

## ABSTRACTS

### XI<sup>TH</sup> CONFERENCE OF YOUNG PHYSITIANS ST. ANNA 'S UNIVERSITY HOSPITAL IN BRNO 23<sup>RD</sup> JUNE 2004

*M. Krejčí, T. Novotný, Z. Gregor, J. Podlaha* (Second Department of Surgery, St. Ann's Faculty Hospital, Brno, Czech Republic): **Pseudoaneurysm and invasive cardiology.**

Invasive cardiology represents an effective method for both diagnosing and treatment of patients with heart diseases. As an invasive procedure it is however accompanied by various complications. Pseudoaneurysm represents a potentially serious peripheral vascular complication of these procedures.

The objective of this study was to evaluate the number of pseudoaneurysms solved as a complication of femoral artery puncture for diagnostic coronarography and PTCA.

One center retrospective study was carried out. The number of coronarographies and PTCA with stenting during the years 1999 and 2003 was evaluated. The amount of pseudoaneurysms treated by vascular surgeons during the same 5-year period was assessed. An analysis of the group of patients operated on post-puncture pseudoaneurysm during the period between January 2003 and April 2004 was then attached.

15.419 catheterisations were performed during the past 5 years - namely 11.044 coronarographies (i.e. 71,62%) and 4.375 PTCAs with stenting (28,38%). During the same period 75 pseudoaneurysms were surgically treated. So the risk of development of a pseudoaneurysm after invasive cardiology procedures reached 0,49%.

During the 16-month period 18 patients with femoral artery pseudoaneurysm were treated. There were 9 men and 9 women with the average age of 67,4 and 75,1 years, respectively. Acute myocardial ischaemia was solved in 13 patients (72,2%). 15 patients (83,3%) underwent PTCA with or without stenting. Combined antiaggregative and anticoagulant therapy was then given to 12 patients (66,6%), the rest receiving combined antiaggregation. Of the patients 16 (i.e. 88,8%) were operated within 1 to 2 weeks after catheterization. In 11 cases (61,1%) common or superficial femoral artery suture was performed. Deep femoral artery was repaired in 5 (i.e. 27,7%), the rest (11,2%) representing common femoral artery branching injury.

The results received are fully comparable to those referred by other invasive cardiology and vascular surgery centres. Operation represents the most useful method of pseudoaneurysm treatment. However, prevention - sufficient postpuncture site compression, reasonably high anticoagulation fitting the patient after the cardiac catheterization etc. - still remains the main chance for decreasing number of peripheral vascular complications in invasive cardiology.

*E. Neuman, M. Smrčka* (Department of Neurosurgery, Faculty Hospital, Faculty of Medicine, Masaryk University, Brno, Czech Republic): **Controlled mild hypothermia as neuroprotective method in neurosurgery.**

Hypothermia is very efficient neuroprotective method in experiment and also in some clinical applications. Department of Neurosurgery and Department of Intensive Care University Hospital Brno use controlled hypothermia as the only departments in the Czech Republic.

We use controlled hypothermia 34°C induced by superficial cooling for 4 days. Indications for hypothermia are severe brain injuries and severe subarachnoid hemorrhages after rupture of aneurysms.

Hypothermia decreases ICP, increases CPP. However using of hypothermia improves outcome of brain injured patients with extracerebral hematomas. In the other side there were no better results by using of hypothermia in case of severe subarachnoidal hemorrhage. Hypothermia does not prevent the development of vasospasm.

Mild controlled hypothermia is a perspective neuroprotective method to protect neurons before ischemic damages of various etiology.

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Angiogenesis plays a key role in development of hematological malignancies. Determination of angiogenic activators in peripheral blood is a common method of angiogenesis assessment. Angiogenic factors in peripheral blood have been usually measured in serum rather than plasma. Because serum levels of angiogenic factors, especially VEGF can be increased by release from platelets, we evaluated plasma levels of angiogenic activators basic fibroblast growth factor (bFGF) and vascular endothelial growth factor (VEGF) using enzyme-linked immunosorbent assay (ELISA) in 37 patients with chronic lymphoid malignancies.

