in comparison to media used *in vitro*, has a different density and viscosity. These parameters in the tissues *in vivo* significantly affect the transfer of therapeutic molecules into the cells. In addition, the efficiency of transfer of the therapeutic molecules is size dependent. Therefore the transfer efficiency of these molecules can exhibit different dependencies in media of various viscosities.

Aim:

In this study we aimed to evaluate the electrotransfer of DNA and bleomycin into the cells *in vitro* in dependence of electroporation media viscosity.

Material and methods:

Chinese hamster ovary (CHO) cells were used in experiments. The cells were grown in DMEM complete medium. After trypsinization cells were suspended in electroporation medium (0.25 M sucrose, 1 mM MgCl₂, 10 mM Na₂HPO₄). To increase viscosity the electroporation medium was supplemented with methylcellulose 0.001, 0.001, 0.01 and 0.1 M. For the experiments 50 µl of the suspension containing 5 µg of luciferase and green fluorescent protein coding plasmids, 20 nM bleomycin was placed between plate electrodes and electric pulses used. Luciferase activity in the treated cells was quantified using luminometer (Tecan). Uptake of green fluorescent protein was measured with fluorescent microscope (Motic BA400). Uptake of bleomycin was evaluated by colony formation test.

Results:

The results show, that applying same pulse combinations (high-amplitude short HV-1200 V / cm, 100 µs, and high-amplitude short with low-amplitude long - LV - 100 V / cm, 100 ms with a one second interval) resulted in significant decrease of the efficiency of drug and gene delivery into cells with increase of medium viscosity. When 0.01 M methylcellulose concentration was used, no DNA uptake was detected, though bleomycin was still able to enter the cells. Bleomycin electrotransfer was completely inhibited when media was supplemented with 0.1 M methylcellulose concentration. The results showed that efficiency of molecule uptake at various media viscosity conditions was also strongly dependent on molecular weight of the molecules.

Conclusion:

Electrotransfer of molecules into cells depends on medium viscosity and on molecules size. Increase of the medium viscosity results in decrease of the efficiency of DNA and bleomycin electrotransfer into CHO cells. In comparison to bleomycin, DNA electrotransfer is inhibited at lower methylcellulose concentration, showing that delivery of large molecules exhibit stronger dependence on media viscosity.

2. ROLE OF HEMOGLOBIN LEVEL IN STAGE IIB AND IIIB CERVICAL CARCINOMA PATIENTS TREATED WITH COMBINED RADIOTHERAPY

Arūnas Girčys

Institute of Oncology, Vilnius University Scientific Research Center

Head of the Scientific work: dr. Vydmantas Atkočius

Introduction:

Combined radiotherapy is a method of treatment in which external irradiation is combined with intracavitary brachytherapy for cervical carcinoma treatment. The combined use of these methods allows realization of higher doses of irradiation. The therapeutic maximum dose of achieved sum of doses from both treatments was up to 88 Gy in reference point A, while radical monotherapy with intracavitary brachytherapy allows irradiation of only up to 50 Gy in reference point A.

Aim:

The aim of the study was to analyze the role of hemoglobin level in cervical cancer patients and to determine whether it has impact on the treatment response and patient survival.

Material and methods:

Outpatient cards of patients treated with combined radiotherapy in the period of 1994-1999 in Vilnius University Institute of Oncology were analyzed. Patients who couldn't or refused to undergo full treatment or received any other kind of oncological disease treatment were excluded. Totally 328 patients met required criteria for this research, 232 patients had stage IIIB cancer, 96 were stage IIB. To analyze the data Kaplan-Meier survival curves and independent sample t-test were used.

Results:

Patients with stage IIB disease survived average of 9,8 years, same stage patients with low level of hemoglobin survived 8,4 (CI95% 6,1 – 10,6), while patients with normal level of hemoglobin survived for 11,6 years (CI95% 9,4 – 13,7), $p=0,04$. Patients with stage IIIB disease survived average of 5,6 (CI95% 4,6 – 6,6) years, same stage patients with low level of hemoglobin survived 4,4 years (CI95% 3,3 – 5,5), while patients with normal level of hemoglobin survived 7,3 years (CI95% 5,6 – 9), $p=0,005$. Patients with stage IIB disease and complete or partial response to treatment had average hemoglobin level of 124,6 g/L, compared to patients with stable or progressive disease who had average hemoglobin level of 113,7 g/L, independent sample t-test showed the difference to be statistically significant $p=0,003$. Patients with stage IIIB disease and complete or partial response to treatment had average hemoglobin level of 118,9 g/L, compared to patients with stable or progressive disease who had average hemoglobin level of 106,9 g/L, independent sample t-test showed the difference to be statistically significant $p=0,001$.

Conclusion:

In this particular study population patients with normal levels of hemoglobin had a statistically significant longer survival and better response to treatment.

3. SURVIVAL IN STAGE II AND III COLORECTAL CANCER

Vilma Hirsch, Vilija Danylaitė, Sandra Motiejūnaitė

Klaipėda's University Hospital clinic of oncology

Head of the Scientific work A.Česas

Aims:

Identify the prognostic factors of survival in patients with stage II-III colorectal cancers.

Methods:

233 cases of colorectal cancer were analyzed in Klaipėda's University Hospital. All selected patients were in stage II or III colorectal cancer. Subjects were evaluated by age, sex, differentiation, tumor histological structure, localization, and treatment. Data were systematized using Microft Excel program and analyzed by using standard software package SPSS program, version 17. The level of statistical significance was chosen ≤ 0.05 .

Results:

Research analyzed 233 cases of colorectal cancer; 43.8% of men and 56.2% of women. The average age of cancer diagnosis in men's cases were 64.5 ± 9.5 , and 62.8 ± 11.4 in women's, total - 63.5 ± 10.6 . There were analyzed only II and III stages cancer cases (stage II was 38%, while the III stage 62%). Cancer progressed with metastases in 18.5% of all cases. 1-year survival was 91.8% of all patients (88.2% of men and 94.7% of women). 3-years survival was 67.0% of all patients (59.8% of men and 72.5% of women) ($p = 0.041$). 5-years survival was 45.1% of all patients (35.3% of men and 52.7% of women) ($p = 0.008$). 10-years survival was 14.2% of all patients (7.8% of men and 19.1% of women) ($p = 0.015$). 1-year survival statistics between the number of nodes involved is similar: survives 93% of all patients, which tumor did not spread to lymph nodes (N0), 91% of all patients with advanced tumors in the lymph nodes (N1 and N2). 3-years survival involved 72% of patients who had N0, 61% - with the N1 and 62% with the diagnosis of N2. Patients after a period of five years survived – 51% (N0), 39% (N1) and 38% (N2). 10-years survival rate: 16% (N0), 15% (N1) and 3% (N2). The patients were divided into three groups according to time from surgery to chemotherapy beginning (1st - chemotherapy was giving before 39 days, 2nd - from 40 to 59 days, 3rd - more than 60 days post operation), and calculated the differences in survival between the groups. 5-years survival difference is statistically significant ($p = 0.016$). 5-years survival of patients with chemotherapy started before the 39 days after operation was 56.9%, when the chemotherapy was started from 40 to 59 days 5 years survival rate - 29.2%, and when the chemotherapy was started after more than 60 days 5 years survival - 35.0%. 10 years survival rate in 1st group 21.6%, in 2nd - 6.3% and in 3rd - 5.0% of all patients ($p = 0.038$). Patients with only rectal cancer, 1-year survival rate - 89.7%, 3-years survival rate - 65.4%, 5-years survival rate - 42.3%, 10-years survival rate - 9.0%. Patients with colon cancer (except rectal cancer) 1-year survival rate - 93.2%, 3-years survival rate - 67.9%, 5-years survival rate - 49.7% 10-years survival rate - 17.8%. Statistical significance for patient's survival rate based on tumor differentiation was obtained after a survival of ten years. 10-years survival rate was 4% (G1), 14% (G2), and 25% (G3) patients ($p = 0.023$). 5-years survival rate of patients without metastases was 47.6%. Patients with metastases 5-years survival rate was 34.2%. 10-years survival rate - 14.8% (no metastases). Ten-years survival of patients with metastases had survival rate of 11.4%.

Conclusions:

1. Women with colorectal cancer survives longer than men.
2. The more regional lymph nodes is involved, the lower is survival rate.
3. A longer period of time interval between surgery and chemotherapy results in the lower survival.
4. Patients with colon (except rectal) cancer have a higher probability of survival than patients with rectal cancer.
5. Better differentiation of colorectal tumors leads to a higher chances to survive 10 years.
6. The survival probability is lower in metastatic colorectal cancer than non-metastatic.

4. THE ASSESSMENT OF NECESSITY OF COMMUNICATION SKILLS' DEVELOPMENT COURSES FOR ONCOLOGISTS

Dainora Butkutė, Kristina Nikolajevaitė, Kazys Butkus

VU Onkologijos institutas

Head of the scientific work : Doc. Giedrė Bulotienė

Oncology and oncologic patients are one of the most complicated medical field, which has a high morbidity and mortality rates. The diagnosis of cancer is a huge stress for every patient and his relatives, which causes not only physical but also psychological pain. The behaviour of oncologist during the contact with patient has not been examined in Lithuania.

Aim

The purpose of this study was to explore the necessity of communication skills development courses for doctors, who contact with oncologic patients and their relatives.

Methods

The anonymous survey method was selected and performed according to original questionnaire containing 20 questions. The questionnaire was created and developed by us, initially deciding which domains we consider most important with reference to literature analysis. The anonymous survey was processed in these health care institutions: VU The Institute of Oncology, VU The Clinic of Oncology, LSMU Kaunas Clinics, LSMU Oncology hospital, Siauliai hospital - The Clinic of Oncology. A descriptive and comparative statistical data analysis was processed with SPSS 17.0 program.

Results

51 respondents participated in this study (the response rate of respondents was 36%). 53% of women and 45% of men participated in this study. The average age of respondents was 46,55 years. Even 49% of correspondents have not heard about development courses for doctors' communication skills before. 33,3% of participants indicated, that their communication skills are insufficient. 41% of them tried to improve themselves by reading specialized books, taking councils with psychologists or colleagues, attending courses not specialized for doctors, etc. 82,3% of respondents noted that specialized communication skills for oncologists are necessary and even 86,2% indicated, that such skills' development program should be incorporated in the residents' education program.

More than a half of respondents (70%) stated that they do not know how to present information for their patients correctly and 37% of them often confront with such problems. 53% of respondents noted, that they rarely discuss about psychological aspects with their patients or do not discuss at all. 68,8% of doctors were not pleased with their communication with patients. 11% of respondents indicated, that they contact with all patients equally without giving serious attention to their psychological condition. Though doctors do not discuss with patients about their psychological condition, they feel uncomfortable and unpleasant to inform patients about the bad prognosis. Even 78,4% of doctors feel difficult to report about the intimidating situations and 29,4% of them feel guilty reporting it. 56,8% of respondents noted, that if they improved their communication skills, they would feel better and more satisfied with their work. 87% of respondents stated that communication skills' development courses for doctors are necessary.

Conclusion

Doctors feel stress and guilt during their daily work. Their communication skills and psychological preparation for different situations are insufficient. Specialized communication skills' development courses are topical and necessary.

5. THE EVALUATION OF USEFULNESS OF THE VOLUMETRIC MODULATED ARC THERAPY FOR TREATMENT OF MEDIASTINAL TUMORS

Mateusz Spalek

The Students' Scientific Society in Radiotherapy Department of

the Maria Skłodowska-Curie Memorial Cancer Center and Institute of Oncology, Gliwice Branch

The Medical University of Silesia, Poland

Head of the Scientific work: Sławomir Blamek, M.D. PhD. , Assistant Professor

Introduction:

Volumetric modulated arc therapy (VMAT) is a combination of IMRT (intensity-modulated radiation therapy) and the arc technique. The use of gantry rotation during irradiation allows for very fast and accurate delivery of the planned dose. Radiooncologist is able to change the rotation speed, collimator leaf movement and dose rate. In addition, the entire planned dose is delivered during one rotation around the patient, so the duration of therapy is significantly reduced.

Aim:

The aim of this study was to evaluate the usefulness of volumetric modulated arc therapy for treatment of mediastinal tumors.

Methods:

Following parameters of planning of the radiation therapy treatment were evaluated:

minimum, maximum and mean dose for the clinical target volume (CTV); the volume of the body, which has received more than 2, 5, 9 Gy and the maximum dose received by the area of the body outside of the CTV; the maximum dose received by spinal cord; the volume of lungs which has received more than 5, 10, 15, 20, 25 Gy; the volume of cardiac muscle which has received more than 40 Gy and maximum dose delivered to the heart.

Results:

1) Comparing to conformal techniques, the use of VMAT showed statistically significant differences in minimum (-11.97%, $p=0.01$) and maximum (2.28% $p=0.011$) dose for CTV; body volume which has received more than 2Gy (13.74% $p=0.0003$) and 9Gy (-3.17%, $p=0.024$); maximum dose to the spinal cord (-13.9% $p=0.017$); the volume of the lungs which received more than 5 Gy (14.05% $p=0.008$), 15 Gy (-7.33%, $p=0.0001$), 20 Gy (-9.22%, $p=0.00003$) and 25 Gy (-10.75%, $p=0.00002$).

2) The use of VMAT resulted with increase of mean maximum dose delivered to CTV (5.38% $p=0.027$) only as compared to IMRT.

Conclusions:

VMAT allows for more effective protection of the spinal cord than static conformal technique at the cost of increase of the volume of tissues irradiated with low doses. It also allows for reduction of the volume of lungs that receives a dose higher than 15 Gy which is however associated with increased lung volume receiving the lowest doses, which eventually may influence the tolerance of radiation therapy. VMAT and IMRT techniques produce similar dose distribution, VMAT however allows for significantly faster dose delivery and thus, reduction of the treatment time.

VII. PEDIATRICS SESSION

1. ASSOCIATION BETWEEN THYROID ULTRASOUND FINDINGS, THYROID HORMONES LEVELS AND CLINICAL FINDINGS IN PEDIATRIC PATIENTS WITH GRAVES DISEASE

*Ingrida Stankutė, Indrė Steponkutė, Simona Kasparavičiūtė
Department of Pediatrics, Medical Academy,
Lithuanian University of Health Sciences
Head of the Scientific work: Dr. D. Jarušaitienė*

Aim:

The aim of this study was to see if thyroid ultrasound findings and initial thyroid hormones levels in pediatric patients with Graves disease were associated with clinical findings.

Methods:

This was a retrospective review of the patients at MA LUHS with a new diagnosis of Graves disease between the years 2004 and 2009. Thyroid ultrasound findings, thyroid hormones levels and clinical findings were obtained at the time of diagnosis. Abridged classification of eye changes of Graves disease was used. Data was analyzed using SPSS Statistics 17.0. Statistical significance was set at a P value of ≤ 0.05 . The χ^2 test was used to determine dependency.

Results:

38 patients were included (34 female, 4 male). The mean age at the time of diagnosis was $13,5 \pm 3,4$ years. Enlarged thyroid gland was detected in 35 patients (92,1 %). The most frequent ocular findings were soft tissue involvement and proptosis (24 patients, 63,1 %). There was a positive association between thyroid ultrasound and ocular findings ($P=0,042$). Tremor was observed in 29 patients (76,3 %). There was a strong correlation between thyroid ultrasound findings and tremor ($P=0,003$). There were no correlations among thyroid ultrasound findings and blood pressure and heart rate.

30 (78,9 %) of the 38 patients had elevated initial FT4 levels. 36 (94,7 %) of the 38 patients had decreased initial TSH levels. 32 (84,2 %) of the 38 patients had elevated antiperoxidase antibodies. There were no correlations among hormones levels and clinical findings (ocular signs, tremor, blood pressure, heart rate).

Conclusions:

1. Graves disease is more frequent in girls than in boys.
2. A positive associations exist among thyroid ultrasound findings and ocular changes and tremor in pediatric patients with Graves disease.
3. No positive associations exist among hormones levels and clinical features in pediatric patients with Graves disease.

