

Deletis V, Iščum V, Amassian VE. Neurophysiological mechanisms underlying motor evoked potentials in anesthetized humans. Part I. Recovery time of corticospinal tract direct waves elicited by pairs of transcranial electrical stimuli. Clin Neurophysiol 2001;112:438-44.

*Department of Neurology, Zagreb University School of Medicine, Zagreb, Croatia

Direct (D) corticospinal tract discharges were recorded epidurally in patients at anesthetic depths suppressing indirect (I) activity and were elicited by two equal transcranial electrical stimuli. The recovery of amplitude of the second D wave (D2) was a function of the interstimulus interval (ISI) and the stimulus duration. For example, with a 100 mus pulse, there was no response at an ISI of 1.1 ms, but partial recovery occurred with a 500 mus pulse. This indicates a relative refractory component at this ISI. Both D2 amplitude and conduction time recovered completely using a 4 ms ISI, with evidence of increased amplitude and reduced conduction time (supernormality) at longer ISIs. These findings are relevant in explaining high frequency D and I discharges and facilitation of motor responses by two transcranial magnetic pulses. Furthermore, these data help to understand why an ISI of 4 ms would be optimal in eliciting limb muscle responses when a short train of transcranial stimuli elicits only D waves in anesthetized patients (*Deletis et al., Clin Neurophysiol 2001;112: 445*).

Eraković V, Župan G, Varljen J, Laginja J, Simonić A. Altered activities of rat brain metabolic enzymes caused by pentylentetrazol kindling and pentylentetrazol-induced seizures. Epilepsy Res 2001;43:165-73.

PLIVA Research and Development, Zagreb, Croatia

The aim of the study was to investigate amino acid and energy metabolism of pentylentetrazol (PTZ)-kindled animals. Glutamate dehydrogenase, aspartate-aminotransferase (AST), alanine-aminotransferase, gamma-glutamyltransferase, alkaline phosphatase (ALP), lactate dehydrogenase (LDH) and creatine kinase (CK) were determined in the frontal cortex, cerebellum hippocampus and pons-medulla regions of Hannover-Wistar rats. The rats were randomly divided into four experimental groups: a) control; b) rats which received a single PTZ injection in a subconvulsive dose of 40 mg/kg i.p.; c) rats which received a single PTZ injection in a convulsive dose of 50 mg/kg i.p.; and d) PTZ-kindled rats. Kindling increased ALP activity throughout the brain, elevated AST as well as LDH activity in the frontal cortex and hippocampus and decreased CK activity in the frontal cortex and cerebellum. Acute seizures of the same intensity did not induce these alterations. The observed effects therefore are obviously linked to the kindling phenomenon and not to seizure activity. Changes appeared mainly in the frontal cortex and hippocampus, i.e. brain areas believed to be directly involved in kindling.

Ginsburg E, Škarić-Jurić T, Kobylansky E, Malkin I, Rudan P. Evidence on major gene control of cortical index in pedigree data from Middle Dalmatia, Croatia. Am J Hum Biol 2001;13:398-408.

Institute of Anthropological Research, Zagreb, Croatia

It was recently reported that the inheritance of the metacarpal cortical index (CI) in the Chuvashian population can be described in terms of a major gene (MG) model. By applying transmission probability tests, the hypothesis was accepted that not only baseline level of CI but also its sex-specific dependence on age were under control of the same putative large-effect gene. Using a pedigree sample from the population of the islands of Middle Dalmatia, Croatia (847 observed individuals in 278 pedigrees), data are presented to support the above findings. The following hypotheses were accepted: (i) inheritance of baseline CI in the Croatian population can be attributed to the effect of a R IG responsible for about 42% of the variation; (ii) the same MG takes part in the control of the dependence of CI on age, particularly the age at onset of involutive bone changes (inflection point), and of the rate of decrease in CI with age (slope coefficient). Issues related to the assortative mating effect on CI and the determination of the most parsimonious model are discussed.

Ikić D, Krušić J, Ivanković D. Interferon treatment of uterine cervical carcinoma: 20 years of follow-up. Cancer Lett 2000;158:99-102.