The diseases included chronic lymphocytic leukemia (CLL, n=18), multiple myeloma (MM, n=7) and Non Hodgkin's lymphoma (NHL, n=12). All samples were collected into EDTA from untreated patients at the time of diagnosis. Control group consisted of 20 healthy subjects. The study was carried out according to Helsinki declaration, was approved by a local ethics committee and patients gave a written informed consent.

Median plasma levels of bFGF in control group, CLL, MM and NHL were 119, 9.6, 10.3 and 9.3 ug/l, respectively. Median levels of VEGF in CLL, MM, NHL and control group were 78.8, 59.7, 41.9 and 57.5 ug/l, respectively. Plasma levels of bFGF in chronic lymphocytic leukemia were significantly higher in comparison to control group (p<0,001). Differences in plasma concentrations of bFGF in multiple myeloma and non-Hodgkin's lymphoma as well as VEGF levels in all three diseases compared to control group did not reach statistical significance.

Our pilot study shows that ELISA measurement of angiogenic factors in EDTA plasma is a feasible and reproducible method of angiogenesis assessment. Due to limited number of patient samples, it is necessary to confirm these observations by a larger study to compare serum and plasma levels and to correlate the data with clinical course. Nevertheless, these preliminary results are promising and warrant further investigation.

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Oxidative stress is defined as a disruption of the equilibrium between pro- and antioxidant systems. This area has been recently a subject of intensive research and discussion. AOPP (advanced oxidation protein products) belong to the latest markers of oxidative stress. This marker shows the oxidation damage of the proteins and AOPP also act as inflammatory mediators. In the literature, we have not found any reference to influence the level of AOPP by an antioxidative therapy.

The effect of the short-term therapy with acetylcysteine on the level of AOPP.

We examined 14 probands with many cardiovascular risk factors. (The risk of cardiovascular complication higher than 20% within 10 years according to Framingham score and the risk of fatal coronary events higher than 5% within 10 years according to SCORE). All these patients were administered acetylcysteine 600mg/day orally during 20 days. Before starting the therapy we determined AOPP, ACB (albumin cobalt binding), glucose, creatinine, urea, ALT, AST, cholesterol, LDL, HDL, triglycerides in peripheral venous blood in all individuals. After finishing our intervention we determined AOPP, ACB and glucose again.

We have proved that acetylcysteine (600mg/day, 20 day-therapy) significantly reduces the level of AOPP. (Wilcoxon,  $p=0.039$ , median from 82.2 to 74.3). There was not found any change of the level of glucose and ACB before and after finishing our intervention. There was not also found any correlation between AOPP, ACB and other examined parameters (Spearman correlation).

The results of our study show acetylcysteine being a potential drug reducing oxidative stress by lowering the level of AOPP. These results are single and seem to be very interesting because in recent papers there is no mention about any possibility of reducing the level of AOPP. We admit that our study is handicapped by a small number of probands. We take this fact as a challenge and we would like to solve this problem in our future study.

*M. Hejmanová, M. Horáčková, E.Vlková* (Department of Ophtalmology, Faculty Hospital Bohunice, Brno, Czech Republic): **Effect of laser in situ keratomileusis on objective and subjective visual functions.**

Purpose was to determine effect of laser in situ keratomileusis (LASIK) on visual functions: visual acuity (VA) and contrast sensitivity (CS) and to evaluate functional complaints.

Prospective study includes results of VA and CS preoperatively and 1,3 and 6 months postoperatively in patients with middle and high myopia. Thirty six eyes of 18 patients were divided according to spherical equivalent into 2 groups: group A (more than -5D, 18 eyes) and group B (less than -5D, 18 eyes). Mean patients' age was 27 years. Visual acuity was measured on log MAR charts, contrast sensitivity at 3,6,12 and 18 c/deg was tested using CSV 1000 Contrast sensitivity unit. Functional complaints were evaluated using a wide-ranging questionnaire focused on 4 main topics.