2. PERSONAL MUSIC PLAYERS AND RISK OF NOISE INDUCED HEARING DAMAGE AMONG SCHOOLCHILDREN

*Austėja Vidraite
ENT departmet, Vilnius University Hospital Santariskiu Clinics,
University Of Vilnius, Lithuania
Head of the Scientific work: Professor Eugenijus Lesinskas*

Introduction:

With the massive spread in the popularity of portable MP3 players, exposure to high sound levels has increased dramatically. People using MP3 players are leaving themselves open to temporary changes in hearing, which over time might result in permanent hearing loss.

Aim:

To evaluate listening habits of MP3 player users among teenagers and potential risk of hearing damage.

Methods:

519 schoolchildren aged 13-19 of two secondary-schools of Vilnius responded to a specially designed questionnaire of 20 original questions that reflects listening habits of MP3 player, tinnitus symptoms. They also participated in our experiment. We estimated the music intensity that reaches the drum using sound analyser SVAN 958, artificial model of the ear channel and ordinary MP3 player. All the schoolchildren listened 4 different styles of music in the quiet environment and chose the acceptable sound level using the same MP3 player, their choice was registered in the questionnaire. The data was processed with 19.0 SPSS program.

Results:

We estimated our MP3 player to generate sound up to 109-112 dB and the average sound level of all 4 songs was 92 (± 11) dB. 365 (70%) of schoolchildren listen MP3 at 80dB and higher sound level. 239 (46%) listen at 95 dB and higher sound level.

314 (%) girls and 205 (%) boys responded to the questionnaire. 515 (99%) indicated using their MP3 players every day, approximately 2,03 ($\pm 1,69$) hours a day, 52 (10%) of them approximately 5 and more hours a day. 310 (59, 7%) think they listen MP3 music at unsafe sound level which is too high. 176 (56%) of girls and 119 (58%) boys sometimes hear tinnitus symptoms after using MP3. 174 (33, 4%) consider using high quality and expensive earphones to be safe from causing hearing damage at any level of sound. 111 (21, 4 %) consider expensive music player to be always safer than the cheap one. 429 (82,7%) usually listen MP3 in a noisy environment (250 (80%) girls and 179 (72%) boys).

Conclusions:

- 1) Using MP3 is very popular among schoolchildren and 99% of them uses MP3 approximately 2,03 ($\pm 1,69$) hours every day.
- 2) $\frac{3}{4}$ listen MP3 music in higher sound levels than it is recommended what suggests that most of children are in a risk of noise induced hearing damage.
- 3) Girls and boys in our study tend to have similar MP3 using habits.
- 4) More than a half have experienced tinnitus symptoms after using MP3.

3. RESULTS OF WILMS' TUMOR TREATMENT IN RIGA CHILDREN'S CLINICAL UNIVERSITY HOSPITAL FROM 2001 TO 2010

Introduction:

Wilms' tumor (nephroblastoma) is the most common renal malignancy of childhood, with incidence of almost 8 per 1,000,000 and is approximately 7% of all childhood cancers. It is most common in children under five. Treatment involving multimodal therapy protocols is used.

Aim:

1. To distinguish the frequency of Wilms tumor between males and females
2. To isolate the age groups Wilms tumor occurs.
3. To evaluate the morphological characteristics of Wilms' tumor;
4. Provide quantitative evidence of the efficacy of combined modality treatment used in Children's Clinical University Hospital in Riga.

Methods:

From January 2001 to December 2010, 23 patients with Wilms' tumor were diagnosed. The data from the archive were analysed.

Results:

Of 23 patients, 13 were male and 10 were female (M/F=1.3). There is an age group where Wilms' tumours are most common 1-3 years old children and boys from 12-18 years old have high rates of disease manifestation also. In 21 cases nephrectomy was performed. Most tumors were localized in the left kidney. 18% were diagnosed in stage I; 27% diagnosed in stage II, 32% were in stage III; 18% in stage IV; and 5% were in stage V. The tumor was localized within the capsule in 41% of patients. In 17% the tumor adhered to the vasa. 13% occluded the v.renalis. Paraaortic MTS were identified in 23% of patients; paracaval LNs were changed in 18%; and the paraaortic and mesenteric LN changed in 14%. 69%- had blastemic type of nephroblastoma. 56% of patients were treated according to NWTSG protocol and 44%- according to SIOP protocol. The relapse-free and overall survival rates at 3 years were 87% and 75% respectively.

Conclusion:

1. Males have the disease more often than females.
2. Children have this pathology more often at the age of 1 to 3 (with females predominating) and at the age of 12 to 18 there are high rates of disease manifestation also (it occurs most frequently in males).
3. 69% were Blastemic type of nephroblastoma.
4. Delayed diagnosis (stage III, IV) was seen in 50% of cases. Overall survival- 75%.

4. RETROSPECTIVE ANALYSIS OF DATA OF HUS (HAEMOLYTIC UREMIC SYNDROME) THERAPY IN THE BKUS (CHILDREN CLINICAL UNIVERSITY HOSPITAL) FOR THE PERIOD FROM 2000 TO 2010.

Ksenija Zarakovska, Irina Gultjajeva
The Children Clinical University Hospital (BKUS),
Riga Stradins University, Riga, Latvia
Head of the Scientific work: Dr. Ineta Sosare

Introduction:

HUS is a newborn and small children disease, most common cause of acute kidney injury in children. It is characterized by the following features: microangiopathic haemolytic anemia, thrombocytopenia and acute renal failure. There are known also HUS D+ and D- forms of HUS.

Aim:

To investigate the epidemiology of HUS, diagnosis, treatment and efficiency of that in the BKUS.

Methods:

Research is based on a retrospective study, for which information was taken from the BKUS archive medical records of patients who were treated during the period from 2000 to 2010 year due to HUS. Performed data analysis and processing was done using StatPlus2009 and Excel 2007.

Results:

During the period from 2000 to 2010 in the BKUS were treated 18 children with HUS. Boys suffer with HUS 3.5 times more often than girls. Incidence by age groups: 0-3 years-11 cases, 4-7 years-5, 8-11 years - 1, 12-16 years - 1. HUS D + and D- ratio is 5:1. At the beginning of disease patients had changes in blood test (low hemoglobine (average 6.76 g/dL) and blood platelets (average $75 \times 10^9/L$); leukocytosis), markers for acute kidney injury (increased creatinine, urea, decreased GFR (glomerular filtration rate) (average 36.57 ml/min), elevated aspartataminotransferase (average 111.34 U/l), alaninaminotransferase (average 71.5 U/l)) and increased CRP (c-reactive protein) (average 22.23). HUS therapy: 16 patients received antibiotic therapy, 13 patients - antihypertensive treatment, 1 patient was undergoing hemodialysis, 10 - peritoneal dialysis, 1 - plasmapheresis, 2 patients received transfusion of fresh frozen plasma, 13 - red blood cell mass, 7 - transfused platelets. 18 patients had renal impairment, resulting with 11 cases of dialysis-dependent acute renal failure. Renal failure remained after reconvalescence in 10 cases: GFR - 89-60 ml / min – 1 patient, GFR - 59-30 ml / min – 8 patients, GFR - 29-15 ml / min – 1 patient.

Conclusions:

1. Boys suffer with HUS more often.
2. The highest risk group is 0 - 3 years old children.
3. More common is HUS D + form.
4. After the therapy in 10 cases remained permanent renal damage with a reduced GFR.
5. HUS diagnostic method is a blood test (hemoglobine, platelets, creatinine, urea), anamnesis - diarrhea.
6. During the treatment most of patients received antibiotic therapy, eritrocyte mass transfusion, anti-hypertensive therapy, peritoneal dialysis.

5. TINNITUS SYMPTOMS AND NOISE INDUCED HEARING DAMAGE AMONG CHILDREN DUE TO THEIR LEISURE ACTIVITIES

Austeja Vidraite

ENT departmet, Vilnius University Hospital Santariskiu Clinics,

University Of Vilnius, Lithuania

Head of the Scientific work: Professor Eugenijus Lesinskas

Introduction:

Exposure to harmful noise can lead to hearing loss by damaging the sensitive hair cells in the inner ear. By their leisure activities individuals expose themselves to noise sources, specially discos and concerts which usually generate sounds reaching high sound pressure levels.

Aim:

To evaluate environmental noise potential damage to hearing among schoolchildren and their knowledge about the noise definition.

Methods:

519 schoolchildren aged 13-19 of two secondary-schools of Vilnius responded to a specially designed questionnaire of 20 original questions that reflects their knowledge about noise damage during their leisure time, habits of listenig to their favourite music, tinnitus symptoms after being in the noisy environment. The data was processed with 19.0 SPSS program.

Results:

519 schoolchildren, 314 (%) girls and 205 (%) boys responded to the questionnaire, the average age was 15, 73 (± 1 , 1) years. 323 (62, 2%) individuals (200 (64%) girls and 123 (60%) boys) indicated often attending noisy environment. The most favourite noisy place to attend most of schoolchildren 429 (82, 7%) indicated discos, concerts, or noisy parties 63 (12%). The main noise source in all these places was music, unfortunately 200 (38, 5%) of schoolchildren are not aware of loud music being the same dangerous as any other noise of different origin. 515 (99,2%) noted that they like music. They listen to the music approximately 3, 95 ($\pm 2,81$) hours a day. 409 (78, 8%) prefer listening to their favourite music loudly. 175 (33, 7 %) consider music in discos is too loud , 271 (52,2%) sometimes experience tinnitus symptoms after being in a loud environment, 340 (65,5%) – think the music in discos is not loud enough.

Conclusions:

1. Almost a half of schoolchildren in our study are not aware of the fact that their music can affect them in the same way as any noise of different origin.
2. 429 (82, 7%) as the most favourite noisy place to attend indicated discos.
3. Despite the fact that most of children sometimes experience tinnitus symptoms after discos what suggest that there was too much noise, 340 (65, 5%) of them still think the music in discos is not loud enough.
4. It is important to give precautions for children how to avoid noise induced hearing damage as they are the most likely to be affected.

6. THE INFLUENCE OF DIET, PHYSICAL ACTIVITY, FAMILIAL PREDISPOSITION FOR FUNCTIONAL OBSTIPATION IN CHILDHOOD

Ingrida Stankutė, Indrė Steponkutė

Department of Pediatrics, Medical Academy,

Lithuanian University of Health Sciences

Head of the Scientific work: Ph.D. R. Rokaitė

Aim:

The aim of this study was to evaluate risk factors for functional obstipation in childhood.

Methods:

This was a questionnaire study (QS) among patients of MA LUHS Pediatric Department between the years 2010 and 2011. 180 QS were distributed and 160 QS were returned. Control group of 80 healthy children entered the study. Data was analyzed using SPSS Statistics 17.0. Statistical significance was set at a P value of ≤ 0.05 .

Results:

Distribution by age among patients: <6 years 57,5%, 7-12 years 33,7%, 13-18 years 8,8%. Distribution by age among healthy children: <6 years 56,3%, 7-12 years 26,3%, 13-18 years 17,4%.

The dietary intake for children with obstipation, comparing with control group, was lower intake of vegetables (every day intake 23,8% vs. 83,8%; once a week intake 76,3% vs. 16,3%) also the same tendency in fruit consumption (every day intake 55% vs. 76,3%, one a week intake 45% vs. 23,8%) ($P<0,001$). There was found a significant difference of intake of rice between obstipated and healthy children, 41,3% of obstipated children prefer rice vs. 15% in control group ($P<0,001$). Constipated children were found to consume less buckwheat than healthy children, but there was no significant difference. The majority (61%) of obstipated children eat sweets every day vs. 20% of control group ($P<0,001$). Total fluid intake in patients' group 81,2% less than 1 litre per day while in control group – 27,5% ($P<0,001$).

There was no significant difference of physical activity between groups (86,3% vs. 91,3%) ($P=0,317$). Familial predisposition was found in 64 cases of obstipated children and 12 cases in control group.

Conclusions:

1. Obstipation is more frequent in children aged less than six.
2. The most important risk factors for obstipation are the consumption of vegetables, fruit, rice, sweets, total fluid intake per day and familial predisposition.
3. Physical activity had no significant influence for obstipation in childhood.

VIII. PSYCHIATRY SESSION

1. CHARACTERISTICS OF SUICIDE ATTEMPTS IN VILNIUS

Jan Hilbig

Clinic of Psychiatry, Vilnius University

Associate Professor MD PhD Alvydas Navickas

Introduction:

Despite the fact that Lithuanian leadership in worldwide suicide statistics is well documented, less research has been conducted on the nature and management of suicide attempts. Since there is no specific system of suicide prevention in place in the country as yet, details about suicidal individuals and the care they are offered are highly needed in order to achieve a well-founded strategy to confront the immense challenge suicide poses to the nation's wellbeing.

Aims:

- 1) to determine the frequency of different methods of self-harm applied in Vilnius
- 2) to evaluate whether there is a link between the choice of method and a patient's age or sex.
- 3) to determine where patients receive care after emergency aid has been delivered.

Methods:

A retrospective descriptive epidemiological study was conducted in the Department of Emergency Medical Services (EMS) of the municipality of Vilnius. All files of cases of intended, attempted or completed suicide of the year 2007 were checked for the patient's age, sex, method of self-harm and the following step taken after emergency aid had been delivered. For different methods of self-harm, early lethality (EL) was calculated. EL was defined as the percentage of all people applying a certain method of self-harm who died until or during the delivery of first aid by the EMS. Spearman's ρ was calculated to evaluate a possible relation between a patient's age, sex and EL of their self-harming behavior. Methods of self-harm were also divided into a group of non-violent methods (e.g. drug overdose) and violent methods (e.g. cutting, jumping off an elevated place) in order to determine potential influence of gender on the "hardness" of the chosen method. Statistical analysis was conducted in SPSS 17.0th version.

Results:

During the course of 2007 the EMS was called 815 times because of suicidal events. 90.1% were cases of suicidal intent or attempt and 9.9% cases of completed suicide. 46.0% of all patients took an overdose of drugs, 32.1% were found intending to harm themselves, but had not yet done so until the arrival of EMS, 10.1% chose hanging, 7.2% wrist-cutting, 1% jumping from an elevated place and 3.6% applied other methods of self-harm. 41.8% of patients were transferred to Vilnius Emergency Aid University Hospital (VEAUH), 21.7% to the Republican Vilnius Psychiatric Hospital (RVPH), 14.0% only received EMC care in the place of the event, 9.6% were found dead or died while aid was being delivered, 5% were transferred to an outpatient unit and 5% to the Vilnius City University Hospital (VCUH). 75% of cases of drug intoxication were transferred to VEAUH, 59.9% of those intending to commit suicide to RVPH. A weak correlation between a patient's age and EL of the method chosen was found ($\rho=0.116$, $p=0.007$), and a medium strength correlation between a patient's sex and EL of the method of self-harm ($\rho=0.48$, $p=0.000$). 43% of all men chose a non-violent method, 57% chose a violent one. 87% of women chose a non-violent method of self-harm, 13% a violent method ($p=0.000$).

Conclusions:

Deliberate overdosing of drugs was the dominant method of suicidal action in Vilnius in 2007. VEAUH and RVPH shared the main burden of care delivered to patients after suicidal intent or attempt with VEAUH mainly responsible for drug intoxication and RVPH for those intending to commit suicide. While a patient's age seemed to have little influence on the "hardness" of the method of choice, male sex was connected to a tendency to choose more lethal, violent methods of suicide.

Every sixth patient did not receive any further immediate medical care after emergency aid had been delivered.

2. EMOTIONAL AND COGNITIVE FUNCTIONING AFTER MOTOR VEHICLE ACCIDENT AND RELATION WITH WAD SYMPTOMS

Evelina Preišegolavičiūtė

Head of the Scientific Work: Kęstutis Petrikonis,

MD PhD, Dept. of Neurology, Hospital of LUHS Kaunas Clinics;

Indrė Bilevičiūtė-Ljungar, MD PhD, Dept. of Clinical Sciences, Karolinska Institutet, Sweden.

Introduction:

Whiplash trauma - mechanical insult to structures of the cervical spine and the head that occurs when acceleration-deceleration movement transfers forces to these structures without the existence of direct trauma to the head or the cervical spine. Whiplash-associated disorders (WAD) is a relatively new diagnosis in Lithuania that contains both physical and mental components. However, emotional responses and cognitive function impairment after motor vehicle collision are not clearly understood.