Croatian Academy of Science and Arts, Zagreb, Croatia

Twenty-seven randomized patients with biopsy proven carcinoma of the uterine cervix were treated with human natural leucocytic interferon (HNLI) and followed up, while 30 randomized patients were followed up in the control group and were not treated with HNLI. International Federation of Gynecology and Obstetrics (FIGO) classification of HNLI-treated patients was IA (n=8), IB (n=9), IIA and IIB (n=10). FIGO classification of control non-treated patients was IA (n=9), IB (n=10), IIA and IIB (n=12). HNLI was applied locally at 2×10^6 U daily in pessaries for 21 days before surgery. Survival analysis of the HNLI-treated patients after 240 months of observation showed that 20 patients (74.07%) out of 27 survived, and in the control group 14 patients (46.67%) out of 30 survived. Statistical difference between the HNLI-treated group and control group of patients is significant $p < 0,05$.

Jović F, Vorko A, Fischer D. Solving a linear model of nonfatal risk behavior and injuries in school children. Comput Meth Programs Biomed 2001;65:123-32.

Fac Elect Engr, JI Strossmayer University, Osijek, Croatia

A calculating method and computer program have been developed for solving an overdetermined system of linear equations.

It was applied for calculation of group risk exposure of school children (10-15 years) to nonfatal injuries in spelt recreation and playing (SRP). Interviewed non-injured school children were separated into non-overlapping groups of risky behavior. Data on interviewed non-injured and non-interviewed injured children were put into a linear system of equations consisting of a 4x3 matrix scheme. Each equation represents children of the same age and sex and consists of the percentage of interviewed children grouped into high medium or low risk behavior and of the percentage of injured children. Foul methods of calculating the matrix system were evaluated and the best implemented as a new developed computer program. The resulting linear group risk factors enable the prediction of behavior outcome. The validation procedure is proposed by testing the sensitivity and robustness of the method.

Katić M, Budak A, Ivanković D, Mastilica M, Lazić D, Babić-Banaszak A, et al. Patients' views on the professional behaviour of family physicians. *Fam Pr* 2001;18:42-7.

Andrija Štampar School of Public Health, Zagreb University School of Medicine, Zagreb, Croatia

The specific goals of this study were to determine whether there were differences in the evaluation of patient satisfaction with physician behaviour with regard to some sociodemographic characteristics of the respondents. The study group consisted of 1217 respondents: 479 (39.4%) men and 738 (60.6%) women. Medical students interviewed the respondents "face-to-face" immediately after their consultation with the physician. The average positive rating over 10 questions on patient satisfaction was 85.3%. There was a statistically significant difference in age distribution between geographic areas ($p < 0.001$). Differences in answers were found regarding sex, age, educational level ($p < 0.001$) and reason for encounter ($p < 0.01$). Two factors were obtained by factor analysis: the first could be called physician's competence/expertise estimated by respondents, and the other physician's empathy evaluated by respondents. The respondents were divided into two groups based on the reason for encounter as a criterion for discriminant analysis: acute (symptoms and complaints, injuries; $n = 553$) and other reasons ($n = 664$). The discriminant function obtained was statistically significant ($p < 0.01$). Younger respondents, regardless of sex, whose reason for encounter was an acute condition, were less satisfied with the physician's expertise, agreeableness during the consultation, physician's interest in what they were saying and physician's friendliness. Considering the difficulties present in the health systems of countries in transition, the results of our study were surprisingly encouraging, showing that the respondents were satisfied with the physician's behaviour and that the physicians fulfilled the basic elements of professional behaviour.

Kopjar N, Garaj-Vrhovac V. Application of the alkaline comet assay in human biomonitoring for genotoxicity: a study on Croatian medical personnel handling antineoplastic drugs. *Mutagenesis* 2001;16:71-8.

Laboratory of Mutagenesis, Institute of Medical Research and Occupational Health, Zagreb, Croatia

The alkaline comet assay was used to evaluate the genotoxicity towards peripheral blood lymphocytes of medical personnel regularly handling various antineoplastic drugs with different safety precautions. The study population consisted of 50 exposed subjects working in the oncology, pulmonology, gynaecology and haematology units of nine Croatian hospitals and 20 unexposed control subjects. DNA damage was quantified by measuring the displacement between the genetic material of the nucleus and the resulting tail using an image analysis system. Three parameters were used as indicators of DNA damage: i.e. tail length, percentage of DNA in the tail and tail moment. Statistically significant differences in all three parameters were observed between the exposed and control groups.

