

## CROATIAN INTERNATIONAL PUBLICATIONS

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**Prutki M, Tambić Bukovac L, Jelušić M, Potočki K, Kralik M, Malčić I. Retrospective study of juvenile spondylarthropathies in Croatia over the last 11 years. Clin Exp Rheumatol. 2008;26:693-9.**

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**OBJECTIVES:** To determine the frequency of juvenile spondylarthropathies (JSpA) among other rheumatic diseases in a pediatric clinic population in an 11-year period in Croatia and to review their clinical, epidemiological, radiographic and laboratory. **METHODS:** Of the 1264 patients with rheumatic diseases seen at a pediatric rheumatology center, 103 (8.2%) were diagnosed as having JSpA (56 boys, mean age 13.1 years, range 4.4-17.8 years), following the strict criteria of the European Spondylarthropathy Study Group. Medical history, clinical laboratory and imaging data of the 103 patients with JSpA were analyzed. **RESULTS:** Eighty-two (79.6%) patients had undifferentiated spondylarthropathy, 6 (5.8%) patients had reactive arthritis/Reiter's disease, 6 (5.8%) had arthritis associated with inflammatory bowel disease, 5 (4.9%) had psoriatic arthritis, and only 4 (3.9%) patients had ankylosing spondylitis. The most common symptoms at the disease onset in patients with JSpA were peripheral and axial arthritis, followed by enthesitis. A significant increase in the number of patients with axial arthritis, peripheral arthritis, ocular symptoms and enthesitis was found during mean period of follow-up of 6.45 years. HLA-B27 was present in 78 (75.7%) patients. **CONCLUSION:** In our hospital population the frequency of JSpA among other rheumatic disease was 8.2%. The disease was equally distributed among male and female patients, with onset around the age of 13 years. Most of the patients were diagnosed with undifferentiated spondylarthropathy.

**Salopek D, Grčević D, Katavić V, Kovačić N, Lukić IK, Marušić A. Increased bone resorption and osteopenia are a part of the lymphoproliferative phenotype of mice with systemic over-expression of interleukin-**

**7 gene driven by MHC class II promoter. Immunol Lett. 2008;121:134-9.**

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Mice with interleukin (IL)-7 transgene under the control of E(alpha) promoter over-express IL-7 in MHC class II-positive cells and develop specific immune phenotype, marked by an increase in CD45R(+) cells in both the bone marrow and peripheral blood. We show that IL-7 transgenic mice have a bone phenotype characterized by an age-related loss of trabecular bone in both axial and long bones. Osteopenia was the result of increased number of active osteoclasts on the surface of trabecular bone. Furthermore, IL-7 transgenic mice showed increased osteoclastic but unchanged osteoblastic potential of the bone marrow in vitro. IL-7 over-expression also created osteoclastogenic microenvironment within the bone marrow which promoted the commitment of precursors towards the osteoclast lineage. These findings are important for immunological disturbances where IL-7 is involved and where alterations in the immune system are accompanied by changes in bone metabolism, such as multiple myeloma, rheumatoid arthritis and postmenopausal osteoporosis.

**Banić M, Kardum D, Pleško S, Petrovečki M, Urek M, Babić Z, et al. Informed consent for gastrointestinal endoscopy: a view of endoscopists in Croatia. Dig Dis. 2008;26:66-70.**

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**BACKGROUND/AIM:** There are many differences and deficiencies in the process of informed consent. The aim of this study was to get the view of gastrointestinal endoscopists in Croatia on obtaining patients' consent before endoscopic procedures. **METHODS:** During the 2004 annual meeting

of the Croatian Society of Gastroenterology, endoscopists were asked to answer a questionnaire according to common clinical practice in affiliated institutions. It included questions on endoscopists' experience and education in medical ethics, as well as on the nature and quality of information given to patients and their opinion on proposed measures for improvement of the informed consent process. **RESULTS:** The questionnaire was distributed to 96 endoscopists attending the meeting and the response rate was 54% (52/96). In only 50% of institutions was the obtained consent written and potential complications of endoscopic procedures are occasionally given to the patient. In the minority of cases the patient is provided with information about alternative diagnostic tests and/or treatment options, and the information about mortality rate was almost never discussed. **CONCLUSIONS:** In Croatia, the process of informed consent for endoscopy needs improvement and should be regarded against the background of education in medical ethics, regional burden in endoscopic practice and appropriateness of by-laws and local guidelines.