Aim:

To assess the emotional status, cognitive functioning and correlations with WAD symptoms and ability to work after 3-14 days and 6 months after motor vehicle accident.

Methods:

Study enrolled 23 men and 34 women (mean age of 30.5 years) who searched for medical help at Dept. of Acute Emergency in Hospital of LUHS Kaunas Clinics after motor vehicle collision. Following questionnaires were used within 3-14 days and at 6 months after the accident: 1) Visual Analogy Scale (VAS) for pain intensity and general health perception, 2) Quebec Task Force questionnaire for WAD symptoms, 3) Disability Rate Index (DRI) for functional status, 4) Cognitive Failure Questionnaire (CFQ) for cognitive functioning, and 5) Hospital Anxiety and Depression (HAD) scale for emotional status. Sociodemographic data was also followed-up. Statistical significance was set at $p < 0.05$.

Results:

Within 3-14 days after the accident 12 (21.1%) patients were suspected to have anxiety disorders (HAD anxiety index 10-13/21), while after 6 months there were 8 (14.0%) of them (11-13/21). During the first visit 1 patient had higher number of depressive symptoms (HAD depression index 10/21), although there were none of them during the second visit. After 3-14 days and 6 months 8 (14.0%) patients had mild cognitive impairments (CFQ index ≥ 43 ; 55/100). During the second visit significant changes were observed in HAD anxiety scores, DRI and pain intensity (Wilcoxon criterion $Z = -2.1$, $p = 0.04$; $Z = -3.7$, $p < 0.0005$; $Z = -5.6$, $p < 0.0005$). During both visits there was a statistically significant correlation between higher anxiety scores and higher HAD depression index and CFQ index ($p = 0.01$), while higher depression scores were associated with cognitive impairments and stronger pain intensity ($p = 0.05$). Furthermore, patients having more depressive symptoms after 6 months had higher DRI ($p = 0.01$) and longer duration of a sick leave.

Conclusions:

Anxiety symptoms were quite common both in the acute and chronic phase of motor vehicle collision, that allows to suspect acute stress disorder and post-traumatic stress disorder. Impaired emotional and cognitive functioning association with higher pain intensity and disability reflects the need of cooperative help from neurologists, psychiatrists and psychologists in this patient group.

3. NARCOLOGICAL HELP FROM THE VIEWPOINT OF LATVIAN DOCTORS AND PATIENTS

Velga Sudraba, Venita Dāve

Riga Centre of Psychiatry and Addiction Treatment, Latvia

Heads of the Scientific work: assoc.prof. Elmārs Rancāns, assoc.prof. Inga Millere

Introduction:

Narcological treatment after data of State Economic Centre in 2009 was offered in 10 hospitals and 39 outpatients departaments. There exist several narcological treatment methods in Latvia- detoxification and relief of withdrawal, several relapse prevention methods (including suggestion therapy and sensitizing medicine, also psychotherapy and psychoeducational methods (motivational program, Minnesota program, community rehabilitation for drugaddicts). As a result of correctly planned and carried out treatment program in the beggining improves patients physical health and after that psychic symptoms.

Aim:

The aim was to investigate which narcological treatment methods doctors offer to addicted patients and which ones patients choose and receive, how they themselves estimate effectiveness and changes in different spheres of life after treatment.

Methods:

In this investigation were used questionnaires worked out by authors (questionnaires for doctors contain 14 questions, questionnaires for patients contain 23 questions). Primary data processing was done, and program SPSS 14.0 was used to analyze the questionnaires. For analyses were used statistical methods (descriptive method).

Results:

450 doctors of different specialities and 373 narcological patients were questioned. 98,7% of psychiatrists answered that they meet in their everyday work alcohol dependant patients and 70,1%-meet with drug addicts, but 95,5% of physicians accordingly meet with alcohol dependant and 37,3%- drug addicted patients. 11% of patients pointed out that offering to look for narcological help came from psychiatrists and 5,6%- that those were physicians. Answering the question which treatment methods doctors offer to patients, respondents(doctors) pointed out that the most offered one- is detoxification(59,8%) and program of Minnesota model(59,6%), less of all- substitutional therapy to drug addicts(19,1%), but 22,2% of respondents answered they had not offered any of mentioned ones. As the most often used method patients pointed out- detoxification(71,8%), suggestive methods(43,7%), Minnesota program-21,7%, but as the most rare treatment- rehabilitation communities- 2,9%. 66,2% of respondents(doctors) offer patients to attend self-help groups. 28,4% of respondents from patients group say that they attend these groups.

Conclusions:

1. Doctors more often offer methods- like detoxification and psychotherapeutical method- Minnesota program.
2. Three/fourths of patients need acute help in cases of intoxication and withdrawal.
3. Results of investigation prove, that patients prefer rapid methods of treatment, which did not ask specific involvement of a person, but can leave all the responsibility about recovery on doctors.

4. RELATION OF SUICIDE ATTEMPTS AND COMPLETED SUICIDES IN THE MUNICIPALITY OF VILNIUS

Jan Hilbig

Clinic of Psychiatry, Vilnius University

Associate Professor MD PhD Alvydas Navickas

Introduction:

The worrying prevalence of completed suicides in Lithuania is well known and international comparisons repeatedly reveal the nation to be a world-leader in this field even among its close neighbours of similar socio-cultural history. However little is known about the prevalence of suicide attempts and demographic characteristics of those intending and attempting to commit suicide and care offered to them after an attempt. Suicide risk is 100 times higher after an attempt than in the overall population with 1% of those attempting to commit suicide dying from self-harm during the following 12 months and 3% during the following 3 years. This indicates how valuable in-depth knowledge of the situation on the ground could be for the designing of a prevention strategy.

Aims:

- 1) to determine the number of suicide attempts and completed suicides in Vilnius
- 2) to evaluate the relation of suicide attempts and completed suicides.

Methods:

A retrospective descriptive epidemiological study was conducted in the Department of Emergency Medical Services (EMS) of the municipality of Vilnius. All cases of suicidal intent, attempt and completed suicide from the course of 2007 were selected from the archive and information about the patients' age, sex, method of self-harm and place of referral after first treatment was gathered. Means of age were calculated for those intending, attempting and those after completed suicide. Patients were then divided into 18 age groups of 5 year intervals (10-14, 15-19....) and prevalence of each group was calculated for intents, attempts and completed suicides of 2007. Statistical analysis was conducted in SPSS 17.0th version.

Results:

In 2007 EMS was called to 131.8/100.000 inhabitants of Vilnius due to suicidal intent or attempt and 16.6/100.000 inhabitants because of completed suicide. Mean age of those having completed suicide (n=81) was 47.42±18.1 and 37.86±16.3 for those intending or attempting to commit suicide (n=734),(p=0.000). Mean age of males after completed

suicide (n=69) was 46.1 ± 17.4 , males intending or attempting to commit (n=315) had a mean age of 37.1 ± 14.7 years ($p=0.001$). Mean age of females after completed suicide (n=12) was 55.1 ± 20.4 , for females intending or attempting to commit it (n=418) – 37.8 ± 17.4 ($p=0.001$). Emergency calls due to intents or attempts of suicide were registered 7.9 times more often than calls because of completed suicide. Females 26 times more often intended or attempted to commit suicide than actually committed it, men respectively 4.1 times more often.

Conclusions:

Numbers of completed suicide alone reflect just a small fraction of suicidal events in the municipality of Vilnius, because cases of people intending or attempting to commit suicide far outweigh the number of people actually dying from the harm they deliberately inflict upon themselves. These differences are especially large for both female and younger citizens of Vilnius. The identification of these groups of higher risk of suicidal behavior and more exact numbers of people in need can be useful when planning the size and character of care facilities for suicidal patients in Vilnius.

5. VALIDATION OF THE LITHUANIAN VERSION OF THE CLINICAL OUTCOMES IN ROUTINE EVALUATION OUTCOME MEASURE (CORE-OM)

Jan Hilbig

Clinic of Psychiatry, Vilnius University

Associate Professor MD PhD Vita Danilevičiūtė

Introduction:

The CORE-OM (Clinical Outcome in Routine Evaluation Outcome Measure) is a 34 item self-report measure used in several countries to determine the clinical dynamics of patients receiving treatment in psychotherapy. It consists of four domains covering subjective well-being, symptoms, functioning and risk to self and others and has proven to be reliable, valid and acceptable in different clinical settings.

Aim:

To determine reliability, validity and sensitivity of the Lithuanian translation of the Clinical Outcomes in Routine Evaluation measure (CORE-OM).

Methods:

A validation study of the CORE-OM psychometric scale was conducted in the clinic of psychiatry of Vilnius University (VU). A Lithuanian translation of the English original of the CORE-OM was prepared by a team of translators and one of the original authors. 39 outpatients of psychotherapy and 187 students of VU were asked to complete the Lithuanian version of the CORE-OM, 66 were tested a second time after an interval of one week to determine retest stability of the measure. Parameters of internal consistency, retest reliability and criteria for reliable as well as clinically significant change were then calculated.

Results:

38 patients (22 females, 16 males) and 187 students (137 females and 67 males, 3 respondents did not mark their sex) completed the questionnaire. 57 of 66 students invited to a retest returned for the second survey after a period of one week. Cronbach α for the overall measure and nearly all domains was between 0.81 and 0.93. Only reliability of the risk domain was lower with $\alpha=0.67$ for clinical and $\alpha=0.57$ for the non-clinical sample. Test-retest correlations within domains were high (Spearman's rho values varying from 0.6 (risk domain) to 0.77 (symptoms). Applying Wilcoxon's test only a slight change of 0.11 points in the risk scale was found ($p=0.01$), all other changes were not significant ($p>0.05$). Differences between scores of the clinical and non-clinical samples were large and significant ($p<0.001$). Scores of the clinical sample were lower, participants estimated their subjective wellbeing and functioning to be worse and report more symptoms and risk indicators than non-clinical respondents. No significant differences of scores between genders were found for either sample ($p>0.1$). Some of the Lithuanian criteria for clinically significant change were a bit lower than those of the original (p.e. wellbeing), others a bit higher (symptoms, functioning, overall score). However, the criteria for the risk domain was remarkably lower, which might be due to the domains low reliability. Criteria for reliable change were somewhat lower than the original's.

Conclusions:

The Lithuanian version of the CORE-OM was shown to be reliable and sensitive in both clinical and non-clinical settings. Differently from the original, it proved to be comparatively neutral to the respondents' gender. However its risk domain has both lower reliability and criteria for clinically significant change, which might be due to the small size of the clinical sample and cultural differences. In spite of some differences from the English original, the Lithuanian version of the CORE-OM seems to have the potential to become a practical, sensitive and reliable diagnostic tool for psychotherapists in Lithuania.

IX. PUBLIC HEALTH SESSION

1. COLLABORATION BETWEEN HEALTH PROMOTION SPECIALISTS OF PUBLIC HEALTH BUREAUS AND GENERAL PRACTITIONERS

*Ingrida Jaselskytė, Viktorija Feiferytė
Faculty of Public Health/ Department of Health Management,
University of Health Sciences, Lithuania
Head of the Scientific work: Prof. Skirmantė Starkuvienė*

Aim:

The aim of the study was to examine the possibility of integration of health education and disease prevention services carried out by health promotion specialists of public health bureaus into personal primary health care in Lithuania.

Methods:

The data are based on the responses from the application of qualitative semi-structured interview and focus group interview. 23 out of the 32 directors of local public health bureaus in Lithuania were interviewed. The directors assessed the duties and competencies of health promotion specialists; how many health promotion specialists are employed as full-time workers; funding of health promotion and disease prevention programs. The directors of local public health bureaus also were asked about the integration of health promotion services into personal primary health care. The public health bureau director, health promotion specialists, member of the municipality health council, the director of the primary health care institution, and the working-age patient from the same community participated in the focus group interview. The analysis of the results was made using Microsoft Excel 2010 program.

Results:

The present funding of public health bureaus is changing every year, it is often insufficient, therefore executable programs are short-time, sustainability of them is unwarranted. Two bureaus out of 23 do not have health promotion specialists because of the limited funding, health promotion specialists are employed part-time in four public health bureaus. From the rest of 17 bureaus, only in 9 of them health promotion specialists have the required education. Assessment of duties and responsibilities revealed that only 5 public health bureaus are able to integrate health education and disease prevention services into personal primary health care. During the focus group discussion it was emphasized that in the center of health services are sick patients and patients are not involved in management of their health. Also it was mentioned that primary health care is fragmented and more collaboration is needed. The study revealed that the present collaboration of public health bureaus with personal primary health care institutions is based only on verbal contract. Main forms of collaboration are lectures and seminars delivered by general practitioners and organized by public health bureaus. Sometimes they participate in mutual projects and programmes.

Conclusions:

Integration of health education and disease prevention services provided by health promotion specialists of public health bureaus into personal primary health care could facilitate the work of general practitioners, promote work of public health bureaus and also would increase society's awareness of health education and disease prevention. This could be a powerful tool to show the results and it may help to persuade politicians to make decisions in that direction. However, at present, integration of health education and disease prevention services at national level is impossible. Permanent funding for those services, human resources and closer collaboration between public health bureaus and personal primary health care institutions are needed, but still it is not clear what form of collaboration would be appropriate in Lithuania.

2. DEVELOPMENT PLACE DISPOSAL END GARBAGE OF BIOMASS TECH TO ERN ECONOMIC INVESTING VALUE AND IMPROVEMENT ENVIRONMENT HEALTH IN BANDUNG CITY INDONESIAN

Victor Subiakto Puja

Student of Department Epidemiology Faculty of Health

Sciences Respati University of Indonesia, Jakarta

Head of the Scientific Work : Dr. H. Hadi Siswanto, SKM, MPH

Introduction:

The volume of waste generated daily in Indonesia reaches 200 thousand tons, with a total of 500 TPA, with the condition of 90% is not feasible. According to experts garbage Indonesia, Professor Enri Damanhuri, stating "Waste management in Indonesia is still using the old paradigm, collect, transport and waste".

Source Reduction (reduction starting from the source) or sorting trash never goes well. Despite efforts composting and recycling, but still limited and not sustainable. Burning of garbage with incinerator also considered just moving the problem to air pollution.

Since the occurrence of landslides landfill Leuwigajah February 21, 2005, the city of Bandung facing urgent problems of waste, the option to find a replacement landfill outside the city of Bandung was very difficult and many around the site, operator of the landfill while at Sarimukti ministry will expire at the end of 2012, the city government Bandung shall immediately prepare a city-scale waste treatment facilities, that use environmentally sound technology in the form of waste treatment facilities into electrical energy, construction waste processing facility is part of an integrated waste management system scenario metropolitan of Bandung area.

Aims:

1. Knowing the amount and source of waste heaps Bandung.
2. Knowing the legal basis of waste management in Indonesia.
3. Knowing the system treatment in the future.
4. Knowing the summary financial environment and social feasibility.
5. Knowing the preparation stage of development.
6. Knowing the financing scheme of system treatment facilities Bandung.
7. Knowing the detailed information on the environmental feasibility, technical and financial and project criteria on the initiative of a business entity (Unsolicited Project) as well as procedures for the implementation of the project the initiative of enterprises
8. Knowing the current status of development.

Method:

Analysis of literature, policy, and economic studies

Result:

1. Total waste production reached 500 tons in Bandung, other sources mention 6915 m³/day, non-commercial areas 300m³/hari, 450 m³/day street waste, the waste discharged into the channel 15 m³, with a composition of 65% organic waste, paper 10% , 2% plastic, china fabric 1.5% 1%, metal 7.5%, others 13%.
2. Regional Environment (BPLHD) West Java Province, showed as much, 20% of the waste collected by garbage men brought to RT for temporary disposal site (TPS), 25% disposed of carelessly, 25% dumped into the soil, 5% thrown into the river, 25% burned.
3. With 7500 m³ of waste per day if processed into compost, at least produce 30% compost, equivalent to 2.25 million kg. If sold at ME (Association UPPKS Business Group), an institution that initiated the relocation of urban waste compost, which is willing to purchase USD \$ 200.00 / kg means it will get USD 450 million per day.
4. (According to Law No.18/2008 on the management of Waste, Article 9), Solid Waste Handling in RPJMD policy (Perda No.9/2009 on Bandung RPJMD years 2009-2013). City Solid Waste Management Policy in the RT / RW (Perda No.3/2006 on the RT / RW Bandung), Framework for Solid Waste Management Law (Law No.18 of 2008 about waste management), Legal Framework for PPPs in Infrastructure Provision, (regulation 67 / 2005 and Presidential Decree 13/2010 neighbor government cooperation with business entities in the provision of infrastructure), Legal Framework for PPPs in Infrastructure Supply (Candy VAT / Head of Bappenas 4 / 2010), PP NO.54 of the Year 2005 Regional Loan: Article 7, paragraph 3, Article 12 General Terms.
5. Construction of waste treatment facilities into electrical energy will be conducted beginning in 2011 until 2012 so that in 2013 was to operate; Technology used for the construction of a waste processing facility waste to energy is an environmentally friendly energy incinerator; Procurement of land for waste treatment facilities into electric energy direncanakanh covering approximately 20 hectares, consisting of: building sewage treatment facilities into electrical

energy and support facilities covering an area of approximately 5 hectares; green open space as a buffer zone of approximately 15 hectares.

