

**JESSENIUS FACULTY OF MEDICINE
COMENIUS UNIVERSITY
MARTIN**



**XXX. STUDENT SCIENTIFIC
CONFERENCE**

**organized in occasion of 40th anniversary of Jessenius Faculty
of Medicine, Comenius University in Martin**

ABSTRACTS

Martin
April 29, 2009

XXX. Student Scientific Conference Jessenius Faculty of Medicine Comenius University Martin

The conference is organized in occasion of **40th anniversary of Jessenius Faculty of Medicine, Comenius University in Martin** and supported by **Dr. Jozef Lettrich Foundation, Richter Gedeon RT and Roche Slovakia s.r.o.**

Date:

April 29, 2009

Place:

Lecture Halls A and B, JFM CU, Novomeského 7, Martin (next to the student hostel)

Registration:

April 29, 2009, 7.30 - 8.00

Opening ceremony – Lecture hall B - (8.00 – 8.15)

Lecture hall A

- A1 Section of Nursing (8.15 – 10.00)
- A2 Section of Non-Medical Study Programmes (10.15 – 11.30)
- A3 Section of Surgical Disciplines (11.45 – 13.00)

Lecture hall B

- B1 Section of Theoretical and Preclinical Disciplines (8.15 – 10.15)
- B2 Section of Internistic Disciplines (10.30 – 12.15)
- B3 Section of Guests (12.30 – 13.45)

Closing ceremony – Lecture hall B - (14.00 – 14.30)

Duration of lectures – 10 minutes, discussion – 5 minutes.

All abstracts are available in English at www.jfmed.uniba.sk

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THE NURSING DIAGNOSTIC PROCESS IN NURSING CARE

Pavel Šupka

Institute of Nursing, JFM CU, Martin

Tutor: Assoc. Prof. Katarína Žiaková, Mgr., PhD.

Introduction: In connection with continual enhance of quality of patients care the significance of well-kept nursing documentation is accented, not only as a source of information of the patients' needs and of the targets we aim to achieve in providing nursing care, but also as a tool for quality control of the provided care. The thesis describes the process of modification and implementation of changes in the nursing documentation forms in a particular medical facility (the hospital in Vsetín) and the subsequent performance of retrospective analysis of content quality of nursing plans kept by the nurses. With particular emphasis on occurrence of the most frequent problems in the formulation of diagnostic conclusion as one of the problematic areas in the implementation of the nursing process in practice.

Procedure: Retrospective quality analysis of nursing plan content was applied to a set of 100 files of nursing documentation kept by the nurses of the hospital. Control criteria were compiled for the assessment, part of them was taken over from the Quality of Nursing Diagnosis (QOD) tool aimed particularly at the occurrence of errors in the formulation of diagnostic conclusion and a part was defined based on the results of internal audits of the hospital, requirements set out by the legislation and current trends in nursing diagnostics.

Results: The total of 489 nursing diagnoses was assessed and the total of 520 errors was identified within the examined set. The highest variability rate was determined in the assessment of related factors and determining features (defining characteristics).

Discussion: The analysed documents often contained nonspecific and inaccurate related factors and determining features (defining characteristics), indicated automatically by naming a disease. We can say that diagnostic conclusions are often determined intuitively, without an exact interpretation of diagnostic data.

Conclusion: In connection with the issues of the diagnostic process it is convenient to use the tools for measuring the correctness of nursing diagnosis formulation. During NANDA-I implementation it is necessary to pay attention to cultural differences, for example in the way of validation studies. The wider context concerning the outputs proven by the research were processed partly for the management of the hospital, partly for a targeted focus on prospective further research, in form of reduced analysis of external and internal influences.

THE RETROSPECTIVE REVISION OF THE PERIOPERATIVE NURSING DOCUMENTATION (internal audit)

Helena Bařínková

Institute of Nursing, JFM CU, Martin
Tutor: Assoc. Prof. Katarína Źiaková, Mgr., PhD.,

Introduction: Keeping the nursing documentation is a duty and an integral part of work of all nurses and it is not even avoided in a specialized field of nurses' work such as surgery.

Methodology: The goal of our work was to create and implement the nursing documentation in the department of perioperative care in the Hospital Valašské Meziříččí a.s. and in the course of time, accomplish its retrospective analysis in the form of internal audit. The qualitative analysis of the document was carried out through the use of a form with set criteria created by us. Through the medium of the form, we determined formal and contentual aspects of the perioperative documentation including the guidance of nursing process.

Results: Based on the analysis of the perioperative nursing documentation, we found out that the documentation established by us agrees with the contemporary legislature requirements in all aspects; technically, adheres to all of the required criteria and on the basis of particular data in the documentation, it is possible to evaluate the quality of provided care. The overall documentation represents a quality image of the whole course of perioperative care and moreover, it matches all requirements for guiding the nursing process, thereby it accepts the requirements of modern perioperative nursing.

Discussion: In the surroundings of the Czech Republic, first attempts of creation and consequential recording of nursing perioperative care in the documentation have emerged but the outcomes have not been published yet. In addition, there is the need of the electronic data processing that requires a high-quality technical equipment in hospital. However, it is possible that sometime in the future we will experience a unified European documentation that will contain some data compulsorily.

Conclusion: The perioperative nursing documentation enables a fast search of needed data concerning the surgical intervention and ensures a systematic and a continual management of information about the patient and the provided perioperative care within the multidisciplinary team.

Key words: nursing documentation, perioperative care, nursing process.

THE NURSE – PATIENT RELATIONSHIP IN PALLIATIVE CARE

Erika Hajnová

Institute of Nursing, JFM CU, Martin

Tutor: Martina Lepiešová, Mgr.

Introduction: The concept of partnership based on confidence is used within the bounds of characteristics of nurse – patient relationship in all spheres of nursing care. In our study we have focused on nurse – patient relationship in the context of palliative care. The reason of that was the fact that only a few literary sources and only a small number of exploratory studies are focused on this topic of interest.

Methodology: To obtain the information about nurse – patient relationship we have chosen the method of individual semi-structured interview with opened and semi-opened questions. The interviews were recorded by means of digital audio recorder with consequent transcript and synthetic analysis of the texts. The aim of the study was to look for common features in the meanings, situations and experiences and identify the categories characterizing the nurse – patient relationship in palliative care.

Results: Based on analysis of data obtained we have determined 5 important categories in the nurse – patient relationship in palliative care: 1. nurse activity perceived as the mission, 2. creation of relationship based on confidence, 3. to be a patient's partner, 4. effective communication, 5. enriched experience. The results show that for both – patients and nurses it is very important to create the relationship based on confidence – the concern in each other.

Discussion: The results show that the nurse – patient relationship is concentrated on mutual understanding and represents the relationship of confidence and interconnection. The confidential relationship is the concern of both – nurses and patients. Both parts of this relationship perceive the crucial importance of mutual getting to know each other, respecting each other.

Conclusion: The nurses' work in the hospice and palliative care provision to the patients with a life threatening illness is really difficult not only physically but particularly mentally. That is the reason to get focused on interpersonal relationship not only between healthcare professionals but particularly between the nurse and patient in palliative care. The confidence is the crucial part and presumption of effective relation between the nurse and the patient in palliative care. The nurses developing the relationship that is filled with mutual confidence consequently do provide the care respecting the holistic access to the patients' needs satiation.

QUALITY OF LIFE OF PATIENTS WITH INFLAMMATORY BOWEL DISEASE

Marcela Lilgová

Institute of Nursing, JFM CU, Martin

Tutor: Elena Gurková, Mgr., PhD.

Introduction: Quality of life of patients with inflammatory bowel disease (the IBD) varies depending on the course, development, duration and symptoms of the disease.

Objective and Methodology: The objective of paper was to identify the differences in quality of life among patients with Crohn's disease and ulcerative colitis depending on demographic factors and the factors resulting from the disease and treatment. To measure the quality of life we used a modified Slovak version of the Inflammatory Bowel Diseases Questionnaire (IBDQ). The sample consisted of 65 respondents with IBD. To determine the differences in quality of life on the basis of selected variables we used MANOVA, Pearson's correlation coefficient 0.05. We evaluated the reliability \leq on the level of significance (p) of the Slovak version IBDQ.

Results: The Cronbach's alpha coefficient of Slovak version IBDQ was 0.95. We have confirmed the significant relationships between the different scales IBDQ. We didn't find significant differences in quality of life between the respondents, depending of the duration the illness and marital status. We confirmed significant correlation between the duration of the last relapse, and the patient's quality of life. We also found significant differences in perceptions of quality of life in terms of gender, where women reported worse quality of life in the intestinal system.

Discussion and conclusion: The patient's quality of life with inflammatory bowel disease is significantly influenced by the duration of the last relapse. Women with the disease perceived quality of life (the physical aspects) negative in comparison with men. Among the individual dimension of patients' quality of life, there are statistically significant relationships; the individual dimension depends of each other. Modified Slovak IBDQ is reliable instrument for measurement the quality of life of patients with IBD.

CAREGIVER ROLE STRAIN IN HOME CARE

Zuzana Zacharidesová

Institute of Nursing, JFM CU, Martin

Tutor: Mária Tabaková, Mgr.