Within the exposed group, there were marked differences between individuals in the comet tail parameters. In the majority of exposed subjects an effect on DNA damage of age or duration of occupational exposure could be excluded. In the exposed group, the highest level of DNA damage was recorded in subjects who used only latex gloves in their work with antineoplastic drugs. The observed DNA damage was lower in exposed subjects who used more than one type of protective equipment and who worked in a well-ventilated safety cabinet. No statistically significant differences were found between the mean values of comet tail parameters for smoking and non-smoking subpopulations from the exposed group. The alkaline comet assay appears to be a promising additional test for biomonitoring purposes in human populations.

Krcmery V, Jeljaszewicz J, Grzesiowski P, Hryniewicz W, Metodiev K, Stratchounski L, Cizman M, Schonwald S, Baršić B, et al. National and local antibiotic policies in Central and Eastern Europe. *J Chemother* 2000;12:471-4.

**University Hospital for Infectious Diseases, Zagreb, Croatia*

To assess the antibiotic policies of Central European countries, we performed an overview of antibiotic stewardship, prescription habits and antibiotic prescription regulatory procedures. Since most Central European countries have had centralized health care and drug policies, the situation 10 years after decentralization is surprising. Only 3 of 10 Central European countries have some regulation of prescription of antibiotics, only 4 restrict some antibiotics, only 5 have hospital and only 3 national antibiotic policies. In all but 3 countries physicians can prescribe quinolones and/or 3rd generation oral cephalosporins as first-line antibiotics. Information on local and national antibiotic policies in Central and Eastern European countries is given including prescription guidelines for antibiotic use in community and hospital.

Kupešić S, Bekavac I, Bjelos D, Kurjak A. Assessment of endometrial receptivity by transvaginal color Doppler and three-dimensional power Doppler ultrasonography in patients undergoing in vitro fertilization procedures. *J Ultrasound Med* 2001;20:125-34.

Department of Obstetrics and Gynecology, Holy Ghost General Hospital, Zagreb University School of Medicine, Zagreb, Croatia

The objective of this study was to investigate the usefulness of transvaginal color Doppler and three-dimensional power Doppler ultrasonography for the assessment of endometrial receptivity. A total of 89 patients undergoing in vitro fertilization procedures were evaluated for endometrial thickness and volume, endometrial morphology, and subendometrial perfusion on the day of embryo transfer. Neither the volume nor the thickness of the endometrium on the day of embryo transfer had a predictive value for conception during in vitro fertilization cycles ($p > 0.05$). Patients who became pregnant were characterized by a significantly lower resistance index, obtained from subendometrial vessels by transvaginal color Doppler ultrasonography (resistance index = 0.53 0.04 versus 0.64 0.04, pregnant versus not pregnant, respectively; $p < 0.05$), and a significantly higher flow index (13.2 2.2 versus 11.9 2.4; $p < 0.05$), as measured by a three-dimensional power Doppler histogram. No difference was found in the predictive value of scoring systems analyzing endometrial thickness and volume, endometrial morphology, and subendometrial perfusion by color Doppler and three-dimensional power Doppler ultrasonography. The high degree of endometrial perfusion shown by color Doppler ultrasonography and on three-dimensional power Doppler histograms on the day of embryo transfer can indicate a more favorable endometrial milieu for successful in vitro fertilization.

Miličević G, Lakušić N, Szirovicza L, Cerovec D, Majsec M. Different cut-off points of decreased heart rate variability for different groups of cardiac patients. J Cardiovasc Risk 2001;8:93-102.

Cardiovascular Laboratory, Krapinske Toplice Hospital, Krapinske Toplice, Croatia

Criteria for normal, changed and pathologic values of heart rate variability HRV lack for routine clinical work with different groups of cardiac patients. Frequency domain HRV variables were analysed from 24-h ECG monitoring in 2578 consecutive patients of both sexes (57% male) aged 15-91 (mean 54 ± 13) years. Fifty-nine per cent of the patients were hospital out-patients, 15% came from the cardiac unit of an internal medicine department and 26% were undergoing stationary cardiac rehabilitation. Arrhythmias of aetiology other than coronary artery disease predominate in out-patients and coronary artery disease in in-patients. Limits of moderately and pathologically changed values were determined according to biostatistical principles. HRV differed by the age, sex and type of patients (MANOVA, $p < 0.001$). Heart rate and all HRV measures decreased with age. Females had a higher heart rate but more pronounced vagally modulated activity than males. Out-patients had better HRV than in-patients. The cut-off level for a pathologic standard deviation of the normal R-R interval (a measure of overall HRV) ranged from 75 ms in female out-patients to 44 ms in male patients from the cardiac unit. Different cut-points for 12 HRV measures were obtained for 12 sub-groups of patients. In view of the HRV differences between different cardiac patients, different limits of normal and decreased HRV are proposed for daily practice.