Visual acuity preoperatively was significantly decreased in comparison to controls in both groups, considerable decrease can be detected at 1 month postoperatively and it returns to preoperative values during 6 months after surgery. Postoperatively, a significant decrease of CS can be detected, above all at intermediate spatial frequencies. During first 6 months, values of CS slowly increase in both groups. However, only in group B (with less than -5D) the preoperative values have been reached. The satisfaction with final outcome has reached 93%. However, some patients (17%) reported reduced vision under dim illumination and at night and also difficulty with nighttime driving.

Our study suggests that both used methods are very sensitive for evaluation of visual functions after refractive surgery. Changes of contrast sensitivity reveal even slightly changed optic factors of cornea that can cause subjective complaints of patients.

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Congestive chronic heart failure which grows worse over maximal drug treatment and causes need for hospitalizations for cardiac decompensation is still a great medical problem. Cardiac resynchronization therapy is a proven new treatment for patients suffering from systolic heart failure and ventricular dyssynchrony.

There were 12 biventricular pacemakers and 4 biventricular cardioverter-defibrillators implanted in our arrhythmia unit in 2003. Sixteen patients 58,9 +/- 10,6 - years-old suffering from dilated cardiomyopathy (n=12) and ischemic heart disease (n=4) were included in this study. Inclusion criteria were symptomatic patients in NYHA Functional Class III-IV heart failure with left ventricular dysfunction, ejection fraction 19,5 +/- 5,5% and left intraventricular delay (more than 150 ms) by echocardiography, with left bundle branch block, QRS duration (172 +/- 26 ms) and indication criteria for an ICD fulfilled.

Every patient underwent echocardiography to assess ventricular dyssynchrony. Peak oxygen consumption ( $\dot{V}O_2$ . max.kg-1) was measured by spiroergometry and right ventricular catheterization was performed to evaluate hemodynamic parameters - cardiac output (CO), main pulmonary artery pressure (MPAP), pulmonary capillary wedge pressure (PCWP) before and 3 months after resynchronization therapy.

No patient was hospitalized for heart failure during follow-up. All patients underwent 3 months follow-up. The NYHA functional class was decreased by one in all patients. Improvement in interventricular synchrony and increasing LV EF from 19,5 +/- 5,5% to 23,2 +/- 3,7% (p=0,01) was recorded by echocardiography.  $\dot{V}O_2$  max. kg-1 was increased from 14 +/- 2,6 ml/kg to 16,5 +/- 1,6 ml.kg-1 (p=NS). Decreasing of MPAP from 24 +/- 10,6 mm Hg to 18,6 +/- 8,5 mm Hg (p=NS) and PCWP from 15,6 +/- 9,2 mm Hg to 11,5 +/- 7,5 mm Hg (p= NS) was detected. Cardiac output did not change after 3 months.

This study with short term follow-up documents the effectiveness of cardiac resynchronization therapy on cardiac performance.

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Weakness of skeletal muscles in patients with chronic heart failure (CHF) contribute to their impaired physical performance. The aim of this study was to investigate whether the long-termed low frequency electrical stimulation (LFMES) improves skeletal muscle strength and the quality of life assessed by rating of perceived exertion (RPE) in these patients.

Seven patients with CHF (NYHA III-IV) were examined before and after 4 weeks of stimulation. All the patients were on the waiting list for heart transplantation, were symptomatically stable and with optimized pharmacologic treatment (ACEI, betablockers, diuretics). The stimulation protocol was designed as follows: quadriceps muscles, 1 hour/day, 7 days/week for 4 weeks. Muscle power was measured using the isometric dynamometry (system PC-2 SDT Brno, CZ). RPE was expressed using the Borg scale. A paired Wilcoxon test was used; the value  $p < 0.05$  was considered as significant.

A significant improvement of the muscle strength of quadriceps muscles was observed after 4 weeks of stimulation (from  $262 \pm 53$  N to  $353 \pm 36$  N on the right side,  $p < 0.05$ ; from  $230 \pm 79$  N to  $351 \pm 4$  N on the left side,  $p < 0.05$ ). RPE for dyspnea was also improved on Borg scale (from 4.2 to 2.4,  $p < 0.05$ ).