Conclusion:

1. Lack of waste management facilities in anticipation of the expiration of the service will dump while in sarmukti at the end of 2012.
2. The limited land in the city of Bandung, which can be used for city-scale waste treatment facility.
3. Place garbage disposal with conventional systems, such as sanitary landfills and composting, are not suitable in Bandung, because it requires a large area.
4. It takes a partnership between local government and business entities in the joint development of a landfill that benefit for economic investment and improving the health of people in Bandung in particular and Indonesia in general.

3. DIPHTHERIA STILL OCCURS IN LATVIA

Ginta Vasiljeva

Medical 6th year student, Riga Stradiņš University, Latvia

Head of the scientific work - Angelika Krumina

Introduction.

Once a leading cause of death in developed countries, *diphtheria* is now a *rare disease* due to a comprehensive immunization program. Although diphtheria is a rare disease in EU (European Union), 47 cases were reported across the EU in 2008, 62% were reported by Latvia. 55 diphtheria cases were diagnosed in Latvia during 2007 – 2010, 39 of them among adults. Routine adult immunization is not well organized in Latvia which makes adult population the most susceptible group against diphtheria. Immunization rate of adults has dropped down to 61,7% in 2009, while the World Health organization has recommended to reach at least 95% immunization rate in order to prevent the disease.

Aim:

To collect and analyze epidemiologic, clinical data, laboratory studies and specific therapy.

Materials and methods.

This is a retrospective study of 36 diphtheria patients, 4 lethal cases and 1 carrier included, who were hospitalized in “*Infectology Center of Latvia*” from 2007 to 2009.

Results.

Patients age ranged from 24 to 81 years. The highest incidence of patients – 11 (31%) was observed in age group from 50 – 59 years. The majority of diphtheria patients were females – 27 (77%). 30 (86%) patients were not vaccinated against diphtheria, 3 (9%) patients were not vaccinated according to defined scheme, 2 (6%) patients were vaccinated according to defined scheme. All dead patients were not vaccinated. Most patients - 18 (51%) had moderate course of disease. 14 (39%) patients had tonsillar diphtheria, 14 (39%) tonsillar, gaper diphtheria. Complications developed in 18 (51%) patients, more frequent toxic myocarditis – 14 (40%) and bulbar syndrome – 12 (34%). *Corynebacterium diphtheria* toxigenic strains were isolated in 31 (86%) patients. The only isolated biotype was *gravis* in 26 (84%) cases. Antitoxic IgG antibodies against *Corynebacterium diphtheriae* were detected in 34 patients. Fully protective levels of antitoxic IgG antibodies (0,1 IU/ml and more) were detected in 13 (39%) patients. Severe course of disease with complications was observed in 1 patient with fully protective level of antitoxic IgG antibodies. Antitoxic serum was included in the treatment of 27 (77%) patients. Complications developed in 9 (64,3%) patients who got antitoxic serum till 3. day of disease and in 9 (69,2%) patients who got antitoxic serum after 3. day of disease.

Conclusion.

The low immunization rate and not discovered carriers are the main reasons of high incidence of diphtheria in Latvia. Fully protective levels of antitoxic IgG antibodies usually protect patients from severe course of disease and complications. Complications developed in patients with low antitoxic IgG antibodies despite of specific therapy.

4. KNOWLEDGE AND AWARENESS ABOUT CERVICAL CANCER AND ITS PREVENTION AMONGST THE LITHUANIAN GIRLS

Dainora Butkutė, Kazys Butkus

Lithuanian University of Health Sciences, Lithuania

Head of the scientific work : Dr.Skirmantė Starkuvienė

Aim:

This study was carried out to assess the knowledge and awareness about cervical cancer and its prevention amongst Lithuanian girls, who live in Kaunas City.

Methods:

The research was carried out in 348 girls and woman aged 15-25. Every girl had to respond to a specially designed questionnaire of 20 questions. Questionnaire was based on study objectives, according to the previous literature. The questionnaire was divided into 2 main parts, first dealing with the socio-demographic profile of the subjects (e.g. age, education, etc.) and the second one consisted of questions regarding to the knowledge and awareness about different aspects of cervical cancer. The study was conducted in 2010. The data was processed with 17.0 SPSS program.

Results:

Only 192 (55,65%) of the respondents had visits to gynecologists and 115 (33%) take visits less then one time per year. Respondents usually choose their physicians incidentally (54, 15,4%) or according to mothers/family physician advices (42, 12%, 33, 9,4%).

163 (46,6%) of the respondents have already had sex and 110 of them has a regular (longer than 6 months) sex partner. One hundred thirty four (34%) of the respondents said that all they know about high risk of infection by Human Papilloma Virus (HPV) strains in cervical cancer is that this virus is important in cervical cancer pathogenesis. 106 (30,3%) of the study population know that cervical cancer is caused by HPV, prevention possibilities, and vaccines. Only a small percentage 12 (3,4%) said that they do not have knowledge about cervical cancer.

The results show that even 166 (47,4%) did not know that HPV can cause cervical cancer and 18 (5,1%) said that HPV can not cause cervical cancer.

Only 258 (73,7%) of the respondents had already heard about HPV vaccines and only 14 (4,0%) were vaccinated. 80 (22,9%) of the study population did not have plans to take this vaccine because did not know about this possibility, think that this vaccine is not effective, are sure that will not get infected by this virus or due to side effects.

The most important part of this questionnaire was that nearly all of the interviewed 294 (84%) wanted to learn more about the cervical cancer and needed lectures about it and its prevention.

Conclusion:

This study highlights that the majority of young women are not adequately equipped with knowledge concerning cervical cancer. Continuing lectures should be effective to spread knowledge about this disease and its prevention.

5. PREVALENCE OF SELF-REPORTED ADVERSE REACTIONS TO FOOD AMONG VILNIUS CITY PRIMARY SCHOOLS CHILDREN

Andrius Kavaliūnas

Institute of Public Health, Faculty of Medicine, Vilnius University, Lithuania

Head of the Scientific work: Assoc. prof. Genė Šurkienė

Aim:

The aim of this research was to evaluate the prevalence and pattern of food allergies among primary schoolchildren in Vilnius, Lithuania.

Methods:

Vilnius University is a partner in EuroPrevall integrated project - "The prevalence cost and basis of food allergy in Europe", which is a EU-funded multi-disciplinary research study. By implementing this project, an anonymous questionnaire 3067, 6-12 year old schoolchildren of the 1st-4th grades from primary schools in Vilnius were investigated.

Results:

46.6% of 6-12 years schoolchildren had a self-reported illness or trouble caused by eating a food or foods, boys and girls similarly affected. Food allergy was diagnosed by a doctor to 16.5% of schoolchildren. After analyzing children, who had trouble after eating food, stratified by age, we discovered that the biggest group of such children was among 9-year old (28.1%); and less among 8, 7 and 10-year old (24.6; 22.3 and 19.6% respectively). Children mostly suffered from diarrhoea and vomiting (49.3%). A rash, nettle sting like rash or itchy skin was also a frequent symptom (47.2%). Other common symptoms were headaches (18.3%) and runny or stuffy nose (17.6%). Fruits (24.6%) and mostly citrus fruits (7.8%) were the most common foods that caused clinical symptoms. Other important problematic foods were milk and dairy (18.3%), chocolate (11.5%), egg (7.1%).

Conclusions:

According to the results of our research, almost half of the children of the primary schools in Vilnius, had a self-reported illness or trouble caused by eating a food or foods. This shows us, that food allergy might be a serious problem among schoolchildren in Vilnius; therefore it is essential to continue research food allergies, in order to find out tools and information necessary for policy makers, regulators, clinicians and allergic consumers, together with the food industry to effectively manage food allergies and the allergens that cause them.

6. PREVENT AND CONTROL OF TOBACCO CONSUMPTION IMPACT A THROUGH WHICH POLICY CYCLE EPIDEMIOLOGY EVIDENS BASE AND EDUCATION INCREASE DEGREES OF INDONESIAN PUBLIC HEALTH

Victor Subiakto Puja

Student of Department Epidemiology Faculty of Health,

Sciences Respati University of Indonesia, Jakarta

Head of the Scientific Work : Dr. H. Hadi Siswanto, SKM, MPH

Introduction:

Morbidity and mortality cause tobacco consumption impact is to be a phenomenon and the potential catastrophe of public health, that influence physical and mental health, the economic, condition has not been fully realized by the whole society in Indonesia.

Prevent and control of tobacco consumption impact a through which policy cycle epidemiology evidens base (scientific data) and education increase degrees of Indonesian public health, is a process of analysis and use of facts in preparation for producing base health policy facts and needs generated by the surveillance but has not been a priority in decision making by government, Indonesia in the field of legislative control of tobacco hazards.

A comprehensive public education through the educational curriculum, public service ads and packaging pictorial, judged to be and appropriate measures to be implemented in Indonesia

Aims:

Knowing the causes of high mortality and morbidity caused by tobacco consumption.

Knowing the design of tobacco control policy in Indonesia

Method:

Analysis of literature and policy studies

Result:

Smoking behavior influenced by the social environment, knowledge, access to cigarettes, tobacco industry promotion and sponsorship.

In general, smokers do not know the effect by cigarettes in the long term. Frequency of public education through the educational curriculum, there is no public service ads.

There are currently not Indonesian government policy regarding the effective control of tobacco consumption.

And weak implementation of regulations that applied in controlling the impact of tobacco consumption

Conclusion:

No maximum public education efforts to the people of Indonesia.

The absence of public service ads and the existing pictorial warnings on cigarette packaging and advertising.

There is no curriculum of socialization impact of tobacco consumption in Indonesia.

The issue of controlling the impact of tobacco consumption is has not been a major government priority that showed the weakness of commitment in an effort to improve the health of the people of Indonesia.

7. THE ROLE OF THE PHARMACIST FOR RURAL AREA PATIENTS

Inga Šilanskaitė, Jurgita Daukšienė

Drug technology and social pharmacy department;

Lithuanian University of Health Sciences, Medical Academy, Pharmacy Faculty; Lithuania

Head of the Scientific work: Dr. Raimondas Radžiūnas

Introduction:

Community pharmacists have been identified as being well-placed to perform a medicines education and health promotion role. In rural areas pharmacist sometimes is the only easy to access health care health care professional. Good consultation requires communication and counseling skills where the pharmacist is prepared to listen to, and to respond constructively to, patient's question and wishes.

Aim:

Aim of the study was to evaluate the pharmacist's consultation and health advice seeking patient's behaviors at the rural community pharmacy.

Methods:

A participant observation method was applied. Study was made during 2009 13th of October- 12th of August at 3 rural community pharmacies. The observation took place during all pharmacy opening hours, twice in every of chosen pharmacies. The observer filled earlier prepared form for every rural community pharmacy patient's visit. The statistical analysis of the quantitative findings was performed using the data accumulation and analysis software package SPSS version 17.0 for Windows. P-values less than 0.05 were considered to be significant.

Results:

78.32% patient consultations were short-term, lasting up to 5 minutes, 17.04%, medium term (6-10 min.) and only 4.56 % consultations were long-term (11-15 minutes). The pharmacist knew the 49% patients. Most of the patients visiting the pharmacy from 11 to 12 h, after midday the flow of patients reduced. Pharmacists information were more likely to provide patients, who wanted to discuss about their health problem. ($p < 0.001$) The patient asked questions depended on the patient's sex ($p < 0.05$), but was independent of patient age ($p > 0.05$). 19.54% objectives of the visit on the pharmacy was reimbursed prescription, 10.02% non-reimbursable prescription drugs, 41.97% objective of patient non-prescription medicines, 12.11% patients asking for advice about medicines, or desired to advise what medicine they have to used.

Conclusions:

The rural area community pharmacy patients together with obtained medication receive community pharmacists' advice how to use it and other related information. Pharmacists were readily to advice patients who presented their symptoms in the pharmacy. They paid careful attention to patients requests for help and usually had knowledge about earlier patient's health and medication history. Almost all patients willingly communicated with the pharmacist.

X. SURGERY SESSION

1. ASSESSMENT OF CONSERVATIVE AND OPERATIVE TREATMENT RESULTS FOR CHILDREN WHO EXPERIENCED PROXIMAL FEMUR FRACTURES

Aurimas Širka, Artūras Dobilas, Liucina Dobrovolskytė
HLUHS KC Children's Orthopaedics and Traumatology Sector
Head of Scientific Work: Dr. E.Čekanauskas

Children's proximal femur fractures are very rare - they make less than 1 percent of all fracture cases. The usual cause of this trauma - is high energy.

Aim:

To compare conservative and operative treatment results of children who experienced proximal femur fractures in Hospital of Lithuanian University of Health Sciences Kaunas Clinics (further - HLUHS KC) year 2000-2009.

Methods:

- retrospective documentary analysis of data was performed of treated patients who experienced proximal femur fractures in HLUHS KC children traumatology and orthopaedics sector year 2000 - 2009 (age, gender, injury mechanism, fracture type, refractive shift, time to operations);
- survey of treated patients or their parents was performed using modified questionnaire, formed according to Ratliff's radiological and clinical evaluation criteria;
- applied treatment methods, late results of treatment and occurred complications were assessed;
- data analysis was performed using Microsoft Excel and SPSS 17.0 software package, statistical significance criterion $p < 0.05$.

Results:

During the investigative period 31 patients were treated in HLUHS KC children traumatology and orthopaedics sector. Based on Delbet classification, fractures distributed as follows: type I fractures (trans-epiphyseal) - 2 cases, type II (transcervical) - 18 cases and type IV (peritrochanteric) - 11 cases. Fracture type depends on trauma mechanism ($p = 0.035$). Refractive shift statistically highly depends on trauma mechanism - the patient injured during the accident ($p = 0.042$).

Conservative treatment strategy is chosen significantly more often for children younger than 10 years ($p = 0.045$) and less than 24 hours after trauma ($p = 0.016$). Late results of treatment were assessed according to Ratliff's radiological and clinical criteria: satisfactory - 16 patients (51.6%). Age, sex, time from trauma to surgery, fracture type, methods of reposition and treatment tactics statistically did not have influence on late results of treatment and aseptic necrosis rate ($p > 0.05$). Method most commonly used in surgery in HLUHS KC for children - was osteosynthesis with 1-3 spongiosic cannulated screws - 15 cases (48.7%).

Conclusions:

1. Conservative treatment strategy is chosen significantly more often for children younger than 10 years ($p = 0.045$) and after the trauma less than 24 hours ($p = 0.016$).
2. Fracture type depends on trauma mechanism ($p = 0.035$).
3. Refractive shift statistically highly depends on trauma mechanism - the accident ($p = 0.042$).

2. COMPARISON OF SURGICAL METHODS USED TO TREAT PERFORATED GASTRIC AND DUODENAL ULCERS

Laura Buineviciute, Jurgita Apneriene
LUHS CH Clinic of Surgery
Head of the scientific work: prof. M. Kiudelis

Objective:

To evaluate and compare open and laparoscopic methods used to treat perforated ulcers.