Pegan B, Sollmann WP, Ries M, Trotić R, Kekić B, Sindija B. First Croatian auditory brainstem implantation. J Laryngol Otol 2000;114 Suppl 27:41-3.

Department of Otorhinolaryngology, Sisters of Mercy University Hospital, Zagreb, Croatia

A deaf female patient was diagnosed with bilateral acoustic neurinomas. Diagnosis incorporated the standard audiological battery for sensorineural hearing loss, computed tomography and magnetic resonance imaging. The left side had been operated on four years previously in another clinic using the suboccipital approach. The auditory brainstem implant surgery was performed on the 'second side' using the same approach. It was an uneventful operation with good anatomy and no serious post-operative complications. Post-operatively, the patient performed exceptionally well, with up to 50 per cent of words recognized in the opened set and 85 per cent in the closed set, both without lip-reading.

Pintarić I, Eterović D, Tocilj J, Reiner Z, Lušić I. Effect of simvastatin on micropulmonary red cell mass in patients with hyperlipoproteinemia. Atherosclerosis 2001;154:493-6.

Department of Neurology, Split University Hospital, Split, Croatia

In vitro measurements of lipoprotein levels and macrocirculatory hemorheology were complemented by in vivo measurements of the pulmonary capillary red cell Volume (RCVpc) before and after 6 weeks of treatment with 40 mg of simvastatin daily in 30 male patients with hyperlipoproteinemia type IIa. RCVpc was assessed from the vascular component of the lung diffusing capacity for carbon monoxide, using the modification of the Roughton-Forster's method. RCVpc was increased in patients (60.9 ± 9 versus 40 ± 9 ml in healthy controls) and it decreased to 47 ± 6 ml after treatment ($p = 5 \times 10^{-11}$). The decreases in RCVpc correlated to concomitant decreases in peripheral hematocrit ($r = 0.68$) and serum total cholesterol (-34% on average: $r = 0.59$). Membrane diffusing capacity was normal in patients and not affected by the therapy; suggesting that increased RCVpc was due to increased micropulmonary hemato-

crit. Thus, it appears that viscosity in microcirculation is greatly increased in hyperlipemic patients and that simvastatin is able to normalize it. Since microcirculatory conditions can only partly be inferred from in vitro measurements the use of lung diffusional parameters was advocated, which enable in vivo assessment of hemorheology in microcirculation.

Punda-Polić V, Tonkić M, Čapkun V. Prevalence of antibodies to *Toxoplasma gondii* in the female population of the County of Split Dalmatia, Croatia. Eur J Epidemiol 2000;16:875-7.

Department of Clinical Microbiology and Parasitology, Split University School of Medicine, Split, Croatia

The prevalence of IgG antibodies reactive with *Toxoplasma gondii* in the female population of the County of Split Dalmatia was investigated by enzyme linked immunosorbent assay. Of a total of 1109 serum samples collected from female subjects, 423 (38.1%) reacted with *T. gondii*. The frequency of positive sera increased with age. Theoretical incidence of congenital toxoplasmosis was calculated from the annual increase in cumulative prevalence of antibodies between different age groups among the women of childbearing age. The estimated theoretical incidence of congenital toxoplasmosis was 1.4 per 100 pregnancies of adolescents (16-20 years) and decreased to 0.1% in seronegative pregnant women aged 41-45.

Pyle GF, *Orešković S, *Begovac J, Thompson C. Hepatitis B and HIV/AIDS in Zagreb: A district level analysis. Eur J Epidemiol 2000;16:927-36.

"Andrija Štampar" School of Public Health, and "Fran Mihaljević" University Hospital for Infectious Diseases, Zagreb, Croatia

This study examines the presence of hepatitis B as a possible precursor marker for HIV/AIDS in 10 districts of Zagreb, Croatia. There were a total of 931 cases of hepatitis B in Zagreb in the period 1979-1995, the annual rate ranging from 3.1 to 15.4 per 10,000. The highest relative risk for hepatitis B for the 1979-1995 period was in the Pescenica district (relative risk-RR: 1.4). There were 108 cases of HIV/AIDS diagnosed in Croatia in the period 1986-1996, with 34% from Zagreb. The highest relative risk for HIV/AIDS was within the Peščenica district (RR: 2.3). Peščenica had also a significantly higher incidence of hepatitis B when compared to other districts ($p = 0.005$). The cumulative incidence of hepatitis B in Zagreb was directly related to levels of neighborhood discomfort as determined by an index including unemployment, inflation and housing conditions ($p = 0.005$). This research demonstrates that the poor areas of the city with higher incidence of hepatitis B hold the greatest threat for the spread of HIV/AIDS.