Introduction: Deepening trend in the ageing of the population has resulted in the increase in the number of persons requiring the assistance of second person at assuring their basic needs. This person, called a caregiver, is often a family member. Obligations and responsibilities connected to the performance of this occupation increase the risk of exposing the caregiver to the burnout syndrome.

Methodics: This work set its objective at finding out the level of caregiver burden in caregivers providing home care to their dependent relative. We used the Caregiver burden scale (Montgomery, 2000, s. 50) questionnaire to collect the empirical data. The questionnaire is composed of three subscales. We were also researching the relationship between individual burden subscales on one hand side, and the age of the caregivers, sex, structure of living and the length of providing the care on the other.

Result: The data collected with this questionnaire were statistically assessed. On the basis of the Pearson correlation coefficient calculations confirm a statistically important relationship between caregiver's burden and the length of care provision. On the contrary, no relationship between caregiver burden and caregiver's age has been confirmed.

Discussion: The process of home care provision to a relative is difficult, especially from the physical, mental, as well as financial and social point of view. In the course of the care recipient's illness, or at the progress of its current state, the demands on the caregiver increase. For this reason it is extremely important to assess the burden to which such a caregiver is exposed in order to prevent the burnout syndrome and prevent the neglect of care recipients.

Conclusion: It is necessary to assure tools for reaching such conditions that will enable the caregiver overcome moments of stress.

EVIDENCE BASED NURSING AND CAREGIVER ROLE STRAIN

Zuzana Brosová, Sňahničanová Ľubica, Smičíková Magdaléna,
Bunčová Marcela

Institute of Nursing, JFM CU, Martin

Tutor: Mária Tabaková, Mgr.

Introduction: Evidence based nursing inscribes a methodological approach to clinical practice, which the nurse is considering the research results, patient's values and preferences about alternative forms of care, her clinical experience and availability of resources within the concrete clinical scene in.

Purpose: The aim of our work was to look up the key works in the literature and in the databases and critically evaluate them after our formulation of the clinical questions. We were analyzing terms caregiver, primary caregiver, familiar caregiver and professional caregiver. We were searching for the questionnaires, which were recommended for measuring the caregiver's burden and the factors increasing/ reducing this burden. We also identified the nursing intervention.

Methods: We were searching for the answers of our clinically determined questions by multiresourced research in primary and secondary resources (book, magazines, guidelines, databases – e. g. SCHOLAR GOOGLE, MEDLINE, PUBMED).

Results: We found out, after the key words determination, that the terms primary caregiver and familiar caregiver fit persons, who do their nursing activity mostly for relatives at home. Professional caregiver is an organization's employee of public or private sector. For caregiver burden measuring we identified following questionnaires - Caregiver Strain Index, Cost of Care Index, Caregiver Burden Interview a Caregiver Burden Inventory. Several authors define the factors which mitigate caregiver burden while they pose a great emphasis for respecting of caregiver needs and the availability of health and social services. The factors which mitigate caregiver burden are divided into subjective and objective ones. The realization of treatment investments helps to reduce the caregiver burden and to prevent burn – out effect.

Conclusion: The using of Evidence based nursing claims an information literacy, an ability to work with foreign intelligence sources and a professional – a critical approach to obtained information. The answers for the determinate clinical questions will require a search of other relevant studies which offer new evidence of high validity.

DEATH OF PATIENT FROM THE EMERGENCY OPERATORS' POINT OF VIEW

Martina Kral'ovanská

Institute of Nursing, JFM CU, Martin

Tutor: Martina Lepiešová, Mgr.

Introduction: The emergency operator is the first in queue to help the patient, disabled person or caller in case of emergency or crisis. From this point of view the operator has to be trained professional following the demands of good knowledge, practical skills and capabilities in the field of urgent medicine, medicine of catastrophes and other healthcare disciplines within the frame of differential healthcare as well as in the field of communication – particularly the crisis communication. To support the process of dealing with crisis communication at the work of emergency operators different coping strategies can be used.

Methodology: The aim of our study was to find out what kind of situations the emergency operators experience the most and which of them evoke the burden – the crisis. To obtain the data we have used questionnaires The Proactive Coping Inventory and Brief COPE that were sent to all the regional centres for emergency services.

Results: Based on analysis of data obtained we have found out that emergency operators meet the situations ending with the death of the patient very often and they perceive them to be a burden. With the rising frequency of death occurrence the level of the burden perceived is lower according to the results. The operators mostly use active coping strategies in crisis situations. There is the significant connection between some demographic characteristics of emergency operators and the choice of coping strategies and between the level of burden perceived and the choice of coping strategies.

Discussion: The results obtained show that the situations ending with the death of the patient evoke a burden in emergency operators while they use different coping strategies to deal with them. It is necessary to continue to concern with this topic particularly with the focus on the needs of emergency operators in relation with dealing with the burden.

Conclusion: In our study we wanted to refer to the potentially burden and crisis situations influencing the work of emergency operators. Results of the study point out the necessity to deal with coping with crisis situations, to minimise their perception as a burden and consequently contribute to the increase of work effectiveness of emergency operators.

THE NURSING CARE OF CHILDREN PATIENTS SUFFERING FROM ATOPIC DERMATITIS

Monika Kolláriková

Department of Non-Medical Study Programmes, Clinic of children and adolescents, JFM CU and MFH, Martin

*Tutors: Assoc. Prof. Želmíra Fetisovová, MD, PhD.,
Lubica Jakušová MD, PhD.*

Introduction: The nurse taking care of patient using arbitrary, consequent and congruent activities has to necessarily recognize clinical symptoms of childrens cutaneous disorders, application forms of drugs (medicamentous, external, physical including balneotherapy), their indications and contraindications, side effects (photosensitivity, skin and underwear colourizing etc.). It is crucial to respect the patient's psychic and handle challenge in communication with children patients and their parents.

Methods: According to global nursing standards the aim was to create new local nursing standards based on the analysis background of data gained by retrospective descriptive methods going through documentation of outpatient and institutionalized patients and synthesis of these with literature knowledges and with experiences gained during the practice of nursing.

Results: The author has discovered that the most common cutaneous disorder which is the reason of visiting the Children ambulance of Clinic of dermatologist MFN is atopic dermatitis (372 new-detected cases with diagnosis atopic dermatitis of all 822 new detected cutaneous disorders in years of 2003 – 2007), as for age the maximum were 293 patients in 1-14 years old and 88 patients 15 – 22 years old in years of 2007 – 2008. In the clinic are being hospitalized adolescents suffering from more severe and expansive forms of atopic dermatitis. The recent nursing standards for atopic dermatitis have not been inovated yet in purpose of actual norms. The management of the clinic has recieved project of the nursing standards created by author.

Discussion and conclusion:The standardazing process of nursing activieties has arised as a reaction of social urge in nursing quality. This process is being perceived as a expert community effort to orientate in huge number of new techniques and informations. Ministry of Health of SR in the name of all patients has initialised creating new systems of quality in all providers of health care with the aim to standardise their own processes and consecutive introduction of standard diagnostic, nursing and healing activities into the care of patient.

INPATIENT WITH DYSACOUSIA

Mária Kurt'áková

Department of Non-Medical Study Programmes, JFM CU, Martin
Tutor: Milina Bubeníková, PhDr., PhD.

Introduction

The loss and impaired hearing is tragedy, because human with dysacusia is rejected not only from the world of sound, but in the first place from the world of language and humane communication. Peoples with dysacusia have limited vocabulary and majority verbal sense yourself fixate and they do not know what the mean. Also despite many progresses in the area communicative technologies constantly persist the problems of people with hearing afflictions make oneself understood. Is not that otherwise nor in interaction with health staff while hospitalized of the patient. It is therefore necessary to mention on problems this people, who must manage.

Methods

The goal our work to have been find out, what problems have they patients with dysacusia by the communication while hospitalized. At a finding necessary data we made used the method non-standardized questionnaire. We realized the research in centers for audio impacted.

Results

We found out based on analyses receives data, that audio afflictions have issues in interaction with health staff and most of them could receive, if knew health staff basis of gestural rumour or interpreter in hospital.

Discussion and conclusion

The identification problems that have they audio afflictions patients while hospitalized it is very important, because to allow health staff to avoid situations, that induce misunderstanding and to improve like this interaction, co-operation patient by the provided therapeutic care. Minimizing communicative barriers between patients with dysacusia and health staff go towards to increase qualities hospitalization this patients.

COMPARISON OF KNOWLEDGE ON ANTIBIOTICS, FREQUENCY OF THEIR CONSUMPTION AND OPINION ON THEIR USE AMONG CLIENTS OF PAEDIATRICIANS IN MARTIN AND MICHALOVCE

Jana Mrázová

Department of Public Health, JFM CU, Martin
Tutor: Lukáš Murajda, MD

Introduction

We compare the knowledge on antibiotics, the frequency of their consumption and the opinion on their use in the district town Martin (MT) in north-western Slovakia and the district town Michalovce (MI) in eastern Slovakia.