Methods:

Case histories of 144 patients, treated at LUHS CH Clinic of Surgery for perforation of gastric and duodenal ulcers were analyzed retrospectively. Information collected included patient's age, gender, duration of peptic ulcer disease, symptoms, use of NSAIDS, comorbidities, American Society of Anaesthesiologists (ASA) class, shock, size of perforation, duration of surgery, laboratory data, length of hospitalization, peritonitis, post-operative complications, use

of antibiotics and outcomes. Results were considered statistically significant when $p < 0.05$ according to χ^2 and Fisher's exact test for nonparametric data and Mann-Whitney U test for parametric data.

Results:

A total of 120 patients, 69 men and 51 women, underwent open surgeries; 8 of them were conversions. Mean patient age was 53,2 y., oldest 97 y.; mean hospital stay 11,27 d., shortest 3 d., longest 55 d.; mean length of antibioticotherapy was 7,98 d., maximal 40 d.; mean length of surgery was 94,04 min., maximal 210 min., minimal 40 min.; mean ulcer perforation diameter was 11,39 mm, maximal 150mm, minimal 2,00mm; most perforations were 5,00mm (32 cases), 14 were 10,0 mm and 10 were 20,0mm. Ulcers in open surgery group were localized as follows: 83 gastric, 35 duodenal and 1 gastrojejunal. The most frequent duration of surgery was 90min. (28 cases). Feeding was most frequently restarted on 2nd or 3rd post-op day. Previous ulcer disease was documented in 28 cases. Comorbidity in this group was present in 58 cases. There were 10 cases of local, 64 cases of diffuse and 46 cases of local peritonitis. Five deaths and 11 postoperative surgical complications occurred in open surgery group, 2 of them were wound infections, 2 intraabdominal abscesses, 6 leaks.

A total of 24 patients, 21 men and 3 women, underwent laparoscopic surgery; mean patient age was 39,58 y., oldest 75 y.; mean hospital stay was 6,96 d, longest 13d.; mean length of antibioticotherapy was 5,56 d., longest 12d.; mean ulcer perforation diameter was 5,56 mm, maximal 20,00 mm; mean duration of surgery was 94,17 min., shortest 55min., longest 190 min. Ulcers were localized as follows: 14 gastric, 10 duodenal. Previous ulcer disease was documented in 6 of 24 cases. Comorbidity was present in 6 of 24 cases. All patients in laparoscopic surgery group were under 60 years old; all of them had APACHE II score < 8 . There were no deaths or complication in laparoscopic surgery group. There was 1 case of local, 21 diffuse and 2 cases of total peritonitis in this group. There were no cases with ASA >3 and symptoms duration >48 h or shock during admission in this group.

Conclusions:

1. Laparoscopic surgery was performed on younger patients.
2. Laparoscopic surgery was performed on healthier patients.
3. The duration of hospital stay was shorter in laparoscopic surgery group.
4. There were no deaths or complications in laparoscopic surgery group.

3. FOURNIER GANGRENE INCIDENCE AND TREATMENT RESULTS EVALUATION AT LITHUANIAN UNIVERSITY OF HEALTH SCIENCES UROLOGY CLINIC

Tomas Gudauskas

Urology Clinic, Lithuanian University of Health Sciences, Lithuania

Supervisor: MD, Marius Kinčius

Introduction:

Fournier gangrene is a necrotizing fasciitis, which usually affects the external genitalia, the perineal tissues, can also damage the stomach, lower limbs and chest tissue. The disease is characterized by high mortality therefore it must be taken more aggressive treatment measures within a few hours after the diagnosis.

Aim:

To identify risk and precipitating factors influencing negative Fournier gangrene treatment way out at Lithuanian University of Health Sciences Urology Clinic over the past 10 years.

Material and methods:

It was performed a retrospective analysis of 27 patients with Fournier gangrene, and treated at Lithuanian University of Health Sciences Urology department from 2000 through 2010. These patients were identified in two groups: the dead and survivors. In groups to identify independent factors that could affect the bad results of treatment were assessed following factors - patient age, etiological factors, comorbidities, anaerobic infection, hyperbaric oxygen therapy. The data was analyzed applying the binary regression analysis. Multivariate regression analysis was applied to parameters which during binary analysis were $p < 0.1$. The difference was statistically significant when the $p < 0.05$.

Results:

From treated patients 26 were males (96.3%) and 1 female (3.7%). All patients received surgical treatment. Eight patients died in the early postoperative period and the total mortality was 29.6%. In the deaths group the age averaged 74.1 years (54–85), and in the recovery group age average was 59 years (24–81), $p < 0.03$. In binary regression analysis defined that diabetes mellitus, benign prostatic hyperplasia, prostate Ca, skin abscess, hyperbaric oxygen therapy, anaerobic infection are the factors influencing a bad way to go. After the multivariate regression analysis it is showed that only diabetes mellitus is an independent factor increasing the risk of lethal 4.3 times.

Conclusion:

Fournier gangrene is usually a disease of older men and the incidence of diabetes mellitus significantly influences the lethal Fournier gangrene treatment option.

4. FRACTURE OF THE RIBS, TRHORACIC VISCERAL ORGAN LESSIONS AND COMPLICATIONS IN DIFFERENT AGE GROUPS

*Jonas Smirnovas, Vytautas Augustinavičius, Ugnius Algirdas Bagdonas
Thoracic surgery clinic, Lithuanian university of health sciences, Lithuania
Head of scientific work: prof. R. Rubikas*

Aim:

To investigate rib fractures, lesions of thoracic visceral organs and the connection between their complications.

Methods:

44 patients (32 males and 12 females), hospitalized for various injuries in Thoracic surgery department in the year of 2009 to 2010, were examined.

Data was collected about nature of thoracic injuries.

- a) Rib fractures
- b) Injuries of visceral organs and their complications.

The complications which occur most frequently after the fractured rib injuries, were identified.

Often recurring rib fractures with particular complications, were sifted out.

Results:

Median age of patients were $54,53 \pm 4,79$ years, with no significant statistical difference between sexes ($p=0,51$). Patients had $3,86 \pm 0,66$ fractured ribs, statistically equally between sexes ($p=0,367$). Pneumothorax was diagnosed to 40.6 % men and 58.3 % women. Hemothorax diagnosed 53.1 % men and 41.6 % women. Most commonly, fractures are sustained by 40 years old males. The maximal ribs fractures are at 40 and 60 years old for females. In age group between 40-50 years, men had an average of 5,66 fractures, while women – 3.33 fractures. In age group between 50-60 years, men had an average of 3.9 ribs fractures, while women – an average of 2.25 fractures. With complications, the most frequent rib fractures for males are - VI, VII, VIII, IX, it is 44,275% of total ribs fractured. In female group - VII, VIII, IX rib fractures dominate and it is 66.66% of total number. In younger male age group, hemothorax reaches up to –75% of all complications, while 70 years olds - only 25 %. Pneumothorax in younger age occurs rarely (40-50%) and increases for elderly patients (75 %). The same tendency occurs for women.

Conclusions:

1. With advancing age till 40 years old male and 60 years old female patients, the quantity of rib fractures increase(at 50 years old females the quantity of the ribs fracture are decreased).
2. In the case of senior patients, most of fractures cause one or several complications, mainly hemothorax and pneumothorax. Pleurisy is a rare complication.
3. Research showed that mostly repeating rib fractures are VII, VIII, IX, it depends on anatomic thoracic characteristics. So we can draw a conclusion, that the last mentioned fractures are the most dangerous.
4. When the age is advancing hemothorax occurs more rarely, but the number of pneumothorax complications is increasing. It's specific for both gender.
5. There are no significant difference between males and females in average fractures count.
6. Pneumothorax more often is diagnosed for females and hemothorax for males.

5. INDICATIONS FOR CONGENITAL HYDRONEPHROSIS SURGICAL TREATMENT SUBSTANTIATION

*Sandra Motiejūnaitė, Edgaras Diržius, Agnė Vermote
Department of Pediatric Surgery, Lithuanian University of Health Sciences, Lithuania
Head of the Scientific work – doc. dr. Artūras Kilda*

Introduction:

Hydronephrosis – it is a disease when a fluid accumulates in a renal pelvis and calyces, mostly caused by obstruction of pyeloureteric junction. Treatment relies on severity of a disease. Disorder of urine leakage or significant renal cavities dilatation, what cause the clinical symptoms, is surgically corrected. However the age in which clinical symptoms develop or increase the anteroposterior (AP) measurement is not clear.

Aim:

To measure the natural course of hydronephrosis and to determine the critical age for surgical treatment.

Objective:

1. To evaluate the speed of renal cavities dilatation in AP measurement using the ultrasonic (US) method for children in different age.
2. To evaluate the age with significant dilatation of renal cavities in groups of operated and not operated children.

Methods:

In this study medical records of 64 patients in hospital of Lithuanian University of Health Sciences reception of children advisory clinic were retrospective examined. Selection criteria - children with hydronephrosis (1999-2010 year). Data were collected in an anonymous manner. To evaluate the changes of renal cavities was calculated by the delta: the first measurement of fixed cavity size, minus the remaining measurements. In order to evaluate the speed of change, it was calculated by the rate between successive measurements and the time between it. The time between US measurements was expressed in days. Subjects were divided into five groups according to their age at a moment of investigation: 1) up to 3 months, 2) 3 to 12 months, 3) 1 to 6 years, 4) 6 to 10 years 5) and older than 10 years. The data was stored in Microsoft Office Access database. Data analysis was performed using the statistical data analysis SPSS version 19,0 and according to the Student's t-test. A *p* value of <0,05 was considered significant.

Results:

AP measurement's change among operated and not operated patients was significant in the 1st group: the delta change average among not operated patients was $1,70 \pm 2,77$ mm (n=60) and among operated patients was $-3,53 \pm 3,42$ mm (n=15), (p=0,02). In the 2nd group delta change average among not operated was $1,55 \pm 3,12$ mm (n=37) and among operated was $-4,93 \pm 2,48$ mm (n=11), (p<0,01). No significant difference in 3rd and 4th groups. In the 5th group delta change average among not operated was $0,10 \pm 2,88$ mm (n=39) and among operated was $-8,07 \pm 4,39$ mm (n=11), (p=0,02). Renal AP measurement's speed change average among operated and not operated patients in the 2nd group among not operated patients was $-0,01 \pm 0,03$ mm/24h (n=37) while among operated it was $0,05 \pm 0,13$ mm/24h (n=11), (p=0,02). In the 5th group among not operated patients speed change was $0,003 \pm 0,04$ mm/24h (n=38), while among operated patients speed change was $0,07 \pm 0,17$ mm/24h (n=11), (p=0,01). No significant difference in groups 1st, 3rd and 4th. In accordance to graphic's information, the biggest dilatation of renal cavities was seen in children with an age of eight.

Conclusions:

The biggest significant speed change of renal cavities dilatation between operated and not operated children was in 2nd and 5th groups.

6. MOST COMMON SYMPTOMS AND PREDISPOSING FACTORS OF MIDDLE EAR INFECTION, THEIR DURATION

Aurimas Klivickas

ENT center of Santariškės Clinics, University of Vilnius, Lithuania

Scientific Head: Prof. Eugenijus Lesinskas

Introduction:

Every year lots of people find themselves in need of ear surgery, as a result of acute or chronic purulent middle ear infections. Some studies have reported that many of preoperative symptoms have lasted for more than 6 months and patients did not seek specialist's help, so the pathological changes deepen and symptoms get worse.

Aim:

The aim of our study was to determine leading risk factors and clinical findings duration of the patients, hospitalized due to otitis media.

Methods:

A survey was performed in the ENT center of Vilnius University Santariškių Clinics Nov. 2010th – Feb. 2011th. Survey included patients, hospitalized in the center due to otitis media. Questionnaire included: demographic data; common symptoms, their duration; risk factors.

Results:

66 patients were interviewed, 32(48 %) men, 34(52%) women. Mean age 35,5(±14) years. Right ear was damaged in 26(40%), left in 28(42%), both in 12(18%). 57(86%) have felt worsening of hearing, mean 7,5(±7,8) years. Tinnitus was reported by 42(64%) patients, being 24(57%) low and 18(43%) high frequency type. Its mean duration was 7,43(±9,25). Otorrhea was reported by 48(73%) patients, with mean duration 4,6(±5,3) years. Balance when walking was disturbed in 18(27%) patients, vertigo in 18(27%), ear fullness was felt in 45(68%). Otitis were reported: in childhood 51(77%), in family 24(36%) of patients. Worsening in hearing was reported in 21(32%) of patient families. 48(73%) had experienced one, 12(18%) two and 6(9%) three and more ear operations prior to this hospitalization. Family history does not correlate statistically significantly with symptom (otorrhea, worsening of hearing, tinnitus) duration ($p < 0,05$)

Conclusions:

1. More than $\frac{3}{4}$ of patients have felt symptoms for longer than 5 years and only $\frac{1}{4}$ avoided having no ear operations in their lifetime.
2. Family history does not correlate statistically significantly with symptom duration.

7. NUTRITIONAL STATE EVALUATION WITH SUBJECTIVE GLOBAL ASSESSMENT EVALUATION FORM OF PATIENTS HOSPITALIZED IN GENERAL PROFILE SURGICAL DEPARTMENT

Jonas Bernotas, Raminta Grikėnaitė

General surgery department of Kaunas 2nd clinical hospital,

Lithuanian University of Health Sciences.

Head of the Scientific work: associated professor Saulius Bradušliskis

Aim:

Subjective global assessment of nutritional status in patients, hospitalized in general profile surgical department, and its linkages with age and gender.

Methods:

The study included 200 patients from Kaunas 2nd Clinical Hospital, General Surgery Clinic from 2009-10-02 to 2010-02-23. Patients had to be in the hospital not more than three days on the evaluation moment. Patients were kindly asked if they could answer questions from evaluation form. 170 patients agreed to participate (response rate 85 %). Age varies from 16 to 89 years. Depending on the age participants were divided in three age groups. The first group consisted of 56 patients (from 16 to 45 years), second group – 53 (from 46 to 59 years) and the third group – 57 (from 60 to 89 years). Patients were interviewed using a standardized Subjective Global Assessment (SGA) questionnaire, Lithuanian version. SGA results were compared with age and gender of participants. Associative analysis method χ^2 was used to compare

independent groups. During the analysis the procedure for applying this approach was followed – 80 % of the observed table frequency rate was not less than 5. Differences were statistically significant when $p < 0,05$.

Results:

Average age of patients hospitalized in general profile surgical department was 52 years, Standard deviation – 16,2. Youngest patient was 16 years old, oldest – 89 years old.

There were 121 well- nourished patients (SGA score – “A”), 46 patients were mildly-moderately malnourished (SGA score – “B”) and 3 patients were severely malnourished (SGA score – “C”). There was no statistically significant difference between patients hospitalized according to the schedule and urgently. In order to get more statistically valid results, patients in groups with SGA score “B” and SGA score “C” were combined into one group, witch was named “risk of nutritional state”. In this group were 49 patients.

While analyzing SGA results, statistically significant difference between three age groups was noticed ($\chi^2=7,44(2)$; $p=0.02$). In male age groups there was no statistical difference, but there was statistically significant difference between female age groups ($\chi^2=6.02(2)$; $p=0.04$). In the first female group (16-45 years old) SGA “A” – 82.4% and SGA “B” – 17.6%. In other groups, with elder age women, ratio between SGA “A” and “B” - changes. In second female group (46-59 years old) SGA “A” rate reduces until – 56.7% and SGA “B” rises up to – 43.3%. In third female group (60-89 years old) SGA “A” – 58.8% and SGA “B” – 41.2%.

Conclusions:

SGA score is directly depends on patients age. With age SGA score and nutritional state becomes worse. When male are getting old – their nutritional state is getting worse equally. In case of female nutritional state becomes worse rapidly after 46 years.

8. PHARYNGEAL OPENING OF AUDITORY TUBE CHANGES IN MIDDLE EAR INFECTION

Aurimas Klivickas

ENT center of Santariškės Clinics, University of Vilnius, Lithuania

Scientific Head: Prof. Eugenijus Lesinskas

Introduction:

There are few determined Eustachian tube (ET) functions: pressure equalization and fluid drainage, but its role in otitis development has yet to be understood. Furthermore, studies have shown patients, suffering from any allergy, to have more advanced pathologic changes in ET functions.

Aim:

Analyze ET function changes in hospitalized otitis patients and compare them, grouped as allergy positive and negative.