The results of this study demonstrated a significant positive effect of the LFMES after 4 weeks of stimulation on the muscle strength of quadriceps muscles and on RPE in patients with CHF. LFMES was subjectively well tolerated.

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*K. Skorkovská<sup>1</sup>, H. Lüdtke<sup>2</sup>, B. Wilhelm<sup>2</sup>, H. Wilhelm<sup>2</sup>* (<sup>1</sup>Department of Ophthalmology and Optometry, University Hospital St. Anne, Brno, Czech Republic, <sup>2</sup>Pupil Research Group, University of Tübingen, Department of Pathophysiology of Vision and Neuro-Ophthalmology, D 72076 Tübingen, Germany): **Pupil campimetry – an objective visual field test.**

The pupillary light reaction (PLR) corresponds to the integrity of the retinal function and the visual pathway. According to this it is possible to demonstrate visual field (VF) loss caused by diseases of the retina or the visual pathway by evaluating the pupillary response to focal light stimuli within both the intact and the blind field areas. Pupil campimetry represents an objective method of VF testing. To compare VF findings in patients with diseases of the retina or the visual pathway causing visual field defects in standard threshold perimetry.

Five patients with a pregeniculate lesion and 5 patients with a retrogeniculate lesion of the visual pathways with corresponding VF defects, 5 patients with retinitis pigmentosa (RP) and concentric VF loss and 5 patients suspected of simulation or aggravation of their VF defect.

Pupil field was defined by measuring the PLR on light stimuli at different locations within the 30° VF by means of the infrared video-based pupillography. Light stimuli 1° in diameter were presented on a computer screen. On the same day the VF was examined either by the Tübingen Automated Perimeter or the Goldmann kinetic perimeter. Pupil field was compared to the 30° VF obtained with standard perimetry and the difference subjectively judged.

In patients with a pregeniculate damage to the visual pathway the pupillary field defects do not always correspond well to those defined by standard perimetry. In patients with retrogeniculate lesion a clear matching pupil field defect could be observed. In patients with RP and concentric VF loss a normal PLR was preserved only in the centre of the VF, in the periphery it was absent. In cases of functional VF loss PLR was normal at all locations in the VF.

Discordance of findings in patients with a pregeniculate damage to the visual pathway can be caused by a different arrangement of visual and pupillary fibers in the optic nerve. VF defects caused by retrogeniculate lesions can be better detected by pupil campimetry and correspond to the results of previous studies dealing with the course of the central pupillary pathway. Pupil campimetry findings in patients with RP correspond to the results of standard perimetry. In all cases our method enabled to reveal a functional VF loss. Pupil campimetry can be a suitable perimetry method in patients difficult to cooperate with or suffering from a severe VF defect or loss of vision. It is also a very good objective VF test with suspected aggravation or simulation of VF defects.

*J. Neuwirthová, I. Huvar* (Department of Gynaecology and Obstetrics, Merciful Brothers' Hospital, Brno, Czech Republic): **Transobturator sling - a new minimal invasive surgical technique of female stress urinary incontinence treatment.**

The evaluation of short-term results of a new surgical technique of mid-urethral support with a transobturator horizontal sling called the Transobturator Tape (TOT) or the Tension-free Vaginal Tape Obturator (TVT-O) is given in this abstract. During the period from January to March 2004, this minimal invasive technique was performed with twenty-one women whose mean age was fifty-nine years and mean period of hospitalization was four days. Neither intraoperative nor postoperative complications were observed. During hospitalization, four women complained of temporary coxalgia. All patients were fully continent when discharging them.

When comparing minimal invasive surgical techniques of stress urinary incontinence treatment, transobturator tape is of the same effectivity as now prevalently performed Tension-free Vaginal Tape (TVT). However, less TVT-related intraoperative complications such as perforation of urinary bladder, pelvic haematoma, large-vessel trauma, nerve injury, intestinal perforation and less postoperative complications such as transient urinary retention and voiding dysfunction are detected with the transobturator tape. No cystoscopy is required for this procedure. Potential for urinary complications is reduced since the tape does not pass through the Retzius space as in TVT. Moreover, this new technique is advantageous in cases of recurrent stress incontinence, in which adhesions of the Retzius space after previous operations is supposed. As TOT and TVT-O represent a new technique, long-term follow-up is needed.