Methods

A questionnaire for the accompanying person of a child was distributed from January to March 2009 in waiting rooms of two paediatricians.

Results

There were 139 participants in the survey (29 men, 21% and 110 women, 79%) at the age of 18-59 years (average 35 years). Among those from MI, there was a higher representation of respondents from a village (20% and 2% in MT) and with a university degree (43% and 13% in MT). More respondents from MI (55% against 42% in MT) gave the right answer to the question "Do you think that ATB effectively destroys bacteria and also viruses?". In 2008 children in MT took ATB more times in 56% of cases (35% in MI) and the proportion of those who never took ATB that year, was only 12% in MT (against 28% in MI). The respondents from MI report more often that they store at home the ATB that remained (24% against 12% in MT). More respondents from MI reported that at least one time in 2008 their child took ATB that they store at home (10% against 4% in MT). Six percent (MT), respectively 5% (MI) of respondents want the ATB to be freely accessible (without prescription).

Conclusion

There is a need to educate the public. The role of health care workers in increasing the public knowledge and shaping the public opinion is important.

UTILISATION OF ICONOGRAPHY IN SEMINARS IN SUBJECT OCCUPATIONAL MEDICINE IN FRAMEWORK OF PREGRADUAL STUDY IN PUBLIC HEALTH

Libor Pizúr

Department of Public Health, JFM CU, Martin

Tutor: Prof. Janka Buchancová MD, PhD.

In the present, the information also for teaching of the subjects of public health is being acquired not only from spoken word and books and journals but still more from the Internet. Practically everyday the Power Point presentations are utilised in public health, prepared by teachers and in the framework of seminars also by students.

In occupational medicine there are various reasons why it is not possible any more to visit factories during practical training, where the students could directly observe working activities and get to know influences of different factors and working conditions. For clearness of teaching our teachers of occupational medicine, thanks to collaboration with the faculty of medicine in Olomouc (Czech Republic), bring closer some working activities of the IIIrd and IVth category of risk work through videosequences.

The author noticed and got to know the archive of less used but interesting slides from the sector. Because the technical equipment is old-fashioned, he decided to scan and adjust the selected filmstrips about some working activities and about specific diseases which are caused by these. Consequently, it is possible to present more explicitly these exposures and diseases in teaching of preventive occupational medicine. An iconography of selected examples is a proof of that.

OCCURRENCE OF NOSOCOMIAL INFECTIONS AT CLINIC OF ANESTHESIOLOGY AND INTENSIVE MEDICINE OF MARTIN FACULTY HOSPITAL IN MARTIN

Katarína Šupolová, Jana Gorušová

Department of Public Health
Clinic of Anesthesiology and Intensive Medicine, JFM CU, Martin
Tutors: Lukáš Murajda MD, Miroslav Šulaj MD

Introduction

Nosocomial infections (NI) present a very serious medical, economic and public health problem. They are the main cause of morbidity and mortality of the hospitalized patients.

Aim

To analyze reporting and incidence of NI at the Clinic of Anesthesiology and Intensive Medicine of the Martin Faculty Hospital in Martin.

Methods

Retrospective observation and analysis of the data on NI from annual reports of the Department of Epidemiology of the Regional Public Health Authority in Martin, from the database of Epidemiologic Information System of the Slovak Republic and from documents archived by the Clinic of Anesthesiology and Intensive Medicine of the Martin Faculty Hospital in Martin.

Results

By the analysis of the data we found out that the trend of reported NI has a decreasing tendency. The most common NI is respiratory. The most serious risk factors are: i.v. catheter, mechanical ventilation, operation, urinary catheter, background diagnosis and immunodeficiency, transfusion or the age over 65.

Conclusion

Despite the fact that the Clinic of Anesthesiology and Intensive Medicine of the Martin Faculty Hospital in Martin is one of the better reporting clinics, it is necessary to continue acquiring reliable data, also through the HELICS program in Europe. Recently, the length of stay at the clinic shortens, which may contribute to decreasing of the NI incidence at the clinic. Though, it is essential to comply strictly with the infection control measures and prevention, especially the hand hygiene.

POSSIBILITIES AND RESULTS OF TREATMENT OF RELAPSE OF NON VARICOSE BLEEDING FROM UPPER GIT

Ivana Daňová, Eva Časová

Clinic of Surgery I., JFM CU, Martin

Tutor: Anton Mikolajčík, MD., PhD.

Introduction: Despite of the developing diagnostic and therapeutic techniques particularly endoscopic, the recurrent non varicose bleeding from upper digestive tract makes a serious medical issue. Successfulness of initial conservative and endoscopic hemostasis is approximately 96%, however, there is in 10-30% of patients relapse of bleeding, mostly within 96 hours after stabilization of blood circulation. The relapse of bleeding during the hospitalisation is a negative prognostic factor which significantly impacts on the final results of treatment.

Aim: The aim of our work was to analyse the incidence of frequency, to identify its risk factors and subsequently ways and the successfulness of treatment in five years data file of patients hospitalised in Surgical clinic of MFH in years 2004-2008 with the diagnose acute haemorrhage from upper digestive tract.

Patients and methods: In the followed period 143 patients were admitted to surgical clinic with the acute bleeding from upper digestive tract. There were 95 men (66,44%) and 48 women (33,57%). The average age was 63,96 year and there were 60,84% patients older than 60 years age. In our work we apply the retrospective analysis and we advance according to the forward elaborated protocol. We take interest in facts of the frequency, the risk factors and the therapy of the relapse of bleeding during the hospitalisation.

Results: The initial conservative and endoscopic hemostasis was gained in 96,5% patients. The most important risk factors of relapse were the associated illnesses (69,23%), to late admission to hospital after more than 12 hours (57,7%), the haemorrhagic shock (50%), the age over 60 years and the ulcerogenes medicaments (50%).

Conclusion: The relapse of non varicose bleeding from upper digestive tract increases the mortality (30% versus 3% without the relapse). A lot of risk factors such as the associated illnesses, the age, late admission to hospital, the haemorrhagic shock and some medicaments significantly affect the frequency of relapse of the acute upper gastrointestinal bleeding. So it is very important to identify all threated patients and when the bleeding returns it is important to provide the early diagnosis. The post-operation mortality is high, so it is usefull to take advantage of conservative and endoscopic therapy.

GROUP B STREPTOCOCCUS INFECTION IN PERINATOLOGY

Lucia Gašpárková, Zuzana Podmanická

Clinic of Gynecology and Obstetrics, JFM CU, Martin

Tutor: Kamil Biringer, MD.

Introduction: Group B Streptococcus is a serious cause of neonatal sepsis and mortality in many industrialized countries (4% in term, and 23% in preterm neonates). Antenatal screening and adequate intra- and postpartum antibiotic intervention decrease this risk.

Aims: To evaluate the effect of antenatal GBS screening and the effect of the antibiotic intervention in studied population.

Material and Methods: Retrospective study between the 1st January 2007 and the 31st October 2007 at Clinic of Obstetrics and Gynecology JFM CU includes 1075 deliveries. The patients were divided into three groups: A – GBS negative (n=601), B – GBS positive (n=166), and C – undetermined GBS status (n=308). A standard GBS screening was performed from 35th to 36th week of pregnancy. Evaluated parameters: effect of GBS screening, frequency and character of intrapartum antibiotic prophylaxis (IAP), time intervals between rupture of membranes (ROM) and labor, between the onset of IAP and labor, and between the onset of IAP and ROM, neonatal status. Statistics: histograms, Student's T-test, Mann-Whitney test, level of significance: $p < 0.05$.

Results: Antenatal GBS screening was performed in 767 deliveries (71.35%). GBS positivity was found in 166 cases (21.64%). Preterm labor was in 11.16% cases. IAP was administered in 125 labors (75.30%) in group B. The first line antibiotic treatment was ampicillin. The longest time interval between ROM and labor was in group C (839.26 ± 2693.31 min., $p=0.01$), we didn't find significant differences between group A and B. GBS positivity led into earlier IAP administration ($p < 0.0001$). The longest time interval between IAP and labor was found in the group C (2046.41 ± 4194.02 min., $p=0.01$). We found no case of neonatal GBS sepsis in our study groups.

Conclusions: Antenatal GBS screening and intrapartum antibiotic prophylaxis are an effective prevention of GBS neonatal sepsis and mortality.

THE RESULTS OF SURGICAL TREATMENT OF SPONTANEOUS PNEUMOTHORAXES ON SURGICAL CLINIC IN MARTIN

Martina Mišániková

Clinic of Surgery I., JFM CU, Martin

Tutor: Anton Dzian, MD.

Pneumothorax is defined as the presence of air in the pleural space. Incidence of spontaneous pneumothorax (sPNO) is 8 cases (7 men and 1 woman) per 100 000 inhabitants. Primary sPNO is caused by rupture of bulls or system of bulls (blebs) in normal lungs, secondary PNO results from other primary disease.

Conventional therapy of sPNO is based on chest tube drainage. Every relapse and persistence of PNO in consequence of presence of bronchopleural fistula is indicated most commonly on videothoracoscopic treatment (VTS). The percentage of relapses depends on the used operative technique. On our clinic we consider resection of lung apex and realization of mechanical pleurodesis by VTS technique for adequate modality.

