Spajić B, Eupic H, Tomas D, Štimac G, Kruślin B, Kraus O. The incidence of hyperechoic prostate cancer in transrectal ultrasound-guided biopsy specimens. Urology. 2007;70:734-7.

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

The aim of this study was to estimate the incidence of transrectal ultrasound (TRUS) hyperechoic lesions and of hyperechoic prostate cancer in TRUS-guided biopsy specimens. The authors prospectively studied 200 patients with total prostate-specific antigen values less than 20 ng/mL and/or positive results on digital rectal examination who had undergone TRUS-guided prostate biopsy. Each patient underwent laterally directed systemic six-core biopsy plus cores from abnormal TRUS lesions and rectally palpable lesions. Six to 10 biopsy cores were obtained from each patient. Hyperechoic lesions were found in 19 patients (9.5%), hypoechoic in 83 (41.5%), and isoechoic in 98 (49.0%). Prostate cancer was diagnosed in 33.0% of study patients. Isoechoic findings on TRUS were recorded in 31.8% of patients diagnosed with prostate cancer, whereas 60.6% of cancers had hypoechoic and 7.6% hyperechoic lesions. There was no significant difference in the mean Gleason score between isoechoic cancers (mean 5.4) and hypoechoic cancers (mean 5.6). However, hyperechoic cancers had a mean Gleason score of 7.0, which was higher when compared with isoechoic and hypoechoic cancers. In conclusion, biopsy of hyperechoic lesions was positive for prostate cancer in a higher percentage of patients than previously reported in the literature, and Gleason score of these cancers was higher when compared with isoechoic and hypoechoic cancers.

Horžić M, Kopljar M, Ćupurdija K, Bielen DV, Vergles D, Lacković Z. Comparison of P-POSSUM and Cr-POSSUM scores in patients undergoing colorectal cancer resection. Arch Surg. 2007;142:1043-8.

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The aim of this study was to compare the Portsmouth (P) Physiological and Operative Severity Score for the Enumeration of Mortality and Morbidity (POSSUM) and specialized colorectal (Cr) POSSUM scoring systems in the prediction of mortality after resection of colorectal cancer. One hundred twenty patients with complete medical records who underwent resection of colorectal cancer between January 1, 1996, and December 31, 2004, at our institution were enrolled in the study. P-POSSUM and Cr-POSSUM scores were calculated for each patient. In-hospital mortality rate and number of deaths within 30 days after surgery were recorded. The ratio of observed to expected deaths was calculated for each analysis. The P-POSSUM system underpredicted mortality by 25%, with no significant difference between the predicted and observed values (p=0.96). The observed to expected ratio for Cr-POSSUM was 1.11, with no significant difference between the observed and predicted values (p= 0.19). Area under the receiver operating curve for P-POSSUM was 0.70 and for Cr-POSSUM was 0.59. In conclusion, both P-POSSUM and Cr-POSSUM perform well in predicting mortality after colorectal cancer surgery, but the Cr-POSSUM is more accurate. There is a constant need for reevaluation of existing and any new scoring systems outside original development and validation populations. The Cr-POSSUM score is a promising specialized tool for monitoring surgical outcomes in colorectal cancer surgery.

Willemze R, *Labar B. Post-remission treatment for adult patients with acute lymphoblastic leukemia in first remission: is there a role for autologous stem cell transplantation? Semin Hematol. 2007;44:267-73.

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Allogeneic stem cell transplantation (alloSCT) or autologous SCT (autoSCT) and intensive consolidation/intensification courses plus maintenance chemotherapy for 1 to 2 years are currently the major options for post-remission treatment of adult patients with acute lymphoblastic leukemia (ALL) in first remission. Comparison of their value with respect to relapse prevention, disease-free survival, and overall survival has been impossible until recently when the results of several randomized trials became available. Herein, we try to dissect data from these randomized trials to evaluate the role of autoSCT in patients with ALL in complete remission. Five prospectively randomized trials were found in which patients with a family donor were eligible for an alloSCT and the remaining patients were randomized between autoSCT and continuation chemotherapy. In addition, in two prospectively randomized trials all patients with a donor were eligible for an alloSCT and the remaining patients were eligible for autoSCT. Using intention to treat, in the majority of ALL studies alloSCT is superior to autoSCT or intensive continuation chemotherapy. It still has to be determined which subgroups of ALL benefit most of allogeneic transplantation, since in some trials the advantage of allogeneic transplantation was confined to the standard-risk ALL patients and in other trials to the high-risk patients. With respect to the role of autoSCT compared to continuation chemotherapy, both treatment modalities show equal, although for high-risk ALL inferior, overall survival chances. In one large trial the disease-free survival in the autoSCT arm was inferior to that in the chemotherapy arm. This finding may eventually have an impact on the overall survival rate. Currently, the main benefit of autoSCT may be its short duration compared with the continuation chemotherapy regimen.