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The clinical course of chronic renal diseases and their progression to end-stage renal failure (ESRF) is highly variable. Different candidate gene polymorphisms, affecting mainly the onset/development of arterial hypertension (AH), have been advocated as possible modulators of the progression.

The aim of our study was to confirm or exclude the distribution of different alleles of ET-1 gene polymorphisms in the 5' untranslated region in ADPKD and IGAN. We examined a group of 117 Czech patients (pts) with ADPKD and 38 pts with IGAN; as control group (CONTROL) we used 36 genetically unrelated healthy subjects. To study the ET-1 polymorphism in 5' untranslated region (ins 138 A) we used the SSCP (single strand conformation polymorphism) and heteroduplex analysis. Frequencies of genotypes of ET-1 (3A, 4A and 3A-4A) in ADPKD, IGAN and CONTROL groups were following: 60%, 6% and 34%; 53%, 13% and 34% and 44%, 3% and 53% respectively. The distribution of ET-1 alleles in ADPKD and IGAN groups did differ from the CONTROL group ( $\chi^2=15,66$  for ADPKD:CONTROL and 46,8 for IGAN:CONTROL).

Our preliminary results suggest that the distribution of ET-1 genotypes in some selected chronic nephropathies differs from the distribution in the healthy population and could thus have some clinical relevance to the onset/development of AH and progression of the disease to ESRF.

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Cardiotoxicity is a serious and relatively frequent complication of antitumorous treatment. Anthracyclines represent the greatest risk. Biochemical markers of structural and functional myocardial damage have been gaining ground in cardiotoxicity diagnostics.

Monitoring for cardiotoxicity of induction chemotherapy in acute myeloid leukemia (AML) patients, determining the potential for use of biochemical markers in early diagnostics of cardiotoxicity.

Fifteen consecutive adult patients with a newly diagnosed AML were studied. The patients received induction chemotherapy containing Idarubicin (Ida) 3x 12mg/m<sup>2</sup> and intermediate doses of Cytarabine. Serial measurements of serum NT-proBNP values were performed at the baseline, the day following each Ida infusion, after 14 days and after circa 1 month, i.e. before the next chemotherapy. Cardiospecific markers (cTnT, CK-MB mass) were measured at the baseline and after the last Ida infusion.

The mean baseline value of NT-proBNP in newly diagnosed AML patients was 129.7±70.7 pg/ml. The mean NT-proBNP value increased after the first Ida infusion to 307.3±207.3 pg/ml (p=0.02). In most of the patients the second and the third Ida infusions were not associated with a further increase in the NT-proBNP value and values after 2 or 4 weeks were not significantly different from the baseline values. However, in one of the patients the NT-proBNP values were increasing after each Ida infusion (after the last one 786.2 pg/ml) and within 14 days he developed congestive heart failure due to left ventricular diastolic dysfunction as assessed by echocardiography. The NT-proBNP value was 1184.0pg/ml; after diuretics it decreased to 245.4 pg/ml. In all patients serum cTnT and CK-MB mass concentrations were within the reference interval at the baseline and after the induction chemotherapy.

Our results suggest that induction chemotherapy in AML (Idarubicin 36 mg/m<sup>2</sup> and intermediate doses of Cytarabine): 1. does not cause detectable damage of the myocyte structure, 2. is in all patients associated with acute neurohumoral activation (transient elevation of NT-proBNP) indicating acute subclinical cardiotoxicity, 3. may lead to congestive heart failure and NT-proBNP seems to be a promising early marker and predictor of this complication.

*V. Holá, F. Růžička* (Institute for Microbiology, Faculty of Medicine, Masaryk University, Brno, Czech Republic): **Direct microscopic techniques in the biofilm detection.**

The ability to form biofilm is commonly considered as an important factor of pathogenicity. It helps microorganisms not only in surface colonization in patient's body but it is also important defence factor protecting biofilm-forming microorganisms against antibiotics. Therefore, it is important, especially in serious infections (e.g. blood stream infections), to detect causative agent and its ability to form biofilm as soon as possible.