On surgical clinic there were treated 81 patients with s PNO in the years 1997-2008, from that 80% presented patients with first attack. In our set there are 72 men and 9 women with average age 47 + 20,3. 46 patients had primary, 35 secondary sPNO. All the patients were primary drained with average length of drainage 5,2 days. Every relapse and complicate PNO was indicated for operative treatment. VTS treatment was realized in 21 patients and in 5 patients (16%) thoracotomy operation was necessary. In VTS access we prefer resection of lung apex and as a safety operation pleuroabrasio, which is in comparison with pleurectomy technically simpler and has less complications and percent of relapses is according to the published data to 7%. By this technique we observed relapse in one patient (4,7%). The average length of chest drainage after VTS operation of sPNO was 5,5 days. We did not observe any postoperative complications. Special group is represented by patients, whose total condition did not allow operative care and it is possible to realize only drainage supplemented by chemical pleurodesis, usually by talcum. This is how we proceeded in 7 patients. In the last years we have observed multiple increases of treated patients with sPNO, what relates with creation of Chest Surgery Clinic. Videothoracoscopic treatment of sPNO is considered to be a standard method with high effectiveness and low percentage of complications and relapses.

POLYMORPHISM OF BIOTRANSFORMATION GENES GSTs AND THE RISK OF LUNG CANCER

Martina Mišániková

Clinic of Surgery I., JFM CU, Martin
Tutor: Anton Dzian, MD., Tatiana Matáková, RNDr.

Lung cancer presents a worldwide problem because of its high incidence and high mortality. More than 3000 new cases are diagnosed every year in Slovakia. Because there is no effective screening method, new ways how to identify individuals with increased risk of lung cancer genesis have been found.

Gluthation-S-transferases (GSTs) present a superfamily of second phase detoxification enzymes metabolizing xenobiotics. Most intensively studied are the polymorphisms of genes GSTT1, GSTM1, GSTP1. There is a wide interindividual variability in expression of these enzymes causing changes of their activity or even the loss of it, from this we can deduce that their genetic polymorphism might be associated with risk of lung cancer genesis.

The aim of the study was to monitor the occurrence of polymorphisms of GSTs genes and their combination in patients with lung cancer. 160 patients with lung cancer and 222 healthy volunteers were assigned to this case-control study.

Genomic DNA was isolated by phenol-chloroform extraction from venous blood. Genetic polymorphisms of GSTT1, GSTM1 and GSTP1 were determined by multiplex PCR.

In monitoring GSTT1 and GSTP1 genotypes separately there were not detected any statistically significant differences. Genotype GSTM1 null presented 1.56 times higher risk of lung cancer genesis (95% CI = 1.03-2.35; $p = 0.04$). In combination of genotypes is combination GSTT1 null and GSTM1+ 2.21 times (95% CI = 1.09-4.49; $p = 0.04$) and combination GSTT1+ and GSTM1 null 1.98 times more risky for lung cancer genesis (95% CI = 1.22-3.18; $p = 0.006$). Also combination GSTM1 null and GSTP1 Ile/Val presents 2.04 times higher risk of lung cancer genesis (95% CI = 1.11-3.76; $p = 0.03$). Other risk GSTM1, GSTT1 and GSTP1 genotype combinations are: GSTT1 +, GSTM1 null, GSTP1 Ile/Ile; GSTT1 +, GSTM1 null, GSTP1 Ile/Val and GSTT1 null, GSTM1+, GSTP1 Ile/Ile.

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COMPARISON OF LAPAROSCOPIC AND LAPAROTOMIC COLON OPERATIONS

Miroslava Půčková, Gabriela Rojkovičová, Jana Dluhá

Clinic of Surgery I., JFM CU, Martin

Tutor: Marek Smolár, MD.

Laparoscopic operations are standardized in increasingly indicative spectrum of surgery. In colon surgery is still preferred laparotomic access in comparison to miniinvasive procedures. But, in consideration of increasing incidence and prevalence of colorectal carcinoma and improvement of laparoscopic methods, the question of miniinvasivity is increasingly actual.

In the work authors analyse patients with colorectal carcinoma operated in Surgical clinic and Clinic of transplantation and vascular surgery of Faculty hospital in Martin in years 2007 and 2008. In file of 135 patients they compare several parameters, such as type of surgery, duration of operation, type of used analgesic, peroperative blood loss, postoperative complications, beginning of peristalsis after operation, length of hospitalisation. After statistic evaluation authors present advantages and disadvantages of laparoscopic operations in comparison with open surgery.

Despite progressiveness of laparoscopic methods, is necessary to think about patient's benefit and be out of gear to do operation using miniinvasive method.

ANTIAPOPTOTIC PROTEIN SURVIVIN AND ITS EXPRESSION IN MALIGNANT MELANOMA

Anna Antošíková

Department of Histology and Embryology JFM CU Martin

Tutor: Assoc. Prof. Marian Adamkov, MD., PhD.

Survivin is a multifunctional protein that acts as apoptosis inhibitor, plays a key role in cell division and enhances angiogenesis. There are large differences of survivin expression in malignant tumors on the one hand and corresponding normal tissues on the other hand. Therefore, it is a potential tumor marker. We examined the expression of survivin in a panel of 25 malignant melanomas by immunohistochemical staining using anti-survivin antibody (DAKO, Clone 12C4). In each section, we assessed the percentage of positively stained tumor cells, the intensity of staining and its subcellular localization. Survivin was found in 23 out of 25 cases (92%). Nuclear staining only was present in 2 out of 23 cases (8.7%), while cytoplasmic staining only was seen in 3 out of 25 cases (13%). Combined nuclear as well as cytoplasmic expression of survivin was demonstrated in 18 out of 23 cases (78.3%). In 2 cases revealing nuclear staining only, worse histological features were more pronounced than in 3 cases with cytoplasmic staining only. Our results suggest that nuclear positivity for survivin may correlate with the degree of malignancy. In addition, we conclude that overexpression of survivin protein involved in the pathogenesis of melanoma might represent an important diagnostic marker.

GENE POLYMORPHISM hOGG1 Ser326Cys AND RISK OF LUNG CANCER

Miloš Mital'

Department of Medical Biochemistry,
Department of Medical Biology, JFM CU, Martin
*Tutors: Tatiana Matáková, RNDr.,
Assoc. Prof. Erika Halašová, RNDr., PhD.*

BACKGROUND: The incidence of lung cancer has been increasing over recent decades. Previous studies showed that polymorphisms of the genes involved in carcinogen-detoxication, DNA repair and cell cycle control comprise risk factors for lung cancer. Interindividual variation in lung cancer susceptibility may be modulated in part through genetic polymorphisms in the DNA repair genes, especially the genes involved in the nucleotide excision repair (NER) pathway. 8-Hydroxyguanine (8-oxoG) is one of the major promutagenic DNA lesions, which is produced by reactive oxygen species, causes G:C to T:A transversions and is excised by OGG1, an 8-oxoG specific DNA glycosylase/AP-Lyase.

METHODS: A case-control study with 55 lung cancer cases and 64 controls was conducted. DNA was extracted from peripheral blood leukocytes. The polymorphism of hOGG1(Ser326Cys) enzyme was determined by the polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) method. Association between specific genotypes and the development of lung cancer were examined using logistic regression analysis to calculate odds ratios (OR) and 95% confidence intervals (CI).

RESULTS: The allelic frequencies for the Ser and Cys variants of hOGG1 gene were not significantly different between the two groups. However, when compared with Ser/Ser and Ser/Cys genotypes combined, we found that the homozygous Cys/Cys genotype was more prevalent in lung cancer patients than controls with the odds ratio being 1.3 (95% CI: 0.32-4.31). The Cys/Cys genotype appears more risk for male (OR= 3.64 ; 95% CI: 0.38-34.38) as for female (OR= 2.05; 95% CI: 0.54-7.73).

CONCLUSION: It is indicated that the hOGG1 Ser326Cys polymorphism can be risk factor of lung cancer.

DETERMINATION OF N-ACETYL ASPARTATE IN PATIENTS WITH AMYOTROPHIC LATERAL SCLEROSIS

Michal Slašťan

Department of Medical Biochemistry JFM CU Martin

Tutor: Prof. Dušan Dobrota, MD., PhD., Michal Bittšanský, Mgr.

Introduction: Amyotrophic lateral sclerosis is a progressive, usually fatal neurodegenerative disease, caused by the degeneration of motor neurons in the central nervous system. The result is the loss of the ability to initiate and control voluntary movement. Previous studies proved the degeneration of nerve cells is accompanied by the decrease of N-acetyl aspartate in the affected regions of the brain.

Methods: 11 patients with clinically proven ALS and 11 healthy volunteers matched for age, sex and educational level, have undergone single-voxel H-MRS of both left and right precentral gyri, pons, medulla oblongata and the occipital lobe in a 1.5 Tesla Siemens Symphony MR scanner (TE 135ms, TR 1500ms). The signal of water was suppressed and the resulting spectra were evaluated by LC MODEL. The values of N-acetyl aspartate were compared to tCre (t standing for total) and used for calculations. The results were then compared to the results of healthy volunteers and the correlation to the clinical tests (ALSFRS score and its subscores).