***Richter D, Conley ME, Rohrer J, Myers LA, Zahradka K, Kelečić J, Sertić J, Stavljenić-Rukavina A. A contiguous deletion syndrome of X-linked agammaglobulinemia and sensorineural deafness. Pediatr Allergy Immunol 2001;12:107-11.**

**Pediatric Clinic Šalata, Zagreb University Hospital Center, Zagreb, Croatia*

Hearing loss in patients with X-linked agammaglobulinemia is often attributed to recurrent infections. However, recent genetic studies suggest a different etiology in some patients. We present three unrelated patients, 6, 9, and 14 years of age, with large deletions of the terminal portion of the Bruton tyrosine kinase (Btk) gene extending 4.2-19 kb beyond the 3' end of the gene. The DNA immediately downstream of the 3' end of Btk contains the deafness-dystonia protein gene (DDP). Mutations in this gene have recently been shown to underlie the Mohr-Tranebjaerg syndrome, which is characterized by sensorineural deafness, dystonia, and mental deficiency. Besides the im-

munodeficiency, our patients exhibited progressive sensorineural deafness. The clue to an associated hearing problem was delayed development of speech in one patient and post-lingual deafness noticed between the age of 3-4 years in the other two. These patients have not yet exhibited significant associated neurologic deficits.

Rožgaj R, Kasuba V, Jazbec A. Preliminary study of cytogenetic damage in personnel exposed to anesthetic gases. *Mutagenesis* 2001;16:139-43.

Institute of Medical Research and Occupational Health, Zagreb, Croatia

Occupational exposure to anesthetic gases is associated with various adverse health effects. Genetic material has been shown to be a sensitive target of numerous harmful agents. The aim of this study was to examine whether chromosomal damage could serve to indicate exposure to anesthetics. A group of 43 hospital workers of three professions (anesthesiologists, technicians and operating room nurses) and 26 control subjects were examined for chromosome aberrations, sister chromatid exchanges and micronucleus frequency. The exposed groups matched in duration of exposure to anesthetics, but not in age. An equal ratio between women and men was possible in all groups except nurses. Likewise, the ratio between smokers and non-smokers was also not comparable. An increase in chromosome damage was found in all exposed groups. While the increase in sister chromatid exchange frequency was not significant, chromosome aberrations and micronucleus frequency increased significantly, showing higher rates in women. The results suggest that the micronucleus test is the most sensitive indicator of changes caused by anesthetic gases. The observed difference between sexes with respect to exposure risk call for further, targeted investigations.

Šikić N, Korać Z, Krajačić I, žunić J. War abdominal trauma: Usefulness of Penetrating Abdominal Trauma Index, Injury Severity Score, and number of injured abdominal organs as predictive factors. *Milit Med* 2001;166:226-30.

Department of Surgery, Karlovac General Hospital, Karlovac, Croatia

The authors analyzed 93 cases of war penetrating abdominal trauma treated at the General Hospital Karlovac, Croatia. The following potential predictor variables were analyzed: age, sex, type of wound, Penetrating Abdominal Trauma Index (PATI), Injury Severity Score (ISS), and number of injured abdominal organs [NIAO]. A total of 10.8% of wounded patients died and 25.8% developed complications. The overall average number of injured intra-abdominal organs was 2.0; in the group of patients with complications, the average was 3.0, and in the group of deceased patients, the average was 3.5. The most frequently injured organs were the small and large bowels. The significant predictors of developing complications as well as death outcome were the PATI, the ISS, and the NIAO. The best diagnostic efficiency (79.57%) for predicting complications was with the NIAO, whereas the best model for the prediction of death outcome combined all three variables ($Z = -13.0776 + 0.1561 \times \text{PATI} + 0.281 \times \text{ISS} + 0.5234 \times \text{NIAO}$), with diagnostic efficiency of 92.47%. These models may be used as important prognostic factors in war abdominal injuries.