The commonly used method for detection of the ability to biofilm, the cultivation technique, is time consuming. The visualization of the biofilm by means of direct microscopic techniques can very accelerate the diagnostic of the biofilm infection. The essential requirement for the direct microscopic proof is the differentiation between bacterial cells and extracellular matrix by means of commonly used microscopic dyes. Therefore we focused on the testing of suitable dyes and dying techniques to detect presence of cell accumulations, eventually presence of polysaccharide matrix.

We used biofilm-positive strain of *Staphylococcus epidermidis* CCM 7221 (Czech Collection of Microorganisms, Brno, CZ) and the ability to form biofilm was proved genetically (the proof of *ica* operone) as well as phenotypically (modified Christensen's test tube method and typical growth on the Agar with Congo Red). For the development of the staining technique we used biofilm grown on

the glass slide and in the wells of microtiter plate. We cultivated biofilm for 24 hours at 37 °C and monitored the dynamics of the biofilm formation as well.

By the „classical“ light microscopy we observed the binding selectivity of the dyes to the polysaccharides and bacterial cells respectively and by the fluorescence microscopy we detected cell accumulations. Obtained pictures were processed by the image analysis software.

The direct microscopic techniques can be used for the proof of the biofilm and biofilm forming microbes from the clinical specimens as well as for the study of physiological properties of the biofilm layer, its composition, structure and dynamics of the biofilm formation.

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*E. Račanská* (Department of Obstetrics and Gynaecology, Faculty Hospital, Faculty of Medicine, Masaryk University, Czech Republic): **Digital picture data exploitation in gynaecology.**

Digital picture data are obtained from various modalities. They can be collected, archived and processed through particular workstations.

Picture data sources used in our Department of Obstetrics and Gynaecology are ultrasound, endoscopic camera and colposcop. These are so-called modalities. Data are transported via powerful computer network and archived on high-capacity archiving media. They are processed using an internationally valid format DICOM (Digital Image Communication in Medicine) and are part of a hospital information system and archiving system PACS (Picture Archiving and Communication System).

Testing of a basic function of digital picture data archiving and transmission. Definition of requirements for further system development with respect to its utilization in a medical practice, research and training.

This study did prove that current information technologies can be implemented into a medical practice especially in particular fields of gynaecology. Information technologies are going to be an important means to an economization and improvement of patient's care and training of doctors.

*T. Novotný, M. Krejčí, Z. Kříž* (St. Anne's Univ. Hospital, Second Dep. of Surgery, Faculty of Medicine, Masaryk University Brno, Czech Republic): **Current Problems in Surgery of Vascular Accesses for Hemodialysis**

The number of patients with end stage renal disease is still increasing. Most of them are treated by hemodialysis. This method requires permanent vascular access (VA). The best type is arteriovenous fistula but the number of used subtypes is very small. Therefore the length of survival of each single access becomes crucial.

A review of the current literature on the planning of VA, access surveillance methods, neointimal hyperplasia (NIH) and treatment of the most common complications was performed.

Multidisciplinary VA planning and increased use of preoperative imaging are essential to obtain the best long-term results. The research of shunt surveillance is still at the beginning. We are able to detect venous stenosis early but the precise indications for intervention remain unclear. NIH plays important role in the genesis of VA complications. The only method which reduces NIH and can soon improve survival of shunts in clinical practice is suturing of anastomoses with nonpenetrating vascular clips. Management of complications as performed today is successful and with good outcome. Steal syndrome is now more frequent complication, especially by patients with diabetes and atherosclerosis. New methods of solving this complication without access ligation are now developed.

Research focuses on optimalization of all procedures of VA creation to improve the length of survival of each access. Each improvement of secondary access patency is important as a means of prolonging patient survival, reducing morbidity and also cost of hemodialysis programmes.

*S. Sedlackova, I. Rektorova, A. Hlubocky, I. Rektor* (First Department of Neurology Faculty of Medicine, Masaryk University, Brno): **Effect of repetitive transcranial magnetic stimulation on cortical excitability in patients with Parkinson disease.**

Transcranial magnetic stimulation (TMS) is non-invasive diagnostic method, which is used to functional exploration of central and peripheral nervous system.