Results: Significant differences were found between the patients and volunteers. In the precentral gyri the ratio NAA/Cre was 10 percent lower on average, when compared to the healthy volunteers (11 percent for GPR). In the pons region was the ratio 8 percent lower on average in patients. In medulla oblongata the ratio was 13 percent lower on average in patients. Occipital lobe, which was selected as a control region outside the pyramidal tract showed little difference. The ratio was only 4 percent lower on average in patients. The correlations with clinical tests have also proven significant.

Discussion: This work compares MRS diagnostic values of different areas of the pyramidal tract and their relationship to clinical manifestations of ALS. Due to the relatively low prevalence of this disease is the number of tested patients small. Provided data has however already shown some interesting correlations between MRS results and clinical score. With a larger group more interesting relationships could be observed.

THE EFFECTS OF SELECTIVE INHIBITORS OF PHOSPHODIESTERASE 4 AND 7 ON COUGH AND AIRWAYS REACTIVITY

Zuzana Feherová, Miroslava Beharková

Department of Pharmacology, JFM CU Martin

Tutor: Assoc. Prof. Juraj Mokřý, MD., PhD.

Introduction: The unique tissue-specific distribution of phosphodiesterases (PDE) prompts the development of highly specific PDE inhibitors to treat a variety of inflammatory conditions. Our previous experiments demonstrate positive effects of selective inhibitors of PDE3 and PDE4 on cough and airway reactivity (AR). This study compares the effects of rolipram (inhibitor of PDE 4) and BRL50481 (inhibitor of PDE 7) used separately and in combination, on cough and AR in healthy guinea pigs.

Methods: Cough and AR were evaluated in non-anaesthetized guinea pigs in whole body plethysmograph. The cough was evoked by inhalation of citric acid aerosol (AC; 0.6 mol/l) and the number of cough efforts was registered visually by trained observer. Specific airway resistance (marker of *in vivo* AR) was measured after nebulization of AC and histamine aerosol (10^{-6} mol/l). *In vitro* AR was measured in organ chambers using tracheal and lung tissue strips exposed to cumulative doses of histamine and acetylcholine (10^{-8} - 10^{-3} mol/l) and contractile responses were recorded. All parameters were measured in healthy animals before and after intra-peritoneal administration of rolipram, BRL50481 (1 mg/kg) or their combination (0.5 mg/kg each), dissolved in dimethyl sulfoxide.

Results: Single use of rolipram and BRL50481, respectively, led to increased number of cough efforts compared to their simultaneous administration. There were no significant changes in *in vivo* AR after administration of PDE inhibitors. Contrary, both PDE4 and PDE7 inhibitors increased *in vitro* AR.

Conclusions: The selective PDE4 and PDE7 inhibitors used in our study showed more significant effect when used in combination comparing to their single use, where any positive influence neither on *in vivo* nor on *in vitro* AR were observed. Thus, as both PDE4 and PDE7 are involved in inflammatory conditions predominantly, their effects need to be evaluated in allergic or inflammatory model, e.g. ovalbumin-sensitized guinea pigs.

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ACID INHIBITS VAGAL MECHANOSENSORS IN ESOPHAGUS

Juraj Halička

The Johns Hopkins School of Medicine, Baltimore, Maryland 21224, USA; Department of Pathological Physiology, JFM CU in Martin
Tutors: Assoc. Prof. Marian Kollárik, MD, PhD; Fei Ru, MD, PhD

Acid is a key mediator in gastroesophageal reflux disease but its action on the afferent nerves in the esophagus is incompletely understood. Here we address the hypothesis that acid directly modulates vagal tension mechanosensors in the esophagus. Single unit nerve activity recordings were made in the isolated vagally-innervated guinea pig esophagus (35OC). Acid (pH=6.5-5.3) did not overtly activate esophageal tension mechanosensors but reversibly inhibited action potential discharge induced by esophageal distention. The time course of the mechanically-induced action potential discharge was not affected. Acid (pH=6.5) also inhibited the activation of tension mechanosensors by the P2X receptors agonist α,β -methylene-ATP. Increasing the acidity (pH=3-4) did not uncover activation. Whole cell patch clamp recordings (35OC) were made from the retrogradely labeled neurons projecting the tension mechanosensors into the guinea pig esophagus. In the isolated neurons acid (pH=6.5) reversibly inhibited action potential discharge induced by suprathreshold current pulses. Acid (pH=6.5) also inhibited activation induced in tension mechanosensors by esophageal distention and α,β -methylene-ATP in the mouse. We conclude that acid directly inhibits vagal tension mechanosensors in the esophagus. This effect is likely conserved among the species. Inhibition of tension mechanosensors by acid may contribute to the pathogenesis of symptoms in the conditions in which the barrier function of esophageal mucosa is compromised.

SELECTIVE VS. NON-SELECTIVE PHOSPHODIESTERASE INHIBITORS IN EXPERIMENTAL MECONIUM ASPIRATION SYNDROME

Björn Redfors

Department of Physiology, JFM CU in Martin

Tutor: Daniela Mokr MD, PhD

Introduction: Aspiration of meconium may cause airway obstruction, surfactant inactivation, inflammation and pulmonary vasoconstriction in term newborns. Inhibitors of phosphodiesterase (PDE) may improve the status of meconium-injured neonates by virtue of their effects on inflammation and smooth muscle. This study compared effects of non-specific PDE inhibitor aminophylline and specific PDE-3 inhibitor olprinone on lung function and cardiovascular parameters in an experimental model of meconium aspiration syndrome.

Methods: Oxygen-ventilated rabbits (2.8 ± 0.3 kg) received intratracheally 4 ml/kg of meconium suspension (25 mg/ml) or saline (n=7, Sal). Thirty minutes later, meconium-instilled animals intravenously received either two doses of aminophylline (2.0 mg/kg, n=8, Mec+Amin) at 0.5 and 2.5 h after meconium instillation, one dose of olprinone (0.2 mg/kg, n=7, Mec+Olp) at 0.5 h after meconium instillation, or were sham-treated (n=8, Mec). Cardiovascular changes related to i.v. administration of treatment were evaluated within 5 min of administration and 5 min after finishing the administration. All animals were oxygen-ventilated for 5 hours after the first dose of treatment and respiratory and cardiovascular parameters, as well as white blood cell count (WBC) were regularly evaluated. At the end of experiments, the animals were sacrificed by overdosing anesthetics and lungs were excised. Left lungs were saline-lavaged to determine sediment differential WBC. Right lungs were used to determine lung edema by wet/dry weight ratio.

Results: Both aminophylline and olprinone treatment significantly improved gas exchange, reduced ventilatory pressures and right-to-left pulmonary shunts, and decreased edema formation and number of lung neutrophils compared to Mec group. However, aminophylline more effectively improved those parameters. Both agents caused short-term increases in heart rate and arterial blood pressure when compared to groups receiving i.v. saline.

Conclusions: Both non-specific and specific PDE-3 inhibitors have potential to improve the lung function in meconium-instilled animals. However, their intravenous administration is accompanied by adverse cardiovascular effects.

EXPIRATION REFLEX FROM THE VOCAL FOLDS IN GUINEA PIGS WITH EXPERIMENTAL ALLERGIC RHINITIS

Katarína Švirlochová

Department of Pathological Physiology, Department of Medical Biophysics, Department of Histology and Embryology, JFM CU in Martin
Tutor: Assoc. Prof. Jana Plevková, MD, PhD; Assoc. Prof. Mgr. Ivan Poliaček, PhD; Assoc. Prof. Marian Adamkov, MD, PhD

Expiration reflex (ER) belongs to airway defensive reflexes. Especially the cough and sneezing are up-regulated during the upper airway diseases, to enhance airway protection. The aim of this study was to assess the changes of ER during upper airway disorders, because ER had never been studied in such conditions before. ER was evaluated in guinea pigs with allergic rhinitis (AR) and guinea pigs with intranasal (i.n.) capsaicin challenge.

30 male guinea pigs, sensitized to ovalbumin were used in the study. They were divided into 3 groups (each containing 10 animals) - AR group (i.n. ovalbumin), capsaicin group (i.n. capsaicin 50 μ M, 15 μ l), and controls without any i.n. challenge. All three groups had undergone the same procedures. They were anaesthetized with urethane (1.1mk/kg), tracheotomized, metal cannula was introduced into the right hemithorax to assess interpleural pressure. ER was elicited by mechanical stimulation of the vocal folds using a thin nylon loop introduced into the airway via tracheostomy. Evaluated parameters were maximal expiratory (MEE) effort of ER and the count of post-ER coughs, because ER is usually followed by cough.

Mechanical stimulation of the vocal folds in controls consists mainly of isolated ER, followed by post-ER cough in 11% of provocations. In animals with AR and i.n. capsaicin the MEE during the ER was significantly higher than in controls (ANOVA, $p < 0.05$). In those two groups the ER was followed by post ER-cough in 75% of provocations. The average count of post-ER coughs in order control/AR/capsaicin/ was (0-1 vs. 3-4 vs. 3-4, $p < 0.05$).