Methods:

ET function of 57 patients, suffering from otitis and hospitalized in Vilnius University Santariškių Clinics ENT Center from Nov. 2010th till March 2011th, were examined using video endoscopy. ET endoscopy rating scale was used, in which a score is assigned to each of the following categories: valve, mucosal edema, m. levator veli palatini (LVP) and m. tensor veli palatini (TVP) function (VMLT scale). In addition to this, patients were grouped as allergy positive (A+) and negative (A-) using medical data and ET function changes were compared between these two groups.

Results:

During a period of 4 months, 57 patients were successfully examined. 25(46%) of them were men, 32(54%) women. Mean age was 39(± 15) years. 23(40%) of them suffered from allergy, 34(60%) did not. Patulous ET valve was found in 3A+ and 5A- patients ($p>0,05$). Dilating with effort or unable to dilate ET valve was found in 10A+ and 20A- patients ($p>0,05$). Mild weakness or no motility of LVP in 13A+ and 3A- patients ($p<0,05$). Mild weakness or no motility of TVP in 15A+ and 5A- patients ($p<0,05$). Moderate or severe mucosal pathology in 18A+ and 23A- patients ($p>0,05$).

Conclusions:

1. The difference in ET valve and mucosal changes in allergy positive and allergy negative patients was not statistically significant.
2. The LVP and TVP muscle functions were more pathological changed in allergy positive than in allergy negative patients.

9. RADIOLOGICAL ASSESSMENT OF CHILDREN WITH PECTUS EXCAVATUM

Sandra Motiejūnaitė, Vilija Danylaitė, Vilma Hirsch
Department of Pediatric Surgery,
Lithuanian University of Health Sciences, Lithuania
Head of the Scientific work – doc. dr. Artūras Kilda

Introduction:

Pectus excavatum is the most frequent of all deformities of the chest. A minimal invasive method of surgery is used to correct the deformation. This method, called a Nuss operation, is used about twenty years and has good cosmetic results and relatively less complications. The further results of treatment are still analysed.

Aim:

1. To define the chest wall symmetry before operation.
2. To define Nuss procedure cosmetic results of non symmetric caved chest wall.
3. To define the changes of the chest wall parameters before and after operation
4. To define the changes of Haller index (HI) before and after operation.

Methods:

The retrospective computerized tomography (CT) data analysis of sixteen patients with pectus excavatum was done. Because of evaluation of thoracic organs condition and topographical chest wall organs proportions before operation the CT was made in the deepest excavation position.

The Nuss procedure was made for all children.

The bar was removed after two years approximately. The CT was made again.

The CT evaluation: transversal chest dimension (a), sagittal right and left chest size dimensions (b and b1) and sternovertebral distance (c). Haller index = a/c . Alpha angle was defined as well.

In assessment of chest asymmetry, left and right side chest depth ratio was calculated, according to the following equation: $b*100/b1$, where b and b1 are right and left side chest depth ratio. Chest wall is considered symmetric if asymmetry index is $<5,0$ percent, and asymmetric, if this index is $>5,0$ percent.

Chest asymmetry was analysed using χ square. The averages were compared using Wilcoxon test. The results are given average \pm standard deviation (SD). Critical range is set in accordance with 5 percent error probability. The data were stored in Microsoft Office Access data basis and were analysed using SPSS software (version 18.0) ($p < 0,05$).

Results:

The symmetry of the chest before operation was 56 percent (9 children), after operation – 93,75 percent (15 children) ($p = 0,001$). Non symmetric chest wall before operation was 44 percent (7 children), after operation – 6,25 percent (1 child) ($p = 0,001$). The average of transversal chest dimension (a) before operation was $22,7 \pm 1,84$ cm, after operation – $22,98 \pm 1,9$ cm ($p = 0,27$). The average of sagittal right chest size dimension (b) before operation was – $12,98 \pm 1,36$ cm, after operation – $13,18 \pm 1,31$ cm ($p = 0,82$). The average of sagittal right chest size dimension (b1) before operation was $12,94 \pm 1,06$ cm, after operation was $13,36 \pm 1,49$ cm ($p = 0,43$). The average of sternovertebral distance before operation was $6,42 \pm 1,03$ cm, after operation – $7,6 \pm 0,96$ cm ($p = 0,001$).

Alpha angle before operation was $19,09 \pm 12,06$ cm, after operation was $16,87 \pm 9,55$ cm ($p = 0,001$).

The average of CT Haller index before operation was $3,75 \pm 0,93$, after operation $2,97 \pm 0,43$ ($p = 0,001$).

Conclusions:

1. The symmetric chest wall is more frequent.
2. The operation statistically significantly corrects the symmetry of the chest.
3. Transversal chest dimension, sagittal right and left chest size dimensions and sternovertebral distance increased after operation.
4. Haller index significantly decreased after operation.

10. SIZE (T) AND DEGREE OF DIFFERENTIATION (M) OF BASAL CELL CARCINOMA

*Vytautas Augustinavičius, Mantas Sakalauskas, Jonas Smirnovas
Plastic and reconstructive surgery clinic,
Lithuanian university of health sciences, Lithuania
Head of scientific work: assoc. prof. K. Maslauskas*

Introduction:

basal cell carcinoma is the most common skin tumour. Its optimal treatment is surgical excision. Pathohistological analysis determines the size of the tumour, degree of differentiation, local immune responses, removal radicality and other characteristics.

Aim:

to assess the interrelation of the size of the tumour (T) and its degree of differentiation (M), as well as their correlation with local immune expression, sex and age of the patients, duration of the illness, localization of the tumour, ulceration and excision margins.

Methods:

the data has been drawn from the medical records of 420 patients that were treated in the plastic and reconstructive surgery unit.

Results:

the local immune response increased together with the growth of the tumour ($p=0,002$) and decrease in differentiation ($p<0,001$). The size of the tumour did not depend on the degree of differentiation of the tumour ($p=0,895$), sex of the patients ($p=0,154$), their age ($p=0,679$), duration of the illness ($p=0,09$), ulceration of the tumour ($p=0,052$) or localization, except for the nose area ($p=0,017$), the hairy part of the head ($p=0,019$) and limbs ($p=0,001$). Interdependence between the degree of differentiation of basal cell carcinoma and ulceration was statistically plausible ($p=0,016$). Dependence on the sex of the patients ($p=0,812$), their age ($p=0,211$), duration of the illness ($p=0,312$), localization, except for the ear area ($p=0,005$), was not found. In addition, tumours in the ear area are prone to ulceration ($p=0,036$). In the case of a large tumour, excision margins should be adequately made larger ($p=0,043$). Still, 79 tumours were removed non-radically (R1), 26 of which were in the nose area ($p=0,009$), which makes up 29,9% of all the tumours in the nose area. As the tumour increases, the number of cases of non-radical removal also goes up ($p=0,006$). No difference between the size of the tumour excision margins and non-radical removal was detected ($p=0,668$).

Conclusion:

the local immune response to the tumour is directly related to the size of the tumour and its degree of differentiation. In the cases of an ulcerous basal cell carcinoma radical removal is relevant, especially in the ear area, because ulceration correlates with a smaller degree of differentiation of the tumour. Non-radical removal was most often in the cases of large tumours and tumours in the nose area. Thus, it is essential to enlarge the excision margins in such cases.

11. TREATING CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION BY APPLYING PULMONARY ENDARTERECTOMY

*Tomas Antanavičius
Vilnius University – Faculty of Medicine
Head of the scientific work: Docent Rimantas Karalius*

Aim:

The effectiveness of the treatment of pulmonary endarterectomy of chronic thromboembolic pulmonary hypertension

Methods:

In 2010-09-23, the first successful pulmonary endarterectomy was performed in Lithuania, Vilnius University Hospital Santariškių Clinics. The results of the examination of the state of patient were compared before and after surgery: 1) Echocardiography, 2) Pulmonary artery angiography, 3) Intracardial examination: 1) manometry was applied to aorta, right atrium, right ventricle, pulmonary artery, 2) oximetry was applied to aorta, pulmonary artery, 3) pulmonary vascular resistance evaluated.

Results:

After the pulmonary endarterectomy the patient was subjected to echocardiography exam: the decrease of right heart chambers (right atrium and right ventricle) was noted, the decrease of tricuspid valve regurgitation and pulmonary artery pressure was also noted. The improvement of right ventricle ejection fraction was noted.

Conclusions:

Pulmonary endarterectomy is the effective method of treating of chronic thromboembolic pulmonary hypertension. Overload of right ventricle decreased after pulmonary endarterectomy and the quality of patient life improved significantly.

XI. POSTER SESSION

1. EFFECT OF SALT CONSUMPTION ON ARTERIAL STIFFNESS

Dainora Kubiliūtė

Vilnius University Faculty of Medicine

Head of the Scientific Work: Lect. Laurynas Rimševičius, VULSK Centre of Nephrology

Objective:

To evaluate the effects of the patient's consumed salt on arterial stiffness.

Methods:

A prospective clinical study was performed, covering 20 patients with arterial hypertension in the VUHSK Nephrology Center in 2010-2011. Selection criteria: patients free from diabetes, no renal dysfunction. For the arterial stiffness assessment the Sphygmocor® tonometer was used for measurement of the arterial pulse wave velocity (PWV) and the augmentation index (AI). To estimate the consumption of salt, a survey and daily urine biochemical analysis was carried out. Questionnaire survey assessed patient dietary habits and consumption of salt, the biochemical analysis assessed the urinary sodium, potassium and creatinine levels.

The data were processed using the SPSS program 17.00. The difference was evaluated when comparing two groups, the Student's t test was used between the quantitative data and the χ^2 between the quality data. The correlation was assessed by using the correlation coefficient of Pearson and multiple regression. Data are considered statistically reliable at $p < 0.05$.

Results:

The study included 20 patients. Gender distribution: 10 (50%) men and 10 (50%) women; age arithmetic mean of 50 ± 14.2 years, the youngest patient 20 years old, the oldest patient 75 years old. Brachial mean arterial pressure: systolic 150.3 ± 24.13 mmHg, minimum 119 mmHg, maximum 216 mmHg, diastolic 92.6 ± 17.13 mmHg, minimum 66 mmHg, maximum 137 mmHg. Central PBG arithmetic mean 9.45 ± 2.23 , minimum 6, maximum 14.1. Peripheral PBG arithmetic mean 9.66 ± 1.1 , minimum 8, maximum 12. AI arithmetic mean 19.85 ± 7.15 , minimum 12, maximum 55. A total of 7 (35%) patients use a lot of salt, 13 (65%) patients use little salt.

The patient's consumed salt quantity weakly correlates with the central PWV ($r = -0.22$) inverse correlation, unreliable ($p > 0.05$). The patient consumed salt correlated weakly with augmentation index ($r = -0.31$), inverse correlation, unreliable ($p > 0.05$). Brachial diastolic pressure significantly increases the peripheral PBG ($p < 0.01$). Patients with a higher than average pressure, showed statistically significant release of Na content in the urine ($p < 0.05$).

Conclusions:

1. The patient's consumed salt quantity weakly correlated with central pulse wave velocity and augmentation index. Patients taking more salt have increasing arterial stiffness and systolic blood pressure.
2. With higher diastolic pressure arterial stiffness increased statistically significantly ($p < 0.05$).

2. HHV-6 AND HHV-7 INFECTION IN PATIENTS WITH GRAD III STRUMA

Stanislavs Savjonoks, Irina Fadejeva

August Kirichenstein Institute of Microbiology and Virology,

Riga Stradins University, Latvia

Head of the scientific work: MSc. Biol. Alina Sultanova

Introduction:

Human herpesvirus 6 (HHV-6) and human herpesvirus 7 (HHV-7) are ubiquitous lymphotropic immunomodulating beta-herpesviruses. The involvement of herpesvirus infections has recently been suggested as a major environmental factor in the development of thyroid disorders. Still, no conclusive data are available.

Aim:

To evaluate the frequency of HHV-6 and HHV-7 infection in patients undergoing thyroidectomy referring to the struma type.

Methods:

20 patients who underwent thyroidectomy were enrolled in the study, including 12 cases of toxic multinodular struma and 8 cases of non-toxic (euthyroid) struma. Control group included thyroid tissue autopsy material from 6 individuals with encephalopathies without thyroid involvement. DNA was isolated from peripheral blood leukocytes (PBL), blood plasma (markers of latent/persistent and active infection, respectively) and thyroid gland tissue. Presence of HHV-6 and HHV-7 genomic sequences was detected using nested polymerase chain reaction (nPCR). HHV-6 variants were identified using nPCR with variant-specific primers.

Results:

HHV-6 genomic sequence was detected in thyroid tissue in 6/8 (75%) cases of euthyroid struma, and in 3/6 (50%) of these cases viral DNA was found in PBL as well. HHV-7 DNA in euthyroid struma was present with same frequency (6/8 or 75%) of cases, and in all (100%) of these cases viral DNA was detected also in plasma. In thyroid tissue of toxic struma HHV-6 genomic sequence was presented in 11/12 (92%) of cases, and in 6/11 (55%) of these cases viral DNA was found in PBL as well. Moreover, 2/6 (33%) of these cases HHV-6 DNA was detected in plasma as well. HHV-7 DNA in toxic struma thyroid tissue specimens was revealed in 7/12 (58%) of cases, and in 6/7 (86%) of these cases viral DNA was found also in PBL. In turn, in 2/6 (33%) of these cases HHV-7 plasma viremia was revealed. In the control group's PBL DNA samples HHV-6 and HHV-7 sequences were found in 2/6 (33%) and 3/6 (50%), respectively. No presence of HHV-6 or HHV-7 genomic sequences was shown in thyroid tissue.

Conclusions:

High occurrence of HHV-7 in plasma DNA samples of the patients with euthyroid struma allows thinking about its role in etiology and/or pathogenesis of the particular *condition*. Absence of viral DNA in control group thyroid tissue points out a possible association of herpesvirus infection with thyroidal diseases. Although the herpesvirus reactivation is a common finding, no studies have provided precise evidences on its association with thyroid diseases so far. It also has to be determined whether viruses are causative agents or just innocent bystanders. In order to obtain reliable results, further specific studies with increased number of patients are required.

3. LARYNGEAL MANIFESTATIONS OF GASTROESOPHAGEAL REFLUX IN CHILDREN.

Svetlana Ince

Department of Otorhinolaryngology, Children's Clinical University Hospital

Rīga Stradiņš University, Latvia

Head of the Scientific work: Dr. Ivo Terauds

Introduction:

Gastroesophageal reflux (GER) is believed to be an important etiologic factor in the development of laryngeal disorders in children.

Aim:

To evaluate the frequency of laryngeal disorders in the population of children with endoscopy positive GER.

Methods:

The study included 31 children (19 boys and 12 girls from 5 to 17 years old) who had endoscopy positive GER. Each child underwent a fiberoptic laryngoscopy after fibroesophagogastroduodenoscopy to verify laryngeal disorders. These children were also evaluated using structured questionnaire which included information about the most common GER and laryngeal symptoms, fibroesophagogastroduodenoscopy findings and the anamnesis of ENT disorders and illnesses as well as the lifestyle.

Results:

Laryngeal manifestations were discovered in 16 children, i.e. in 52%, of the children who had endoscopy positive GER. The most common reflux symptoms were clearing the throat (88%), hoarseness (69%) and excess throat mucus (69%). There were also such problems as breathing difficulties and troublesome cough (44% and 50%, respectively). The heartburn occurred in 56% of children. Laryngeal edema and erythema and posterior commissure hypertrophy were the most common laryngeal disorders. The most frequent ENT disorder mentioned in anamnesis was congested nose (69%).

Conclusions:

The results of this study confirm the relationship between GER and laryngeal disorders in children. On the basis of achieved data, it is planned to continue the study with management and further diagnostics in order to analyze the results of treatment.

4. LONG-TERM BIOCHEMICAL CHANGES AFTER THE RADIATION THERAPY OF PITUITARY ADENOMAS SECRETING GROWTH HORMONE

Paulius Puzinas, Viktorija Slavinskytė, Rima Vareikienė

Oncology Clinic, LSMU MA, Lithuania

Head of the Scientific work: MD L. Tamašauskienė, MD Š. Tamašauskas

Aim:

To assess the effectiveness of the radiation therapy (RT) in treating pituitary adenomas hyper-secreting growth hormone (GH).