The possibility of repetitive transcranial magnetic stimulation (rTMS) therapeutic effects is also being tested. Repetitive TMS can be used to non-invasive modulation of intracortical inhibition and facilitation circuits and thus may promote changes in cortical excitability.

The aim of that pilot study was to examine the effect of rTMS on cortical excitability in patients with Parkinson disease. A significant reduction in intracortical inhibition has been found in Parkinson's disease by many studies. High frequency rTMS was applied over the left dorsolateral prefrontal (DLPFC) and motoric cortex (MC) in six people in five sessions. Changes in the cortical excitability was measured by paired TMS using the conditioning-test TMS paradigm. The results revealed non-significant effects on cortical excitability after high frequency rTMS applied over DLPFC and MC and the trend to restore impaired intracortical inhibition.

It's the question, whether rTMS couldn't have the similar restored effect on impaired cortical excitability like the therapy of L-Dopa or dopamine agonist.

*L. Černohorská<sup>1</sup>, R. Minton<sup>2</sup>* (<sup>1</sup>Department of Microbiology, Faculty of Medicine, Masaryk University, Brno and St. Ann's Faculty Hospital, Brno, Czech Republic, <sup>2</sup>Red Eagle rd., Montgomery, Alabama, USA): **An unusual cause of abdominal form of actinomycosis.**

Actinomycosis is a subacute-to-chronic bacterial infection caused by filamentous, gram-positive, anaerobic-to-microaerophilic bacteria. The clinical forms of actinomycosis are cervicofacial, thoracic and abdominal. For this form no racial predilection exist. The disease presents classically as a slowly growing tumor. In women, pelvic actinomycosis is common – most commonly occurs by the ascending route from the uterus in association with intrauterine contraceptive devices (IUCDs).

A patient, four-year-old boy, had a history of recent abdominal surgery (perforated acute appendicitis characterised by symptoms like fever, pain, vomiting). After a few months new symptoms had occurred. Only little pain and palpable mass located in the abdomen, low-grade fever and weight loss were presented in this case. The disease presented itself as a slowly growing tumor, but the examinations (including X-ray examination and laboratory markers) were negative. Surgery was needed to make the diagnosis. Sample of tissue and pus from drainage helped to make the diagnosis. In sample of pus was isolated species *Actinomyces israeli*. The infection was cured with prolonged antibiotic treatment; first with penicillin i.v. for 5 weeks and than with penicillin V p.o. for 6 months.

Although the reported annual incidence of actinomycosis in the Czech Republic was less than 10 case a year (in USA 1 case per 300000), one must think of it.

Actinomycosis is a rare infection, occurs worldwide, affect people of all ages, but the majority of cases are reported in young to middle-aged adults (25–50) with likely higher prevalence rates in areas with poor dental hygiene or with history of IUCD.

*O. Navrátil, M. Smrčka* (Department of Neurosurgery Brno, Czech Republic): **Resocialization of patients following severe brain injury.**

The treatment results of patients with severe brain injury concerning morbidity and mortality are very poor in general. However, there is not still too much known about the psychosocial state of surviving patients.

We have prospectively evaluated 22 patients admitted to Neurosurgical Department from 9/02 to 3/03 with severe brain injury with follow-up 12 months after severe traumatic brain injury. We have evaluated Glasgow Outcome Scale(GOS), work ability and expenses.

The results of GOS were: 3(13%) patients good recovery, 7(31%) patients moderate disability, 2(9%) patient severe disability, 10(45%) patients died. 3(13%) patients either work or study, 7(31%) patients get full disability allowance, 2(9%) patients get old age pension. Average cost of stay at Neurosurgical Department was 243360Kč/patient, average length of stay at Neurosurgical Department was 22,09 days/patient.

Resocialization of patients following severe brain injury is serious social problem and leads to large psychosocial stress and needs great expenses. After all, many patients have chances for high-quality life in particular because of further improvement in medical care.

*Compiled and revised by J. Litzman*