The strength of ER in AR and capsaicin groups is significantly higher and ER is followed by more post-ER coughs. This up-regulation of ER could be explained by central neuronal mechanisms and by the spreading of inflammation from the upper airways to the larynx, what was verified by histology.

DETERIORATION OF SURFACTANT ACTIVITY BY MECONIUM

Eva Tribulová, Ivana Šaffová, Jana Erneyová

Department of Physiology, JFM CU in Martin

Tutors: Assoc. Prof. Daniela Mokrá, MD, PhD; Assoc. Prof. Andrea Čalkovská, MD, PhD

Introduction: Surfactant activity may be inhibited by plasma proteins or by meconium in neonatal meconium aspiration syndrome (MAS). Effect of meconium on surfactant was assessed by *in vitro* exposure of surfactant to meconium as well as in *in vivo* samples of bronchoalveolar lavage fluid of experimental animals with MAS.

Methods: In *in vitro* measurement, exogenous surfactant (Curosurf, Chiesi, Italy) at concentrations of 0.5, 1.0 and 2.0 mg of phospholipids/ml was exposed to increasing concentrations of meconium (1, 5 and 10 mg/ml), n=5 in each combination. In *in vivo* experiments, adult rabbits were divided into 3 groups: healthy non-ventilated controls (Contr, n=7), or animals with intratracheal administration of 4 ml/kg of saline (Sal, n=7) or suspension of human meconium (25 mg/ml; Mec, n=8) ventilated with 100% oxygen for 5.5 hours. After sacrifice, lungs were cut and lavaged with saline (3x10 ml/kg). Lavage fluid was centrifuged at 150xg for 15 min to separate cells and subsequently at 40000xg to separate surfactant. Pellets of surfactant were lyophilized and then resuspended in special buffer (HEPES, EDTA, CaCL₂) to concentrations of 0.5 and 1.0 mg phospholipids/ml. Surface properties of surfactant-containing fluid were evaluated by capillary surfactometer (Calmia Medical, Canada) and results were expressed as values of initial pressure transporting the sample and time of „opened“ capillary.

Results: In *in vitro* measurement, surfactant activity expressed as time of „opened“ capillary decreased with increasing concentration of meconium, independently on surfactant concentration. In *in vivo* samples of BAL, time of „opened“ capillary was shorter in Mec vs. both Sal and Contr groups (P<0.05, 0.01 or 0.001) and non-significantly shorter in Sal vs. Contr group (P>0.05).

Conclusion: In both *in vitro* and *in vivo* samples, surface activity of surfactant was deteriorated by inhibitors – meconium and/or plasma proteins leaking through the injured alveolocapillary membrane in oxygen-ventilated animals compared to controls.

INTERPRETATION OF CHOSEN PARAMETERS IN INPATIENTS WITH STROKE AT CLINIC OF NEUROLOGY MFN

Zuzana Babišová

Clinic of Neurology, JFM CU, Martin

Tutor: Vladimír Nosál, MD.

Stroke is the clinical term for acute loss of perfusion to vascular territory of the brain, resulting in ischemia and a corresponding loss of neurologic function. Classified as either hemorrhagic or ischemic, strokes typically manifest with the sudden onset of focal neurologic deficits, such as weakness, sensory deficit, or difficulties with language. Ischemic strokes have a heterogeneous group of causes, including thrombosis, embolism, and hypoperfusion, whereas hemorrhagic strokes can be either intraparenchymal or subarachnoid. Stroke is the third most common cause of death in the United States and the leading cause of serious, long-term disability. Attempts to modify traditional risk factors have not been entirely effective in reducing national stroke rates. After several decades of decline, the incidence of stroke is again on the rise. Despite advances in acute and prophylactic therapies, rates of stroke and stroke mortality continue to increase.

In my studie I denote parameters:

1. Etiology
2. Ratio between ischemic, hemorrhagic stroke and subarachnoidal bleeding
3. Mortality
4. Outcome
5. Treatment
6. Risk factors
7. Date and hour of admition
8. Lenght of hospitalisation

from medical records of inpatients on Neurological clinic MFN. I make statistics in Microsoft Excel of morbidity in concerned years, morbidity and mortality depending of age, risk factors and statistics of other parameters.

THE ANALYSIS OF SYMPTOMS OF CHILD AND ADOLESCENT DEPRESSION

Lucia Jarošová

Clinic of Psychiatry, JFM CU, Martin

Tutors: Assoc. Prof. Igor Ondrejka, MD., PhD., Pavol Adamík, MD.

Diagnosis of depression in children and adolescents wasn't accepted until 1975. Since that time the diagnostic criteria are used such as for adults.

Aim: The identification of depressive symptoms within determined psychiatric categories.

Methods: Retrospective analysis of medical records of inpatients, which were admitted to the children's department in Psychiatric clinic JFMCU in Martin, between years 2003-2007.

Results: The research showed 340 (47.7 %) inpatients, in age from 4 to 18, who suffered from depressive symptoms. Those were in diagnosis mixed disorders of conduct and emotions, also neurotic, stress-related and somatoform disorders more frequent than mood (affective) disorders. There was often combination of typical depressive symptoms such as depressive mood, psychomotoric alternation, thoughts and learning slowed down, anhedonia, alternation in weight, suicidal ideation and non-depressive symptoms. Non-depressive symptoms included somatoform complaints, anxiety, dysphoria, conduct disorders, paranoid perception, OC and ADHD symptoms, drug abuse, anorectic behavior. Psychotic symptoms (delusions, hallucinations, depersonalization, derealization and negative symptoms) appeared in 31.9%. The variability in clinical picture points on meaning of differential diagnostic in psychotic and non-psychotic disorders. It is important to make exact diagnosis for correct process in following treatment with providing adequate conditions for forming personality and more self-adapting lifestyle.

THE CORRELATION BETWEEN ERGOMETRIC FINDINGS OF SILENT MYOCARDIAL ISCHEMIA WITH CORONAROGRAPHY IN PATIENTS WITH DIABETES MELLITUS

Matej Samoš

Clinic of Internal Medicine, JFM CU, Martin
Tutors: Martin Migra, MD.

Introduction: Diabetic macroangiopathy together with cardiac autonomic neuropathy lead into acceleration of atherosclerosis in the coincidence with sensitive nerve damage, manifesting in silent myocardial ischemia (SMI). Ergometry as a SMI diagnosing method is generally accepted. However, the correlation between ergometry and coronarographic finding remains controversial.

Aim: To consider the relationship between ergometry and coronarography and to assess the influence of treatment and diabetes compensation on SMI and the severity of coronary heart disease (CHD) in patients with SMI.

Material and method: A prospective study dedicated on the incidence of SMI and its correlation with coronarography. The group consisted of 27 patients (18 men, 9 women) admitted to 1st clinic of internal medicine per 12/2007-3/2009 for elective coronarography. SMI was diagnosed using ergometry (22 patients), 24-hour electrocardiographic monitoring (2 patients) or via anamnesis of silent myocardial infarction (3 patients). 13 patients had diabetes mellitus. Except of basic demographic values taking, a orthostatic hypotension test and laboratory examination pointing diabetes were provided.

Results: Severe CHD was found in 19 cases (70,4%), 4 had nonsevere damage, 3 patients had a normal coronarogram and no significant difference between patients with or without diabetes was found. Ergometry correlated with a damage localisation in 7 cases. Diabetics had more vessels damaged ($1,33 \pm 1,16$ vs. $1,69 \pm 1,38$, n.s.). We did not notice any significant difference in any other of examined values, except of significantly higher incidence of myocardial infarction in diabetics (21,5% vs. 61,5%, $p < 0,05$). Mean glycated haemoglobin was $7,17 \pm 1,90\%$. The dependence of coronarographic findings on any of examined laboratory values or antidiabetic treatment did not reach statistical significance.

Conclusion: Our results suggest frequent incidence of CHD in all subgroups of patients. Higher incidence of myocardial infarction and more vessels damaged in diabetics with SMI confirmed their special position in patients with CHD.

I/D ACE POLYMORPHISM AND SUBCLINICAL INFLAMMATORY REACTION IN CORONAROGRAPHED PATIENTS

Matej Samoš

Department of Biochemistry University Hospital Martin,
Clinic of Internal Medicine JFM CU Martin
*Tutors: Prof. Rudolf Pullmann, MD., RNDr., PhD.,
Assoc. Prof. Stanislav Funiak, MD., PhD.*

Introduction

The angiotensin-I converting enzyme (ACE) gene insertion/deletion polymorphism (ACEI/D) is an recognised susceptibility gene of atherosclerosis. However the relationship between ACEI/D, serum ultrasensitive C-reactive protein (usCRP) concentrations, other acute phase proteins (APPs) concentrations and severity of coronary heart disease (CHD) has not yet been clearly defined. The aim of study was to establish ACEI/D, APPs concentrations and to compare them with the severity of proved CHD.