**Lukšić B, Brižić I, Lang Balija M, Modun D, Čulić V, Halessy B, et al. Dose dependent effects of standardized nose-horned viper (*Vipera ammodytes ammodytes*) venom on parameters of cardiac function in isolated rat heart. *Comp Biochem Physiol C Toxicol Pharmacol.* 2008;147:434-40.**

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Direct, dose dependent effects of the nose-horned vipers (*Vipera ammodytes ammodytes*) venom on various parameters of cardiac action in isolated rat hearts were examined. Biochemical (protein content, SDS polyacrylamide gel electrophoresis) and biological (minimum haemorrhagic and necrotizing dose and lethal dose (LD(50))) characterization of the venom was performed before testing. The hearts were infused with venom doses of 30, 90 and 150 microg/mL for 10 min followed by 30 min of wash out period. Left ventricular pressure, coronary flow, heart rate, atrioventricular conduction, myocardial oxygen consumption, incidence and duration of arrhythmias were measured and relative cardiac efficiency was calculated. Cardiac CPK, LDH, AST and troponin I were measured as biochemical markers of myocardial damage. The venom caused dose dependent electrophysiological instability and depression of contractility and coronary flow. Effects on the heart rate were biphasic; transient increase followed by significant slowing of the frequency. Relative cardiac effi-

ciency decreased as oxygen consumption remained high relative to the heart rate-contraction product, indicating purposeless expenditure of oxygen and energy. Effects by the dose of 30 microg/mL were highly reversible while the dose of 90 mug/mL caused damages that were mostly irreversible. The dose of 150 mug/mL induced irreversible asystolic cardiac arrest.

**Wagner J, Džijan S, Marjanović D, Lauc G. Non-invasive prenatal paternity testing from maternal blood. *Int J Legal Med.* 2009;123:75-9.**

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Prenatal paternity analysis can be performed only after invasive sampling of chorionic villi or amniotic fluid. Aiming to enable noninvasive paternity testing, we attempted to amplify fetal alleles from maternal plasma. Cell-free DNA was isolated from plasma of 20 pregnant women and amplified with ampFLSTR Identifier and ampFLSTR Yfiler kits. Unfortunately, autosomal fetal alleles were heavily suppressed by maternal DNA, and the only locus that was reliably amplified with AmpFLSTR Identifier kit was amelogenin, which revealed only fetal gender. Much better success was obtained with AmpFLSTR Yfiler kit, which, in the case of male fetuses, successfully amplified between six and 16 fetal loci. All amplified fetal alleles matched the alleles of their putative fathers, confirming the tested paternity. To the best of our knowledge, this is a first report of noninvasive prenatal paternity testing.

**Pažanin L, Mišak VB, Goreta N, Mareković Z, Petrovečki V. Iatrogenic tracheal laceration causing asphyxia. *J Forensic Sci.* 2008;53:1185-7.**

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Endotracheal intubation is a simple, rapid, and safe technique that is being used as a standard procedure for airway management. However, airway injury during endotracheal intubation could be a significant source of morbidity or even mortality for patients and a source of liability for physicians as well. We report an unusual case of fatal tracheal occlusion by intraluminal blood clot complicating endotracheal intubation. The patient, a 62-year-old woman, with renovascular hypertension and incipient renal failure was scheduled for renal autotransplantation. The surgery was uneventful but the postoperative

course was complicated with a lethal airway obstruction. At autopsy a linear longitudinal tracheal laceration was identified with an intraluminal blood clot obstructing the tracheal lumen. Tracheal laceration as a cause of death is a rare and potentially fatal complication of endotracheal intubation with intratracheal bleeding, clot formation, tracheal occlusion, and subsequent asphyxia.