Bielen I, Cvitanović-Šojat L, Bergman-Marković B, Košićek M, Planjar-Prvan M, Vukšić L, et al. Prevalence of epilepsy in Croatia: a population-based survey. Acta Neurol Scand. 2007;116:361-7.

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The aim of this study was to investigate the prevalence of active epilepsy in Croatia. Patient data were collected by means of questionnaires completed by primary healthcare physicians; epilepsy was previously confirmed in the patients by neurologists or neuropaediatricans. One hundred and twenty-seven of 180 (71%) physicians provided the requested information. The total sample was 212 069 people and of these 1022 had active epilepsy. Prevalence rates (per 1000) for the following age-groups were: age 0-7: 3.5; age 8-18: 6.4; age 19-45: 5.0; age 46-65: 4.7; age >65: 4.4. The age-adjusted prevalence rates for the standard populations were 4.9/1000 (European population) and 5.0/1000 (WHO world population). Fifty-one physicians (29%) stated only the number of patients they considered as having active epilepsy but without the requested details. If their patients were also included, the estimated crude prevalence rate would be 5.5/1000. In conclusion, it is likely that the prevalence of active epilepsy in Croatia is between 4.8 and 5.5/1000; this is in keeping with findings from other European countries.

Macan J, Varnai VM, Maloča I, Kanceljak-Macan B. Increasing trend in atopy markers prevalence in a Croatian adult population between 1985 and 1999. Clin Exp Allergy. 2007;37:1756-63.

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Reports about the increasing prevalence of atopy and atopic diseases are common, but recently they have been critically reviewed and the need for relevant research methods has been established. This study evaluated a 15-year trend in the prevalence of atopy markers [elevated total IgE, positive skin prick test (SPT) to common aeroallergens and positive atopic symptoms] in Croatian adults, separately for women and men. The study included 721 subjects (445 men and 276 women), 18-45 years old, examined for allergies within a pre-employment preventive examination. All subjects underwent medical history, SPT with common inhalatory allergens and total serum IgE measurement. The trend analysis of atopy prevalence was performed after stratification of subjects into three consecutive 5-year periods from 1985 to1999. The prevalence of concurrently elevated total IgE and positive atopic symptoms significantly increased during the studied period in men [odds ratio (OR) 2.44, 95% confidence interval (CI) 1.39-4.29, p=0.002]. Women showed an increased prevalence of positive SPT only, with borderline significance (OR 1.65, 95% CI 1.00-2.71, p=0.050). In women, rural residence was found to be a predictor of elevated total IgE (OR 5.36, 95% CI 2.41-11.93, p=0.000) and smoking to be a predictor of concurrently elevated total IgE and positive SPT (OR 6.20, 95% CI 1.67-23.07, p=0.006). An increasing trend in the prevalence of concurrently elevated total IgE and positive atopic symptoms was found in the Croatian adult

male population between 1985 and 1999, but not in the female population. Sex differences responsible for the production and regulation of IgE were suggested.

Berković MC, Jokić M, Marout J, Radošević S, Zjačić-Rotkvić V, Kapitanović S. IL-6-174 C/G polymorphism in the gastroenteropancreatic neuroendocrine tumors (GEP-NETs). Exp Mol Pathol. 2007;83:474-9.