Material and method

The group consisted of 108 coronarographed patients and 156 healthy controls, coronary angiography was evaluated using standard criteria. ACEI/D was analysed by polymerase chain reaction. UsCRP was examined prior to coronarography, as well as 3 years after, together with other APPs. The results were evaluated in total group and in the subgroup of hypertonics (AH), according to severity of CHD and APPs concentrations.

Results

The D/D genotype frequency in coronarographed was 25,33%, D-allele in 75,33% (vs.) 19,9% and D-allele in 75,7% in controls; no significant difference was observed. We have found only tendency to higher incidence of D/D genotype in patients with severe CHD (sev.CHD) and in hypertonics (sev.CHD/nonsev.CHD 16,67vs.29,4%; AH/nonAH 28,57vs.8,33%, n.s.). The D-allele frequency was nonsignificantly higher in sev. CHD (sev.CHD/nonsev.CHD 82,35%vs.66,7%; AH/nonAH 76,19vs.83,33%, n.s.). Significantly higher usCRP concentration at first examination were found in sev.CHD and in hypertonics, where those remained significant even after 3 years (usCRP2); (usCRP1:sev.CHD/nonsev.CHD 5,64±7,26vs.2,64±2,81mg/l, p<0,05; AH/nonAH 5,20±6,75vs.1,92±1,46mg/l, p<0,001///usCRP2:sev.CHD/nonsev.CHD 4,13±3,85vs.2,88±2,46, n.s.; AH/nonAH 3,97±3,70vs.2,49±1,82, p<0,05). Alpha2-macroglobulin concentration was also significantly higher in sev.CHD (sev.CHD/nonsev.CHD 0,202±0,099vs.0,158±0,062g/l, p<0,05). No correlation in usCRP and APPs with ACEI/D neither in all group, nor in sev.CHD patients was observed.

Conclusion

We didn't confirm significantly higher D/D genotype and D-allele frequency in coronarographed, sev.CHD patients and hypertonics. No correlation between D/D genotype and the markers of subclinical inflammation-usCRP, APPs was confirmed. Significantly higher usCRP concentration in sev.CHD and in hypertonics was detected.

HEART RATE VARIABILITY AND DEPRESSIVE DISORDER IN ADOLESCENCE

Lukáš Šutek

Department of Physiology, Psychiatric Clinic, JFM CU in Martin

Tutors: Assoc. Prof. Ingrid Tonhajzerová, MD, PhD;

Assoc. Prof. Igor Ondrejka, MD, PhD

Introduction

The depressive disorder is an important health problem not only for adults, but also for children and adolescents. In adults, the risk of adverse cardiovascular events for depressed otherwise healthy patients is comparable of the risk for patients with present cardiovascular diseases. Despite assuming the heart rate variability (HRV) being altered in depressive disorder, this problem has not been answered up to now, especially in adolescent age.

The aim was to study differences of the cardiac chronotropic regulation using short-term heart rate variability (HRV) analysis in supine positions and during active orthostasis in depressive adolescents.

Methods

We have examined 21 subjects – 10 patients (5 boys and 5 girls) suffering from depressive episode (assessed according to ICD-10 and MADRS) and 11 healthy adolescents (6 boys and 5 girls) at the age from 15 to 18 years. HRV analysis was carried out in three positions: supine (S1) – active orthostasis (O) - supine (S2). The time of each interval was 5 minutes. Evaluated parameters: the mean R-R interval, spectral powers in low frequency band (LF: 0.04-0.15 Hz) determined sympathetic and parasympathetic activity via baroreflex and high frequency band (HF: 0.15-0.5 Hz) reflecting mainly parasympathetic modulation, total power as an index of total HRV. The $p < 0.05$ was considered as a significant.

Summary of results

The parameters of the HRV analysis – spectral power in high frequency (logHF) and total power (logTP) – were significantly lower in depressed adolescents compared to the control group in supine positions. Significant differences were not in remaining parameters.

Conclusion

The short-term HRV analysis has revealed lower cardiac vagal modulation at rest indicating changes in the autonomic regulation of the heart already in adolescent depression.

POSTNATAL PROPHYLAXIS OF EARLY-ONSET GROUP B STREPTOCOCCAL INFECTION IN NEWBORNS

Marcela Uhliarová, Katarína Bukovinská

Clinic of Neonatology, JFM CU, Martin

Tutor: Lucia Štillová, MD., PhD.

Introduction: Streptococcus agalactiae or group B Streptococcus (GBS) is the leading cause of early-onset infections in newborns. Early-onset GBS disease (EOGBSD) remains the most frequent cause of morbidity and mortality in neonatal period. Maternal intrapartum antibiotic prophylaxis (IAP) reduces the risk of EOGBSD, but it does not prevent all cases of the disease. Management of asymptomatic neonates of GBS colonized mothers is problematic.

Objective: To determine whether administration of intramuscular penicillin at birth to a strictly defined group of newborns of GBS colonized mothers is an effective method to prevent EOGBSD.

Methods: All term infants born within a period of 4 years were included in the retrospective-prospective study. The authors consider presence of obstetric risk factors, IAP administration, infant's blood count, amniotic fluid and outer ear canal culture results, and clinical signs of infection. Either an abnormality of blood count or presence of more obstetric risk factors were chosen as the indication criteria for administering postnatal antibiotic prophylaxis (PAP) using penicillin to asymptomatic infants of GBS colonized mothers.

Results: The study sample consists of 669 infants born to GBS colonized mothers (12.9 % of all term infants). PAP was administrated in 126 cases. Indication criteria included leukocytosis in 116 cases, leukopenia in 4 cases and obstetric risk factors in 6 cases. Two newborns were subsequently treated because of clinical signs of pneumonia. There was no case of proven sepsis.

Conclusion: The authors recommend a combination of IAP and selective PAP. They suggest that the strategy of selective postnatal prophylaxis using penicillin may be an effective and safe method in order to reduce morbidity and mortality from streptococcal infections.

HYPERKINETIC DISORDER / ADHD AND SLEEP DISTURBANCES IN CHILDREN

Jana Žuffová

Clinic of Psychiatry JFM CU Martin

Tutors: Assoc. Prof. Igor Ondrejka, MD., PhD., Pavol Adamík, MD.

Attention-deficit/hyperactivity disorder (ADHD) is the most frequently occurring psychiatric disorder in childhood. It affects 2-12% of children, mostly boys. ADHD is characterized by absentminded impulsivity, lasting at least 6 months. Other symptoms are worsened memory and learning. ADHD is often related with other psychiatric disorders. Sleeping disorders are also common and often associated with ADHD. It also has typical symptoms of hyperkinetic syndrome during the day, and, if long term, can be incorrectly diagnosed as hyperkinetic disease.

In my work, on the basis of a retrospective analysis of hospitalized patients suffering from ADHD over 6 years, I have found a high comorbidity of sleep disorders. These patients were admitted to the psychiatric department Jessenius medical faculty and MFN Martin between 2002 and 2008. The set consisted of 220 paediatric patients, of which approximately 83% were boys. 30% of these children had sleeping disorders. The most common dyssomnias were early insomnia, interrupted sleeping, somnilokvia, night enuresis, bruxism, pavor nocturnus, somnambulism... Most of these disorders were observed in Psychiatric department during the stay in hospital, as parents couldn't noticed them at home. It is therefore very important to pay attention to hyperkintetic children, suffering from sleeping disorders and focus on relationship between sleeping disorders and hyperkinetic syndrome, with the help of objective investigation techniques. Polysomnography is one of these techniques to diagnose sleeping disorders.

THE EFFECTS OF SHIFTS IN SHIFT WORK AND THE CHRONIC MILD STRESS ON THE BEHAVIOR OF WISTAR RATS

Katalin Fusz

Nursing Sciences Department Faculty of Health Sciences,
Institute of Public Health, Recreation and Health Promotion,
Faculty of Health Sciences, Department of Anatomy University of Pécs
*Tutors: Assoc. Prof. Dr. András Oláh, RN, MNS, PhD.; Assist. Lecturer
Ágnes Müller, MSc.; Assoc. Prof. Dr. Rita Józsa MD, PhD.*

Introduction

The aim of the study is to model the different shifts in shift work in an animal experiment, and to examine the effects of the chronic mild stress to the mood.

Material and method

Using a same age male and female Wistar rats (n=61) beside of a group of animal keeping in a normal LD cycle (12 hour light-L/12 hour dark-D) we modeled the mostly applied night shifts in abroad (4DL/3LD; 8DL/6LD; 2DL/2LD). To all lighting regimen belonged two group, of which we stressed one. For examining the degree of anxiety we applied Light/Dark box test, the results were analized by T-test (Excel). Research group was working from 2004 to 2008 at the Anatomy Institute of Univesity of Pécs, Faculty of Medicine.

Results

Regarding the examined 3 variables compared to the normal lighting regimen (time spent in light: 107,0 s, latency: 4,8 s, changing the compartments of the box: 9 times), we got significantly different results in two cases: for the 4DL/3 LD group (time spent in light: 65,7s, $p=0,0041$; latency: 10,6 s, $p=0,042$) and for the group 2DL/2LD (changing the compartments of the box: 5 times, $p=0,0016$; latency: 9,3 s, $p=0,038$), while in case of the group 8DL/6LD we did not get significant differerence regarding any of the variables.