**Fajdić J, Gotovac N, Hrgović Z, Fassbender WJ. Diagnosis and therapy of gestational breast cancer: a review. Adv Med Sci. 2008;53:167-71.**

*Department of Surgery, Požega County Hospital, Požega, Croatia*

**Purpose:** In spite of the general consensus on the issue, to point to major dilemmas which appear in this matter of multidisciplinary interest, and to review current concepts on how to achieve optimal diagnostic and therapeutic outcome. **Results:** Recent literature data show that the rate of gestational breast cancer, according to most protocols, range from 0.2% to 3.8%. By definition, the clinical manifestation of this type of carcinoma is expected to occur during pregnancy or within one year after delivery. The mode of treatment and prognosis is identical to those of women with breast carcinoma beyond pregnancy, except for radiotherapy that is not indicated during pregnancy and selective use of cytostatics in polychemotherapy during the first trimester. The only exceptions to this practice are women with any advanced stage of the disease due to delayed diagnosis. Results of large studies indicate that the therapy for breast cancer has no adversarial effect on the prognosis of subsequent pregnancy. **Conclusion:** The evaluation and management of women with gestational breast cancer requires a multidisciplinary approach. A chemotherapeutic regimen should be individualised to a maximum reduction of risk, if applied in the second and third trimester. Surgical therapy may include mastectomy and sparing operative procedures. Sentinel node biopsy should be considered in node negative patients. Radiotherapy should be postponed to the postpartum period.

**Čerimagić D, Bilić E. Stiff-Person syndrome first manifesting in pregnancy. Gynecol Obstet Invest. 2008;67:134-6.**

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Stiff-person syndrome (SPS) is a rare neurological disorder characterised by progressive stiffness and pain-

ful muscle spasms. We present a case of the autoimmune form of glutamate decarboxylase-positive SPS that initially manifested in pregnancy. The diagnosis was made based on clinical, laboratory and electromyoneurographic criteria. The patient was administered low doses of diazepam and baclofen. Considering the clinical picture of SPS patients, caesarean section is the method of choice for pregnancy termination. Copyright © 2008 S. Karger AG, Basel.

**Rudan I, Carothers AD, Polašek O, Hayward C, Vitart V, Biloglav Z, et al. Quantifying the increase in average human heterozygosity due to urbanisation. Eur J Hum Genet. 2008;16:1097-102.**

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The human population is undergoing a major transition from a historical metapopulation structure of relatively isolated small communities to an outbred structure. This process is predicted to increase average individual genome-wide heterozygosity ( $h$ ) and could have effects on health. We attempted to quantify this increase in mean  $h$ . We initially sampled 1001 examinees from a metapopulation of nine isolated villages on five Dalmatian islands (Croatia). Village populations had high levels of genetic differentiation, endogamy and consanguinity. We then selected 166 individuals with highly specific personal genetic histories to form six subsamples, which could be ranked a priori by their predicted level of outbreeding. The measure  $h$  was then estimated in the 166 examinees by genotyping 1184 STR/indel markers and using two different computation methods. Compared to the value of mean  $h$  in the least outbred sample, values of  $h$  in the remaining samples increased successively with predicted outbreeding by 0.023, 0.038, 0.058, 0.067 and 0.079 ( $P < 0.0001$ ), where these values are measured on the same scale as the inbreeding coefficient (but opposite sign). We have shown that urbanisation was associated with an average increase in  $h$  of up to 0.08-0.10 in this Croatian metapopulation, regardless of the method used. Similar levels of differentiation have been described in many populations. Therefore, changes in the level of heterozygosity across the genome of this magnitude may be common during isolate break-up in humans and could have significant health effects through the established genetic mechanism of hybrid vigour/heterosis.