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IL-6 is a pleiotropic cytokine with still controversial role in tumorigenesis of different cancer types. Its promoter SNP-174 C/G is associated with increased IL-6 transcription and in some tumor types with elevated IL-6 serum levels. The role of IL-6 polymorphisms and IL-6 serum values and their correlation in the gastroenteropancreatic neuroendocrine tumors is lacking. The authors investigated for the first time frequencies of IL-6-174 genotypes in 80 GEP-NET patients and 162 age-and sex-matched healthy controls, serum values of IL-6 in GEP-NET patients and their correlation with IL-6-174 genotypes. To analyze IL6-174 C/G polymorphism PCR-NlaIII RFLP method was used, and serum levels were measured on Immulite analyzer by enzymatic solid-phase chemiluminescent immunometric method. Serum IL-6 values were elevated (>5.9 pg/ml) in 36.8% GEP-NET patients. Patients with nonfunctioning PETs had only high expression IL-6-174 CG and GG genotypes and according to genotypes differed significantly (p=0.0289) from functioning PETs. High serum IL-6 values in all GEP-NET patients correlated significantly with GG IL-6-174 genotype (p=0.0139). Nonfunctioning PET patients had significantly (p=0.000777) higher IL-6 serum values in comparison to patients with functioning PETs and gastrointestinal NETs. Serum IL-6 values correlated significantly with IL-6-174 genotypes in nonfunctioning PETs and gastrointestinal NETs ($p<0.05$), but not in functioning PETs.

Terzić J, Marinović-Terzić I, Ikeda F, Đikić I. Ubiquitin signals in the NF-kappaB pathway. Biochem Soc Trans. 2007;35(Pt 5):942-5.

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The NF-kappaB (nuclear factor kappaB) transcription factors control cell survival, proliferation and innate and adaptive immune response. Post-translational modifications of key components of the NF-kappaB pathway provide the molecular basis for signal transmission from the cell membrane to the nucleus. In this paper the authors describe the involvement of different types of ubiquitin modification in the regulation of the NF-kappaB signalling pathway.

***Gornik O, Royle L, Harvey DJ, Radcliffe CM, Saldova R, Dwek RA, et al. Changes of serum glycans during sepsis and acute pancreatitis. Glycobiology. 2007;17:1321-32.**

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The authors examined the changes of N-linked glycans released from the serum of a patient with sepsis and a patient with acute pancreatitis during the first eight days of the disease. Sera were taken from patients at the time of reporting to hospital and then three more times. The blood from a healthy individual was drawn on one occasion only. Glycans were released using N-glycosidase F and were subjected to normal phase and weak anion exchange high-performance liquid chromatography, exoglycosidase digestions, and mass spectrometry. The levels of identified structures have been followed through the course of disease and compared to the control levels. Changes in serum glycans were found to occur very early in acute inflammation. The most prominent differences include the increase in ratio of outer arm to core fucose, increase in the amount of tetrasialylated structures, changes in the levels of mannose structures, and in the degree of branching. The relative proportions of different glycans changed daily and some differences were also observed between sepsis and pancreatitis, probably reflecting that in these two conditions, the acute phase response is triggered by a different stimulus that is associated with different patterns of production of cytokines.

***Kosor Krnić E, *Gagro A, Kozarić-Kovačić D, Vilibić M, Grubišić-Ilic M, Folnegović-Šmalc V, et al.. Outcome of influenza vaccination in combat-related post-traumatic stress disorder (PTSD) patients. Clin Exp Immunol. 2007;149:303-10.**

**Institute of Immunology, Department of Research and Development, Cellular Immunology Unit, Zagreb, Croatia*

Post-traumatic stress disorder (PTSD) is an anxiety disorder that can occur after exposure to extreme traumatic experience such as war trauma, and is accompanied by fear, helplessness or horror. Exposure to trauma can result in immune dysregulation and influence susceptibility to infectious disease as well as vaccine efficacy. The aim of the study was to determine the relation of psychological stress and the immune response to influenza vaccination in combat-related

PTSD patients (n = 28). Detection of anti-viral antibody titre was performed by inhibition of haemagglutination assay. Ex vivo tetramer staining of CD8(+) T lymphocytes was used to monitor T cells specific for human leucocyte antigen (HLA)-A*0201-restricted influenza A haemagglutinin antigens before and after vaccination. Twenty patients showed a fourfold antibody titre increase to one or both influenza A viral strains, and 18 of them showed the same response for both influenza B viral strains. Ten of 15 healthy controls showed a fourfold rise in antibody titre to both influenza A viral strains and eight of them showed the same response for both influenza B viral strains. HLA-A*0201(+) PTSD patients (n = 10) showed a significant increase of influenza-specific CD8 T cells after vaccination. Although those PTSD patients had a lower number of influenza-specific CD8(+) T cells before vaccination compared to HLA-A*0201(+) healthy controls (n = 6), there was no difference in influenza A antibody titre between PTSD patients and control subjects before vaccination. The generated humoral and cellular immune response in PTSD patients argues against the hypothesis that combat-related PTSD in war veterans might affect protection following influenza vaccination.