Conclusion

Our results certify, that applying shifts differing from the normal lighting regimen leads to anxiety also without chronic mild stress. The shift 8DL/6LD is the only shift, where the anxiety did not performe, which proves that this rate of changing of work and off days provides the best way for regeneration.

EVALUATION OF SENSITIVITY AND SPECIFICITY OF RADIAL ENDOSONOGRAPHY IN COMPARISON WITH ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATICOGRAPHY IN DIAGNOSIS OF EXTRAHEPATIC BILIARY OBSTRUCTION

Martin Holinka

IInd Internal Medicine Clinic, Faculty Hospital, Olomouc

Tutor: Igor Tozzi

Introduction

Endosonography (EUS) performed prior to endoscopic retrograde cholangiopancreatography (ERCP) or surgery in patients with low to moderate probability of choledocholithiasis, can reduce the risk of morbidity, mortality and costs.

Aims and Methods

The aim of our work was to evaluate sensitivity and specificity of EUS and transabdominal ultrasonography (TUS) as compared to ERCP on a cohort of 100 patients in the diagnosis of extrahepatic biliary obstruction. The width of the common bile duct, detection of choledocholithiasis and another possible pathology of the common bile duct were investigated. A comparison of laboratory markers with the degree of risk of choledocholithiasis, was performed.

Results

The sensitivity of EUS in the diagnosis of common bile duct dilatation was 84 %, the accuracy was 83 %, it was significantly higher ($p=0.0001$) compared to TUS (sensitivity 46 %, accuracy 66 %). The sensitivity of EUS in the diagnosis of pathological content of common bile duct was 88 %, the accuracy was 92 %, it was significantly higher ($p<0.0001$) compared to TUS (33 %, 64 %). As for the risk of choledocholithiasis, 22 (22 %) patients belonged to the group of moderate risk and 78 (78%) patients to the group of high risk. Choledocholithiasis was confirmed in 6 (27.3%) patients in the group of moderate risk and in 45 (57.7%) patients in the group of high risk. The incidence of choledocholithiasis in the group with high risk was significantly higher than in the group with moderate risk ($p=0.012$).

Conclusion

In the diagnosis of pathological content of the common bile duct, radial EUS is a method with high sensitivity and specificity. We consider on the basis of our results that EUS be preferred to ERCP in the patients with low or moderate risk of choledocholithiasis.

EFFICACY OF IMATINIB DOSE ESCALATION (IDE) IN CHRONIC MYELOID LEUKEMIA (CML) PRETREATED WITH INTERFERON- γ (INF- γ)

Adam Kuba, Edgar Faber, Šárka Rožmanová, Martina Divoká, Ivana Skoumalová, Milena Holzerová, Marie Jarošová, Karel Indrák

Medical Faculty, Palacky University in Olomouc
Hemato-Oncological Clinic of the Faculty Hospital Olomouc
Tutor: Assoc. Prof. Edgar Faber MD, PhD.

Introduction: Imatinib mesylate (IM) has become the drug of first choice in CML. In case of IM failure or suboptimal response IDE to 600-800 mg daily is recommended as the first option for management of patients according to guidelines of European Leukemia Net. Our study is aimed on the efficacy of IDE in INF- γ pre-treated patients.

Materials and methods: 65 INF- γ pretreated CML patients were analysed. Median interval since diagnosis up to IM therapy was 15 months (1-102). Median follow-up was 81 months (32-169), while the median follow-up from initiation of IM was 60 months (7-98); 3 patients died during the follow-up. 40 patients (61,5%) were treated with the standard dose of IM only, in 14 patients (21,6%) IDE was used for hematologic resistance in 1 patient, cytogenetic relapse or progression in 9 and suboptimal response in 4 patients.

Results: In IDE patients median interval since the start of standard dose IM up to dose escalation was 28 months (4-54). Previous response to standard dose IM was complete CyR in 8 patients achieved after median 10 months and lasted for median 8 months. The median period of IDE therapy was 9 months (6-14). After IDE 5 patients achieved complete CyR and 7 patients major CyR with average duration of 9 and 14 months. However, only 2 patients achieved major MR. Most of the patients were switched to second generation tyrosine kinase inhibitors due to hematologic (2 patients; 14,3%) or cytogenetic resistance (6 patients; 42,9%) and suboptimal response (1 patient; 7,1%). Only 4 patients (28,6%) continue with IDE presently.

Conclusions: In most INF- γ pretreated patients IDE resulted in transient CyR that was shorter than one year. Response to IDE seems to be associated with absence of ACyA and bcr-abl tyrosine kinase domain mutations and achievement of major MR, but not with Sokal risk or response to standard dose of IM.

USE OF SELF BLOOD GLUCOSE MONITORING IN GLYCEMIC CONTROL IN DIABETIC PATIENTS

Anna Markowicz, Wanda Lutogniewska, Małgorzata Maksymiak

Medical University of Silesia, School of Medicine and Division of Dentistry in Zabrze; Dept. of Internal Diseases Diabetology & Nephrology
Tutor: Prof. Krzysztof Strojek M.D., Ph.D.

Background

Normoglycemia is possible only if patients check blood glucose and titrate treatment according to the results.

Aim of the study

Estimation the use of glucometers on basis of patient's statement concerning: (i) proper coding, (ii) diet and (iii) drug adjustment according to the results of self- monitoring.

Material

510 patients from Outpatient Clinic for Diabetics in Zabrze, including 99 with type 1 and 411 type 2 ; age 60 ± 19 years (type 1 – 43 ± 1 , type 2 – 63 ± 11), duration – 12 ± 9 years (type 1 – 18 ± 1 , type 2 – 11 ± 8), BMI $29,1 \pm 5.3$ kg/m² (type 1 – $24.4 \pm 4,3$, type 2 – 30.2 ± 4.9).

Methods

A questionnaire including, patient's statement regarding glucometer coding, glycemia self-monitoring and the habit to treatment correction. Data were verified by checking glucometer's settings including date and hour, numbers of measurements in memory and proper strips coding.

Results

Of total number of 510 questioned patients 30 (5,8 %) declared that they had not been instructed to code the glucometer and 25 (4,9 %) seldom or never changed the code. Examining glucometers revealed that 23 (4,5 %) patients did not use proper code (4 of them- uninformed), 235 (63 %) did not have time and date set properly, 281 (70%) subjects declared diet correction , 42 out of 167 (25 %) patients treated with insulin and 41 out of 127 (32 %) patients on oral medications did not adjust their drugs dose in case of hyperglycaemia.

Conclusions

1). Appropriate education allows to avoid coding errors. 2). Results of self-monitoring of glycemia are not utilised sufficiently to control glycemia in diabetes.

CLINICAL FEATURES OF HYPO & HYPERGLYCEMIA IN DIABETIC PATIENTS

Sebastian Sirek, Anna Markowicz, Ryszard Swoboda

Medical University of Silesia, School of Medicine and Division of Dentistry in Zabrze; Dept. of Internal Diseases Diabetology & Nephrology
Tutor: Prof. Krzysztof Strojek M.D., Ph.D.

Background

The ability to recognize and to interpret abnormal glycemia is the important issue in diabetes management.

Aim

Analysis of type and frequency of hyper and hypoglycemia symptoms in patients with less than 5 years duration of diabetes. 2. The way to diagnose type 2 diabetes.

Material: 46 patients with type 1 of diabetes (32M, 14F; age 36 ± 12 years; BMI $23,3\pm 3,2$) and 264 patients with type 2 of diabetes (106 M, 158 F: age 65 ± 9 ; BMI $29,3\pm 5,41$, with hypoglycemic episode within preching 1 month.

Methods

A questionnaire including general data and interview concerning the way of diabetes diagnosis as well as the symptoms of hyper and hypoglycemia feeling by patients. Frequency as well as onerous of symptoms were analyzed.

Results

In patients with type 1 the most frequent was thirst (74%), fatigue (52%), poliuria (50%), blintered vision disorders (30%), concentration disorders (20%). The most onerous was fatigue, thirst and bluntered vision. The most frequent symptoms of hypoglycemia was: sweating (64%), tachycardia (64%), the change of behavior (45%), hunger (43%), feel of freezing (43%). The most onerous was sweating, change of behavior and hunger. The diabetes was diagnosed in type 2 by the clinical symptoms only in 21% of patients. 39% hyperglycemia was diagnosed in accidental examination, 18% in hospital, 22% by accidentally measure of glycemia. The most frequent and onerous hyperglycemia symptoms was fatigue (65%), thirst (53%), poliuria (38%), bluntered vision (38%) and the concentration disorders (25%).

Conclusions

Performed analysis allow to recognize the most common symptoms of abnormal blood glucose which may be helpful to indicate interview for the concrete disorders. Most type 2 diabetes is diagnosed before hyperglycemic symptoms occurs. This indicate the increase awareness of the risk related to the diabetes.

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