Šalković-Petrišić M, Mrzljak A, Lacković Z. Usage of the internet pharmacology resources among European pharmacologists: a preliminary investigation. *Fundam Clin Pharmacol* 2001;15:55-60.

Department of Pharmacology, Zagreb University School of Medicine, Zagreb, Croatia

The Internet is becoming an ever more important source of information in pharmacology and medicine. Little is known,

however, about which Internet pharmacology resources are actually used by the pharmacologists - and to what extent - and how they estimate the Internet information quality and evaluation. This pilot study used an anonymous questionnaire, distributed among 250 mostly European (220/250) pharmacologists from 30 European countries attending The 2nd European Congress of Pharmacology, held in Budapest, Hungary, in 1999. According to study results, 93% of all participants use the Internet pharmacology resources: 56%, 35% and 9% of them on a daily, weekly and monthly basis, respectively. Among 55 pharmacological/medical free online databases offered, the general scientific databases were found to greatly prevail (Pub Med 60%, Evaluated MEDLINE 37%, Internet Grateful Med 29%, etc.), while drug monographs or toxicological databases were less used [e.g. ECDIN, RxList, National Toxicology Programme (NTP) <10%]. Some 80% of the participants estimated the quality of the pharmacological information on the Internet as good or very good, while 20% thought the quality should be improved. Also, 35% of participants felt the need for improvement of the Internet pharmacological information evaluation, which should be the goal of pharmacology professional.

Trgovcich J, Štimac D, Polić B, Krmpotić A, Pernjak-Pugel E, Tomac J, Hasan M, Wraber B, Jonjić S. Immune responses and cytokine induction in the development of severe hepatitis during acute infections with murine cytomegalovirus. *Arch Virol* 2000;145:2601-18.

**Department of Histology and Embryology, Rijeka University School of Medicine, Rijeka, Croatia*

Salivary gland-derived murine cytomegalovirus (SGV) infections of mice have been widely used as models of human cytomegalovirus infections and in the study of CMV biology. Still, many aspects of SGV pathogenesis are not clearly defined. Fatal and non-fatal SGV infections were investigated to characterize pathogenetic correlates of mortality and to assess the role of the immune response in disease progression. Suppression of immune responses was observed in both lethal and sublethal infections. Depletion of immune cell populations in spleen, however, correlated with severe CMV-induced hepatitis and mortality. In addition, T cell depletion studies indicated a requirement for this immune cell subset in control of liver damage and survival of infected mice. Examination of cytokine responses revealed a previously undescribed shock-like syndrome in lethally-infected mice characterized by high levels of tumor necrosis factor α and interferon γ . Furthermore, the sites of tumor necrosis factor or gene induction did not strictly correlate with either viral load or the sites of tissue damage during infection. Taken together, these findings define the pathogenetic progression of disease as it relates to disease outcome and suggests that organ-specific differences in cytokine induction play a significant role in the late stages of acute lethal MCMV infections.

Vince A, Ivanišević M, Harni V, Skalko D, Jeren T. Molecular detection of human papillomavirus in women with minor-grade cervical cytology abnormalities. *J Clin Virol* 2001;20:91-4.

"Fran Mihaljević" University Hospital for Infectious Diseases, Zagreb, Croatia

The utility of a molecular assay for detection of HPV in cervical smears was evaluated. A total of 466 women with minor-grade cervical cytology abnormality supposed to be produced by HPV were included. Patients were classified into three groups: patients with reactive changes, patients with cervical intraepithelial neoplasia grade 1 (CIN 1) and patients with cervical intraepithelial neoplasia grade 2 (CIN 2). In all patients, another cervical swab was obtained and tested for the HPV genome using the Digene Hybrid Capture II. This assay is able to distinguish between high-risk and low-risk HPV types. Based

on cytology results, 44 patients showed reactive changes, 250 patients displayed CIN 1 and 172 patients displayed CIN 2. With the molecular assay, HPV was detected in 289/466 (62%) patients. The high-risk HPV type was present in 263 (56.4%) patients and the low-risk type in 26 (5.5%) patients. In 25% of patients with reactive changes, the HPV genome was detected. Corresponding rates for patients with CIN 1 and CIN 2 were 55 and 81%, respectively. Conclusion: Molecular detection of HPV should additionally be used to cytology in patients whose cervical smears display reactive changes, CIN 1, or CIN 2. The employed assay allows identification of patients who are at risk for development of high-grade cervical lesions.