Methods:

Medical records of 18 patients having pituitary adenoma hyper-secreting GH were retrospectively analysed. The group consisted of 6 men and 12 women whose age average was 45.2 ± 11.5 years. The average total dose of the applied RT was 46 Gy. Serum GH level was measured before and after the therapy. In order to determine the quantitative decrease of serum GH level, the ratio of the serum GH level to the upper limit of its norm was examined. This method was chosen since the methodologies and norms of hormone tests were varied during different periods of time, which impeded the direct comparison of test results.

Results:

The variation of serum GH level was examined in 18 patients having acromegaly. Before the RT, serum GH level of all patients exceeded the norm. Less than one year after the therapy, serum GH level remained higher than the norm for 81.8% of patients (9 out of 11), during the period of time from 1 to 5 years – 46.2% of patients (6 out of 13) and after more than 5 years – 9% of patients (1 out of 11). The ratio of serum GH level to the upper limit of its norm was 4.55 ± 2.21 before the therapy. This ratio was 2.51 ± 0.9 less than one year after the therapy, 1-5 years afterwards it dropped to 0.96 ± 0.52 , whereas 5 years afterwards – 0.39 ± 0.18 . The differences among separate groups are statistically significant ($P=0.02$ according to the Friedman test).

Conclusions:

1. RT is an effective method for the treatment of pituitary adenomas hyper – secreting growth hormone
2. The effect of RT is gradual: normalization of serum GH level is achieved only after several years.

5. MANAGEMENT OF GASTRIC CANCER: WERE THERE ANY CHANGES IN LAST 15 YEARS?

Dainora Butkutė, Vaidas Gudonavičius, Dainius Plenta

LUHS CH Department of Surgery

Head of the Scientific work: doc. Žilvinas Dambrauskas

Objective:

The survival after radical operation for stomach cancer.

The aim of this study:

1. To evaluate the changes in age, sex, lymphonectomy, operation type, hystological type, TNM type, methastasis among patients, who underwent curative stomach cancer surgery in periods of 1994-1998 and 2005-2009 at LUHS Department of Surgery.
2. To compare the survival of patients during two periods 1994-1998 and 2005-2009 after curative operation for stomach cancer.

Material and methods:

Patient data was collected from hospital clinical database and case histories, survival data was obtained from the National Cancer Register. We assessed demographic and clinical characteristics of patients in both retrospective groups, survival of patients was evaluated by the Kaplan-Meier method.

Results:

Data of 175 patients were collected from the period of 1994-1998. Data of 309 patients were collected from the period of 2005-2009. The groups were identical by age, sex, and cancer stages, and type of curative surgery performed (total or partial gastrectomy).

Survival analysis of patients in both cohorts from periods 1994-1998 and 2005-2009 after curative operation for stomach cancer revealed no significant differences between the groups.

Conclusions:

Most of the analyzed characteristics of patients with gastric cancer remain unchanged during the last 15 years. The overall survival rates also have not significantly changed during this period of time.

6. MYXOMATOUS ANEURYSMS: REPORT OF A CASE AND LITERATURE REVIEW

Egle Tamuleviciute, Timo Krings

*Division of Neuroradiology, Toronto Western Hospital,
University of Toronto, Canada*

Background and Aim:

Cardiac myxomas are benign heart tumors that may lead to neurological manifestations including distal aneurysms. The aim of this retrospective review was to estimate the incidence of myxomatous aneurysms among patients with atrial myxoma and among all patients with brain aneurysms among Toronto Western Hospital patients in the period of 1999-2010 and to review the imaging features of aneurysms associated with atrial myxomas

Methods:

We performed two separate retrospective databank analyses to determine a) the number of aneurysms managed, and b), the number of patients seen for atrial myxoma.

The latter was derived from the local University Hospital Medical Imaging databank encompassing 40 cases with proven atrial myxoma from 1999 to 2010, the former from a dedicated neurovascular databank into which all aneurysms managed between the same period of time were prospectively entered (2246 patients with 3045 aneurysms).

Results:

Among the 40 cases of atrial myxoma, we identified one patient who was diagnosed with multiple distal fusiforme brain aneurysms and whose clinical history is described below. Of the 2246 patients with aneurysms, we have identified 54 additional patients with distal aneurysms, most of which were related to dissections, trauma or infection. Multiplicity of distal aneurysms was exceedingly uncommon with only 6 patients identified including the index patient who was the only patient in the databank who had multiplicity of distal fusiforme aneurysms. The patient had been followed since 1966 when, as a 17 year old, an atrial myxoma was identified, surgically removed and proven by histology. In 1978 the patient experienced a right hemispheric stroke and cerebral angiography revealed multiple fusiforme distal aneurysms, that were re-assessed and reported to be stable in 1988. She patient became again symptomatic in 2003 when she noted to have occasional episodes of transitory paresthesias in her left upper extremity. Neuroimaging revealed stable appearance of a total of six fusiforme distal aneurysms.

Conclusions:

In the literature, only 25 patients with myxomatous aneurysms are reported. Most of the reported patients had multiple aneurysms on distal branches. The aneurysm morphology was in most instances fusiforme. We conclude that although myxomatous aneurysms are very rare, the clinician has to think about the entity in the setting of multiple, fusiforme or distally located cerebral aneurysms.

7. OUTCOMES OF NEWBORN INFANT BRAIN INJURIES AND VALIDITY OF ACETAZOLAMIDE TREATMENT

Agnė Kilmanienė, Ernesta Grybaitė

Clinic of Neonatology, Hospital of Lithuanian University of Health Sciences Kaunas Clinics

Head of the scientific work: Dr. D. Stonienė

Introduction:

Intraventricular hemorrhage (IVH) remains a serious complication of premature birth and post-hemorrhagic hydrocephalus still has no satisfactory treatment. Acetazolamide, a carbonic anhydrase inhibitor, which reduce the production of cerebrospinal fluid, have been suggested as non-invasive therapy to reduce hydrocephalus and the need for ventriculo-peritoneal (V-P) shunting. However, acetazolamide therapy is neither effective (no reduction in the risk for V-P shunt) nor safe (risk for nephrocalcinosis and biochemical anomalies and borderline increased risk for motor developmental anomalies at one year) in infants with post-hemorrhagic ventricular dilatation. Thus acetazolamide cannot be recommended for these infants.

Aim:

Identify the effects of most commonly diagnosed newborn infant brain injury on the psychomotorical development and to evaluate validity of acetazolamide treatment.

Methods:

A retrospective analysis was conducted of cases between years 2007 and 2009. A total of 161 medical records of premature infants that were observed at the Infant Development Observation Unit (IDOU) of Hospital of Lithuanian University of Health Sciences Kaunas Clinics were analysed. Data were processed using SPSS 17.0 software.

Results:

Out of 161 cases 111 (68.9%) were born with gestational age of <32 weeks, 50 (31.1%) of 32-36 weeks. 33 (20.5%) infants were of Extremely Low Birth Weight (ELBW), 66 (41%) of Very Low Birth Weight, 17 (10.6%) of Low Birth Weight and 45 (27.9%) of Normal Birth Weight.

During the infancy 19 (11.8%) newborns were diagnosed with IVH, 59 (36.7%) with periventricular leukomalacia (PL), 5 (3.1%) with inborn hydrocephalus (IH), for 78 cases (48.4%) there were no brain pathologies indicated.

Psychomotorical development disorder (PDD) was diagnosed for 19 infants (11.8%) of one year adjusted age. The development of 142 infants (88.2%) was normal.

PDD were diagnosed for 3 infants (15.8%) who had been diagnosed with IVH in their infancy, 5 (8.5%) with PL, 1 (25%) with IH. PDD was significantly more frequent in newborns of ELBW and diagnosed with IVH in the infancy ($p=0.04$).

11 newborns (6.8%) were treated with acetazolamide: 3 of them (27.3%) had been diagnosed with IVH, 5 (45.4%) with PL, 2 (18.2%) with IH and 1 (9.1%) with signs of brain injury. Indications for this treatment: 7 newborns (63.6%) had expanded ventricles and/or internal hydrocephalus, 1 (9.1%) external hydrocephalus, 1 (9.1%) after V-P shunt was placed and 2 others (18.2%) had no indications recorded. Given doses: 3 (27.3%) 10 mg/kg, 2 (18.2%) 5 mg/kg, 1 (9.1%) 15 mg/kg, 5 (45.4%) given 20-100mg without a record of weight. Average duration of acetazolamide treatment was 8.45 month (± 5.47). Dose has been increased for 7 (63.6%) infants.

Conclusions:

1. Psychomotorical development disorder (PDD) was diagnosed in 19 infants (11.8%) of one year adjusted age visiting the IDOU, significantly more frequently in those who were born of ELBW, having IVH.
2. Acetazolamide treatment was given to 6.8% premature newborns but indications provided in medical documentation did not match evidence based recommendations.

8. PAIN MANAGEMENT IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION. IS IT ENOUGH?

Žilvinas Vaičiulis, Aurimas Pečkauskas, Evelina Pociūtė
Cardiac Intensive Care Unit, Kaunas Clinical Hospital of
Lithuanian University of Health Sciences, Lithuania
Head of the Scientific work: Dr. Andrius Macas, Dr. Giedrė Bakšytė

Aim:

Chest pain is one of the basic diagnostic criterions of acute myocardial infarction (AMI). It occurs in almost all cases of AMI. Adequate pain management still remains topical issue of modern critical care medicine nowadays. Our aim was to estimate intensity and duration of pain during AMI and effectiveness of pain management that was used.

Methods:

Data were collected by beforehand made questionnaire. We interviewed 64 patients (17 men and 47 women) who underwent AMI. The diagnose of AMI was made if typical symptoms (at least two of three) – pain, changes in ECG and Troponin I concentration increase in the blood serum were observed. Intensity of pain during attack was estimated using numeric pain rating scale. Data about drugs used for pain relief were collected from medical documentation.

Results:

Average age was 64.9 ± 1.5 y. All patients except one experienced pain, most of them – under the sternum 83.9% (n=52). 67.2% (n=43) of the patients suffered severe pain (7-10, numeric pain scale). Women experienced stronger pain 8.2 ± 0.5 than men 7.0 ± 0.3 ($p=0.065$), comparing by numeric pain scale. Women suffered pain longer 21.9 ± 11 h than men 9.1 ± 2.2 h. Mean duration of pain was 12.6 ± 3.5 h. Nitrates were used at the beginning of pain for 52% (n=31) of patients, but were effective only in 52% (n=12) of them. Pain was managed with intra-muscular morphine 31.3% (n=20), other intravenous analgetics (Phentanyl, Doloblok, Ketonal, Tramadol, Diclofenac, Ibuprofen) – 32.8% (n=21), remaining patients 35.9% (n=23) did not receive analgetics or it was not documented. Patients who reported no pain by the time of arrival to the hospital was 45.9% (n=28).

Conclusions:

Absolute majority of the patients experienced pain in our study. Nitrates had no substantial impact on the pain during first hours of AMI in half of the patients. Analgesia wasn't managed effectively enough during acute coronary syndromes. Women's perception of pain was greater than men's.

9. PATIENTS' NEEDS FULFILLMENT IN COMMUNITY PHARMACY

Giedrė Kuncaite, Jurgita Dauksiene
Lithuanian University of Health Sciences, Medical Academy,
Pharmacy Faculty, Drug technology and social pharmacy department.
Head of the scientific work: Dr. Jurgita Dauksiene

Introduction:

Community pharmacist as accessible, trusted health care professionals are important channel of medicines information for community pharmacy patients. In case of self-medication pharmacist usually is the only health care professional for the patient to get appropriate consultation. However, purchase of the right medication and absence of medication adherence problems depends on patient satisfaction of pharmacist consultation.

Aim of the study was to evaluate the pharmacist's consultation given to the advice seeking „dry eyes“ patient and pharmacist ability handling with patients objections.

Methods:

A simulated patient (SP) method was applied. Study was made during 2010 6th – 22nd of September. 18 trained simulated patients using the same scenario visited 213 Lithuanian community pharmacies. After every visit the structural questionnaire form was filled. All surveys' parts with different aspects were evaluated in corresponding scores. Then percentages and averages were calculated for all variables.

Results:

Results indicated information about the beginning and the end of contact with SP, consultation and SPs' impression. Visits in pharmacy took approximately 10 minutes (depending on how many other patients were in pharmacy). The beginning of contact with SP was estimated better than the end of contact (72.61% and 37.42%). In 49.77% pharmacies patients' consultation got 57.75% evaluation. When SP objected to pharmacist for the price of medicine - 46.95% argued once more about chosen medicine well effect, 40.85% pharmacists gave another cheaper medicine, 12.20% didn't pay attention at all. Analyzing patients' impression - 59.62% pharmacies were estimated quite positive (76.21%). The results showed that in 76.06% pharmacies SP will come back as a real patient, but in 23.94% won't.

Conclusions:

Results showed that community pharmacists' counseling could be improved. Although pharmacists asked patients about other symptoms and said how to use this medicine, but most of the pharmacist tried to avoid patient's objection and did not encourage patients to lay out all their fears.

10. PREDICTORS OF OUTCOME AFTER SEVERE BRAIN TRAUMA

Olga Merkutova, Giedrė Januškevičiūtė

Intensive Care Department, Lithuanian University of Health Sciences, Lithuania

Head of the Scientific work: Dr. Neringa Balčiūnienė

Regardless the advanced level of diagnostics and treatment methods, the mortality rate for the heavy head injuries remains very high. Therefore the right assessment of the patient, who had suffered a heavy traumatic head brain injury (HTHBI), and the selection of the suitable treatment tactics are highly important as in most cases the data of the initial clinical and laboratory tests correlate with the patients' outcomes.

Objective:

To evaluate parameters of clinical and laboratory tests, that allow to forecast the lethal outcomes in the cases of HTHBI.

Method:

A retrospective analysis has been carried out on health histories of 223 patients who had been treated from HTHBI at the Neurosurgery Intensive Care Department (NICD) from 2008 to 2009. The data assessed: age, gender, the conscious state according to the Glasgow Coma Scale (GCS) at the admission to the hospital and after 24 hours, photoreaction of pupils at the admission to the hospital, laboratory tests (glycaemia) and the outcomes. The obtained data were analysed using SPSS 17 software. The Chi-squared (χ^2) criterion was used for comparison of the non-parametric data. The Student's t-test was used for comparison of the averages of the qualitative features. The data were assumed to be statistically significant, where the $p < 0.05$.

Results:

In the year 2008 – 2009, 223 patients had been treated from HTHBI at the NICD, 82 (36.8 %) of which died and 141 (63.2 %) survived. The difference between the age averages of the patients who had survived and who had died were statistically significant ($p < 0.001$). The average age of the patients who had survived, was 48.60 ± 1.48 , whereas the average age of the ones who had died was 57.17 ± 1.72 . The differences between the genders were not statistically significant. The mortality rate in the group that did not show pupils' reaction to the light was higher: 37 (64.9 %) patients died and 20 (35.1 %) had survived. The mortality rate in the group that showed pupils' photo reaction was lower: 44 (26.8 %) patients had died and 120 (27.2 %) patients had survived. The data difference within the groups was statistically significant – $\chi^2 = 26.54$. The mortality rate in the group, where the conscious state worsened by 2 and more points according to the GCS was higher: 16 (57.1 %) patients had died and 12 (42.9 %) had survived. The mortality rate was lower in the groups, where the GSC improved by 2 and more points or where it had not changed. 4 (16 %) patients died and 21 (84 %) patients survived in the Group I, while the corresponding data were at 35 (44.9 %) and 43 (55.1 %), respectively, in the Group II. The data difference between the groups was statistically significant – $\chi^2 = 14.02$. Regarding the assessment of the glycaemia in the blood, the mortality rate was lower at the presence of normoglycaemia, while it was higher at the presence of the hyper – or hypoglycaemia. 4 (19 %) patients died and 17 (81 %) survived in the group of normoglycaemia, while 76 (38 %) patients died and 124 (62 %) survived in group of hyperglycaemia; all the patients died in the group of the hypoglycaemia. The data difference between the groups was statistically significant – $\chi^2 = 6.4$.

Outcomes:

The mortality rate of older patients, who had suffered a heavy head trauma, was higher, while the gender did not have an effect for the outcome results. The worse prognosis is determined by: the worsening conscious state by more than 2 points according to GCS in 24 hours after the injury, the absence of the pupils' reaction to the light at the admission to the hospital. Decreased mortality rate is related to the normoglycaemia.

11. PREVALENCE, RISK FACTORS AND CAUSATIVE PATHOGENS OF EARLY ONSET NEONATAL SEPSIS

Asta Vinskaitė, Agnė Kilmanienė, Aistė Vidžiūnaitė

Clinic of Neonatology, Hospital of Lithuanian University of Health Sciences Kaunas Clinics

Head of the Scientific work: Dr. R. Tamelienė

Aim:

To determine the prevalence, risk factors and causative pathogens of culture-positive and culture-negative early onset neonatal sepsis (EONS) among neonates born in LSMU KK Department of Obstetrics and Gynecology from January, 2008 to March, 2008.

Methods:

This study was conducted in Lithuanian University of Health Sciences Kaunas Clinics, Department of Obstetrics and Gynecology, Kaunas, Lithuania. Demographical and clinical data of 1126 neonates born from January, 2008 to March, 2008 and their mothers was retrospectively studied. Data was evaluated using „SPSS 17.0 for windows“. A value of P less than 0.05 was considered statistically significant.

Results:

EONS was diagnosed in 69 (6.13 percent) of 1126 newborns. Blood or urine cultures was positive in 12 cases and negative in 57 cases. The incidence of culture-proven sepsis is approximately 10.65 per 1000 live births. The incidence of EONS with negative blood and urine culture is almost 5 times higher (approximately 50.62 per 1000 live births). The pathogens responsible for early onset neonatal sepsis were Group B streptococcus (GBS) (3 cases, 2.66 per 1000 live births), *Escherichia coli* (2 cases, 1.79 per 1000 live births), *Staphylococcus aureus* (4 cases, 3.59 per 1000 live births), *Listeria monocytogenes* (1 case, 0.88 per 1000 live births), *Pseudomonas aeruginosa* (1 case, 0.88 per 1000 live births), *Klebsiella pneumoniae* (1 case, 0.88 per 1000 live births).

Significant risk factors for EONS identified in this study were pre-term and low birth weight newborns, newborns with lower than 7 Apgar score at one minute, maternal chorioamnionitis. EONS was diagnosed in 43 preterm neonates cases (10 culture-positive sepsis, 33 culture-negative sepsis), and 26 full-term newborns (2 culture-positive, 24 culture-negative) ($p < 0.05$). 41 newborn with birth weight < 2500 was diagnosed with early onset neonatal sepsis (9 culture-positive, 32 culture-negative) comparing to 28 with birth weight > 2500 (3 culture-positive, 25 culture-negative) ($p < 0.05$). EONS was diagnosed in 34 newborns with lower than 7 Apgar score at one minute (8 culture-positive, 26 culture-negative) and 35 newborns with higher than 7 Apgar score at one minute (4 culture-positive, 31 culture-negative) ($p < 0.05$). 12 newborns of mothers with chorioamnionitis developed EONS (3 culture-positive, 9 culture-negative) ($p < 0.05$). Other risk factors did not prove to be statistically significant. Risk factors of culture-positive and culture-negative EONS were identical ($p > 0.05$).

Conclusions:

1. The incidence of EONS was 61.28 per 1000 live births. The incidence of culture-proven sepsis is 10.65 per 1000 live births and the incidence of EONS with negative blood and urine cultures is 50.62 per 1000 live births.
2. Significant risk factors for EONS identified in this study were pre-term and low birth weight newborns, newborns with lower than 7 Apgar score at one minute and maternal chorioamnionitis. Risk factors of culture-positive and culture-negative EONS were identical.
3. The causing pathogens of culture proven EONS were GBS, *S. Aureus*, *L. monocytogenes*, *P. aeruginosa*, *K. Pneumoniae*.

12. RADIATION THERAPY EFFECT TO VISUAL ACUITY AFTER PITUITARY ADENOMAS TREATMENT

Viktorija Slavinskytė

Oncology clinic, LSMU MA, Lithuania

Head of the Scientific work: MD. L. Tamašauskienė, MD Š. Tamašauskas

Aim:

To evaluate radiation therapy(RT) effect to visual acuity after pituitary adenomas are treated.

Methods:

The medical case records of 21 patients with pituitary adenomas treated with radiotherapy were analysed retrospectively. The study included 5 men and 16 women, the mean age was $48,05 \pm 9,57$ years. According to the type of pituitary adenoma, patients were divided into two groups: A - patients with nonfunctional adenoma and B – patients, with hormonally active adenoma: 1 case with prolactinoma, 14 cases with hypersecretion of Growth hormone, 1- mixed adenoma. In the group A were 5 patients, ($n_A=10$ eyes), in the group B- 16 patients($n_A=32$ eyes).

Also two groups were divided, according to visual acuity before ST: group I - the visual acuity test in both eyes before radiation therapy was ≥ 0.8 (10 patients , $n_I=20$ eyes) and in group II – patients, whose visual acuity <0.8 (passed- 11 patients). The mean total dose of RT was 46 Gy. Uncorrected visual acuity before radiation therapy and a period of one year after was examined. Visual acuity was assessed using rings of Landolt (C optotypes), according to the principle of Snellen. The data analysis was accomplished using MS Excel and SPSS 17.0 programs. Wilcoxon's test was used to assess statistical reliability for dependent samples. The statistically significant difference was considered when $p < 0.05$.

Results:

The study analysed visual acuity in 21 patients before and after RT. The mean of visual acuity before RT was 0.65 ± 0.37 , after treatment - 0.66 ± 0.38 ($p = 0.37$). In group A, visual acuity before ST was 0.37 ± 0.34 , after the treatment 0.43 ± 0.35 ($p = 0.17$), in group B- respectively 0.69 ± 0.36 ir 0.72 ± 0.37 ($p=0.67$). The average of visual acuity in the I group before ST was 0.95 ± 0.07 , after ST – 0.91 ± 0.04 ($p=0.56$), in the group II respectively 0.29 ± 0.22 and 0.41 ± 0.2 ($p=0.11$).

Conclusions:

1. Visual acuity improvement was found during the first year after RT for hormonally active and non-functional adenomas. Statistically significant differences haven't been received.
2. Visual acuity improvement was better in cases of nonfunctional adenomas, and for those patients, whose visual acuity was worse before ST. The difference is not statistically significant.

13. RELATION BETWEEN PHENOTYPE AND ONSET OF PARKINSON'S DISEASE

Paulius Puzinas, Marta Kudžmaite

Neurology clinic, LSMU, Lithuania

Head of the Scientific work: Docent A.Vaitkus, MD J.Berkmanienė

Scientific literature provides information that the risk of Parkinson's disease is related to specific characteristics of a phenotype. It is stated that the dark-haired and left-handed are more likely to have this disease. Thus, a decision was taken to assess the relation between the development of the Parkinson's disease and the dominant hand, colour of the eyes and phenotypic characteristics of hair (greyness, baldness, natural hair colour and curliness).

Aim:

To assess the relation between onset of Parkinson's disease and some characteristics of phenotype (eye colour, natural hair colour, the age of turning grey, curly or straight hair, dominating hand, baldness, the age of becoming bald).

Methods:

The permission of LSMU Bioethics Committee was given. A total of 82 patients with diagnosed Parkinson's disease (an experimental group) at LSMUL, Panevėžys hospital, Klaipėda Seamen's hospital were surveyed. Also age and sex matched control subjects (a control group) were surveyed. The same questionnaire for different groups was used. Data analysis was accomplished using SPSS version 17; Chi-square, Mann-Whitney tests were used for statistical purposes. $P < 0.05$ was considered statistically significant.

Results:

The mean age of experimental group (70.3 ± 10.4 years) and the mean age of control group (68.9 ± 9.3 years) were not statistically different ($P > 0.05$). Analysis showed that there was no significant difference between mean male ages in experimental group (68.7 ± 11.3 years) and control group (70.3 ± 9.5 years). Also there was no significant difference in the rate of male and female: in experimental group there were 39 (47.5%) males and 43 (52.5%) females; in control group - 39 (47.5%) males and 43 (52.5%) females. The rate of right-handed in experimental group was 95.1%, in control group - 96.3% ($\chi^2 = 0.14$, $P > 0.05$). The rate of blue-eyed in experimental group was 80.5%, in control group - 81.7% ($\chi^2 = 0.04$, $P > 0.05$). The rate of grey hair in experimental group was 92.7%, in control group - 93.9% ($\chi^2 = 0.097$, $P > 0.05$). The mean age of turning grey in experimental group was (49.4 ± 12.7 years), in control group - (45.6 ± 13.1 years) ($P > 0.05$). Analysis of data revealed following rates of natural hair colour in experimental group: black-haired - 42%, brown-haired - 29.6%, blond - 28.4%; in control group: black-haired - 42.7%, brown-haired - 31.7%, blond - 25.6% ($\chi^2 = 0.18$, $P > 0.05$). Straight hair rate in experimental group was 67.1%, curly hair - 32.9%; in control group straight hair rate was 63.4%, curly hair - 36.6% ($\chi^2 = 0.24$, $P > 0.05$). There were 24 (63.2%) bald males in experimental group and 28 (66.7%) bald males in control group ($\chi^2 = 0.18$, $P > 0.05$). The mean age of getting bald was 45.21 ± 15 years in experimental group and 44.36 ± 13.8 years - in control group ($P > 0.05$).

Conclusions:

The study showed no statistically significant relation between onset of Parkinson's disease and eye colour, natural hair colour, the age of turning grey, curly hair, dominating hand, baldness, the age of becoming bald.

14. RELATION BETWEEN SERUM TESTOSTERONE LEVEL AND BODY FAT, MUSCLE, LEAN MASSES IN THE YOUNG MALE GROUP

Paulius Puzinas

Endocrinology Clinic, LSMU MA, Lithuania

Head of the Scientific work: MD I. Gailytė

Aim:

To assess the relation between serum testosterone level and body fat, lean mass, muscle percentages, Body Mass Index (BMI) in young male group.

Methods:

135 male conscripts of Lithuania army (the mean age 21.4 ± 1.6 years) were examined. Serum testosterone level was estimated for every participant and every participant was tested using body composition analyzer Jawon Medical Bodypass X-Scan Plus (working is based on the measurement of bioimpedances). BMI, body fat, lean mass, muscle percentages were studied. $P < 0.05$ was considered statistically significant.

Results:

According to serum testosterone level all participants were divided into 4 groups (group A, group B, group C and group D). The distribution was carried out using sample of serum testosterone level quartiles ($Q1 = 14.5$ nmol/l, $Q2 = 16.6$ nmol/l, $Q3 = 19.8$ nmol/l). Participants, who had serum testosterone level lower than 14.5 nmol/l, were assigned to group A ($n_A = 34$). Participants, who had serum testosterone level falling into range [14.5;16.6) nmol/l, were assigned to group B ($n_B = 34$). Participants, who had testosterone serum level falling into range [16.6;19.8) nmol/l, were assigned to group C ($n_C = 34$). Participants, who had testosterone serum level equal to or exceeding 19.8 nmol/l, were assigned to group D ($n_D = 33$). The mean BMI was 22.5 ± 0.8 kg/m² in group A, 23.5 ± 1.0 kg/m² in group B, 23.1 ± 1.0 kg/m² in group C and 22.7 ± 1.1 kg/m² in group D. The mean body fat percentage was $16.1 \pm 1.9\%$ in group A, $17.7 \pm 1.7\%$ in group B, $16.6 \pm 1.2\%$ in group C and $15.8 \pm 1.9\%$ in group D. The mean body muscle percentage was $78.1 \pm 1.9\%$ in group A, $77.3 \pm 1.8\%$ in group B, $76.45 \pm 2.1\%$ in group C and $78.5 \pm 1.8\%$ in group D. The mean body lean mass percentage was $83.9 \pm 1.9\%$ in group A, $82.3 \pm 1.7\%$ in group B, $83.4 \pm 1.2\%$ in group C and $84.2 \pm 1.9\%$ in group D. Spearman correlation coefficient showed no statistically significant correlation between serum testosterone level and BMI ($r = -0.04$, $P = 0.55$). Correlations between serum testosterone level and body fat percentage ($r = -0.05$, $P = 0.53$), between serum testosterone level and body lean mass percentage ($r = 0.06$, $P = 0.47$), between serum testosterone level and body muscle percentage ($r = 0.06$, $P = 0.48$) were not statistically significant too.

Conclusions:

The study showed no statistically significant relation between testosterone serum level and BMI, body fat, lean mass, muscle percentages in the young male group.

15. RELATION BETWEEN VITAMINE D SERUM LEVEL AND BODY FAT, MUSCLE MASSES IN THE YOUNG MALE GROUP

Paulius Puzinas

Endocrinology Clinic, LSMU MA, Lithuania

Head of the Scientific work: PhD R. Preikša, MD I. Gailytė

Aim:

To evaluate the relation between vitamin D (25(OH)D) serum level and body fat, lean mass, muscle percentages in young male medicine students group.

Methods:

In April 2009 59 male medicine students (the mean age 21.5 ± 1.5) were examined at KMU Endocrinology Clinics. Serum vitamin D (25(OH)D) level was estimated for every participant and every participant was tested by body composition analyzer Jawon Medical Bodypass X-Scan Plus (working is based on measurement of bioimpedances). Body mass index (BMI), body fat, muscle, lean mass percentages were studied.

Results:

According to vitamin D serum level all participants were divided into 3 groups: group A, group B and group C. Participants, who had vitamin D serum level lower than 10 ng/ml, were assigned to group A ($n_A=25$). Participants, who had vitamin D serum level falling into range (10;20] ng/ml, were assigned to group B ($n_B=29$). Participants, who had vitamin D serum level exceeding 20 ng/ml, were assigned to group C ($n_C=5$). The mean BMI was 23.3 ± 2.9 kg/m² in group A, 24.1 ± 2.7 kg/m² in group B and 24.2 ± 1.9 kg/m² in group C. Although positive correlation between vitamin D serum level and BMI was visible, it was not statistically significant ($P > 0.05$). The mean body fat percentage was $20.6 \pm 5\%$ in group A, $20.2 \pm 4.1\%$ in group B and $19.7 \pm 4.8\%$ in group C. Negative correlation between vitamin D serum level and body fat percentage was not statistically significant ($P > 0.05$). The mean body lean mass percentage was $79.4 \pm 6.6\%$ in group A, $79.8 \pm 6.4\%$ in group B and $80.3 \pm 10.0\%$ in group C. Positive correlation between vitamin D serum level and body lean mass percentage was not statistically significant too ($P > 0.05$). The mean body muscle percentage was $74.1 \pm 5.3\%$ in group A, $75.4 \pm 5.8\%$ in group B and $75.4 \pm 8.2\%$ in group C ($P > 0.05$).

Conclusions:

The study showed no statistically significant relation between vitamin D serum level and BMI, body fat, muscle, lean mass percentages in the young male group.

16. THE EFFECT OF OCTREOTIDE ON PROLIFERATION OF HUMAN MENINGIOMAS IN VITRO

Inga Zemleckaitė, Vilnius University Faculty of Medicine, Lithuania

Aix-Marseille Université II, France

Centre Recherche en Neurobiologie et Neurophysiologie de Marseille, France

Head of the scientific work : Dr. Anne Barlier

Aim:

Aim is to analyze the effect of octreotide on the cell proliferation in human meningioma cells in vitro and to establish the correlation between this effect of octreotide and the mRNA level of sst2.

Methods:

RT-qPCR, Cell Titer-Glo Luminescent Cell viability assay.

Results:

Octreotide's antiproliferative effect on meningioma cells in vitro was visible in all 4 studied cases. If octreotide was added, meningioma cells proliferation in vitro decreased 13-22% after 3 days. The correlation between the effect of octreotide and mRNA level of sst2 was observed. Octreotide's effect was higher on the meningioma cells with higher level of mRNA of sst2.

Conclusion:

As it was expected, octreotide's antiproliferative effect and its correlation with mRNA level of sst2 was observed in human meningioma cells in vitro. More tumours will be tested to verify results, which were obtained during this study. If further experiments with human meningiomas present good results, octreotide could be used for treatment of patients with meningiomas recidivism after its resection.