Pećina M, Lucijanić I, Rosić D. **Surgical treatment of obturator nerve palsy resulting from extrapelvic extrusion of cement during total hip arthroplasty.** *J Arthroplasty* 2001;16:515-7.

Department of Orthopedic Surgery, Zagreb University School of Medicine, Croatia

A female patient was successfully treated surgically for obturator nerve palsy resulting from extrapelvic extrusion of cement during total hip arthroplasty. Obturator nerve palsy developed because of the extrapelvic extrusion of cement medially in the anterior part of the incisura acetabuli in the zone of the extrapelvic exit of the obturator tunnel. Compression of the obturator nerve was confirmed by electromyography. After surgical removal of a piece of cement, 2.5 cm in length, which was done 11 months after total hip arthroplasty, and after 6 months of intensive postoperative rehabilitation, the patient was able to return to everyday activities and normal working habits. After 1 year, clinical and electromyography results were almost completely normal. A review of current knowledge regarding obturator nerve injuries resulting from total hip arthroplasty is presented.

Mašković J, Radonić V, Janković S, Cambj-Sapunar L, Mimica Z, Bačić A. **Traumatic false aneurysm of the subclavian artery treated by insertion of Memotherm stent.** *Eur J Radiol* 2001;38:205-8.

Department of Radiology, Split University Hospital, Split, Croatia

Traumatic aneurysms of the left subclavian artery and transverse cervical artery, subsequent to penetrating gunshot wound were diagnosed by angiography in 35-year-old patient.

Subclavian artery aneurysm was treated by insertion of the Memotherm bare stent, whereas the false aneurysm of the transverse cervical artery was embolized with Gianturco's coils. The follow up examinations at 6 and 12 months showed good patency of subclavian artery.

Ahel MZ, Kovačić K, Tarle M. **Cross-correlation of serum chromogranin A, %F-PSA and bone scans in prostate cancer diagnosis.** *Anticancer Res* 2001;21:1363-6.

Dr. Zaky Polyclinic, Zagreb, Croatia

Circulating Chromogranin A (CgA), total PSA (TPSA) and F-PSA concentrations were measured in 211 patients (pt) with newly diagnosed prostate cancer (PC) and in 25 controls with benign prostatic hypertrophy (BPH). TPSA values ranging 3.5-5.5 ng/mL were found in 14 PC pt (6.6%), 5.5-9.9 ng/mL in 29 pt (13.7%), 10-19.9 ng/mL in 75 pt (35.6%), 20-50 ng/mL in 64 pt (30.3%) and >50 ng/mL in 29 pt (13.7%). In those groups of PC pt false negative %F-PSA level >18 was respectively measured in 0 out of 14, 2 out of 29 (6.9%), 6 out of 75 (8.0%), 61 out of 4 (9.4%), and 6 out of 29 (20.7%) pt, or totally in 20 out of 211 (9.5%) pt. Among 20 PC pt with false negative %F-PSA data elevated CgA level (>80 ng/mL) was found in 18 subjects (18 out of 20, 90%) or respectively in 0, 1/2 (50%), 516 (83%), 6 out of 6 (100%) and 6 out of 6 (100%) patients. Bone scintigraphy was performed in all pt with TPSA concentration >10 ng/mL at the time of diagnosis. Bone lesions were respectively found in 4 out of 75 (5.3%) pt with TPSA 10-20 ng/mL, 12 out of 64 (14%) pt with TPSA level from 20-50 mg/mL and in 25k9 (75.9%) pt with TPSA above 50 ng/mL. Overall osseous metastases were recorded in 41 out of 211 pt (19.4%) with newly diagnosed PC and in 18 of these Stage D2 pt (43.9%) elevated CgA concentration were measured. Among them elevated CgA level and tumor dissemination matched with false negative %F-PSA parameter (>18%) in 4 out of 18 (22.2%) pt as well as in 37 out of 191 (19.4%) pt with %F-PSA <18% (p>0.05). In parallel, a positive CgA level in newly presented PC pt was closely associated with %F-PSA false negativity (18 out of 20, 90%). A negative correlation between TPSA elevation and the magnitude of CgA serotest level indicate differences in their biological origin and activities. According to the data reported herein we advocate the assessment of serum Chromogranin A concentration in first presented patients with clinically proven PC, elevated T-PSA level and %F-PSA parameter >18%. Neuroendocrine structures are resistant toward hormonal treatment and hence CgA measurement is strongly suggested in all candidates for a systemic hormone therapy.