CROATIAN INTERNATIONAL PUBLICATIONS

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OBJECTIVE: A growing body of evidence has demonstrated the high prevalence and complexity of chronic physical multimorbidity defined as ≥2 chronic physical illness in people with psychiatric disorders. The present study aimed to assess differences in the prevalence and patterns of self-reported chronic physical illness and multimorbidity in the general and psychiatric populations. METHODS: We performed a latent class analysis of 15 self-reported chronic physical illnesses on a sample of 1060 psychiatric patients and 837 participants from the general population. RESULTS: Self-reported chronic physical illness and multimorbidity were significantly more prevalent in the population of psychiatric patients than in the general population (P < .001). Psychiatric patients had 27% (CI95% 24% - 30%) higher age-standardized relative risk for chronic physical illness and a 31% (CI95% 28% - 34%) higher for multimorbidity (P < .001). The number of chronic physical illnesses combinations was 52% higher in the psychiatric than in general population (255 vs 161 combinations respectively; P < .001). We identified four distinct latent classes: "Relatively healthy", "Musculoskeletal", "Hypertension and obesity", and "Complex multimorbidity" with no significant differences in the nature of multimorbidity latent classes patterns. The class "Relatively healthy" was significantly less (ARI = -25% (CI95% -30% -21%), and the class "Hypertension and obesity" was significantly more prevalent in the population of psychiatric patients (ARI = 20% (CI95% 17% - 23%). CONCLUSIONS: These findings indicate that mental disorders are associated with an increased risk of a wide range of chronic physical illnesses and multimorbidity. There is an urgent need for the development of the guidelines regarding the physical healthcare of all individuals with mental disorders with multimorbidity in focus.

Orešković D[1], Maraković J[2], Varda R[3], Radoš M[3], Jurjević I[3], Klarica M[3]. New insight into the mechanism of mannitol effects on cerebrospinal fluid pressure decrease and craniospinal fluid redistribution. Neuroscience. 2018;392:164-171.

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Intracranial hypertension, which often follows a severe brain injury, is usually treated with intravenous (i.v.) application of hyperosmolar solutions. The mechanism of intracranial cerebrospinal fluid (CSF) pressure decrease after such a treatment is still unclear. The aim of this article was to try to explain the mechanism of CSF pressure reduction after i.v. hyperosmolar mannitol bolus in regard to the changes in CSF volume. Two types of experiments were done

on anesthetized cats before and after hyperosmolar mannitol application: ventriculo-cisternal perfusion at different perfusion rates, simultaneously measuring the perfusate outflow volume, and CSF pressure recording in the lateral ventricle before and during artificial CSF infusion. Mannitol application in the first group of cats significantly reduced collected prefusate volume during ventriculo-cisternal perfusion, and in the second group it prevented CSF pressure increase caused by artificial CSF infusion. Our results strongly suggest that the mechanism of hyperosmolar mannitol action after its i.v. application is based on osmotic fluid retrieval from interstitial and cerebrospinal compartments into the microvessels. This shift, without significant volume change inside the cranium, causes a predominant decrease of CSF volume in the spinal part of the system, which in turn leads to lowering of the CSF pressure. Spinal CSF volume decrease is enabled by the extensibility of the spinal dura, this way providing the possibility for CSF volume redistribution inside the CSF system, together with CSF pressure decrease. This mechanism of mannitol action is in accordance with the new hypothesis of CSF physiology.

Mustapic S[1], Ziga S[2], Matic V[1], Bokun T[1,3], Radic B[1], Lucijanic M[4], Marusic S[3,5], Babic Z[1], Grgurevic I[1,3]. Ultrasound grade of liver steatosis is independently associated with the risk of metabolic syndrome. Can J Gastroenterol Hepatol. 2018;2018:8490242.

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The aim of the study was to explore (a) prevalence and grade of nonalcoholic fatty liver (NAFL) among outpatients referred for abdominal ultrasound (US) examination and (b) relationship between the presence and severity of liver steatosis and metabolic syndrome (MS). This was a retrospective analysis of patients without history of liver disease examined by abdominal US in the University hospital setting. US was used to detect and semiquantitatively grade (0-3) liver steatosis. Data on patients' age, gender, body mass index (BMI), impaired glucose metabolism (IGM), atherogenic dyslipidaemia (AD), raised blood pressure (RBP), transaminases, and platelet counts were obtained from medical records. MS was defined as having at least 3 of the following components: obesity, IGM, AD, and RBP. Of the 631 patients (median age 60 years, median BMI 27.4 kg/m2, and 57.4% females) 71.5% were overweight and 48.5% had NAFL. In the subgroup of 159 patients with available data on the components of MS, patients with higher US grade of steatosis had significantly higher BMI and increased prevalence of obesity, IGM, AD, RBP, and accordingly more frequently had MS, whereas they did not differ in terms of age and gender. NAFL was independently associated with the risk of having MS in a multivariate model adjusted for age, gender, BMI, and IGM. The grade of liver steatosis did not correlate with the presence of liver fibrosis. We demonstrated worrisome prevalence of obesity and NAFL in the outpatient population from our geographic region. NAFL is independently associated with the risk of having MS implying worse prognosis.

Babarović E[1], Franin I[2], Klarić M[3], Ferrari AM[4], Karnjuš-Begonja R[4], Eminović S[1], Ostojić DV[5], Vrdoljak-Mozetič D[5]. Adult granulosa cell tumors of the ovary: a retrospective study of 36 FIGO stage I cases with emphasis on prognostic pathohistological features. Anal Cell Pathol (Amst). 2018;2018:9148124.

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OBJECTIVE: Adult granulosa cell tumors (AGCTs) represent 2%-5% of all ovarian malignancies. The aim of this study was to analyze clinical and pathohistological parameters and their impact on recurrence, overall, and disease-free survival in FIGO stage I AGCT patients. METHODS: The tumor specimens analyzed in this retrospective study were obtained from a total of 36 patients with diagnosis of ovarian AGCT surgically treated at the Department of Gynecology, Rijeka University Hospital Centre, between 1994

and 2012. Clinical, pathological, and follow-up data were collected. RESULTS: The mean age at diagnosis was 54.5 years with a range of 24-84. The majority of the patients, 30 (83%), were in FIGO stage IA, 3 (8%) in stage IC1, 1 (3%) in stage IC2, and 2 (6%) in stage IC3. During follow-up period (median 117.5 months, range 26-276), recurrence occurred in 4 patients (12%) with 2 deaths of the disease recorded. In univariate analysis, the 5-year survival rates were significantly shorter in patients with FIGO substage IC ($p = 0.019$), with positive LVSI ($p = 0.022$), with presence of necrosis ($p = 0.040$), and with hemorrhage ($p = 0.017$). In univariate analysis, the 5-year disease-free survival rates were significantly shorter in patients treated with fertility surgery ($p = 0.004$), with diffuse growth pattern ($p = 0.012$), with moderate and severe nuclear atypia ($p = 0.032$), and with presence of hemorrhage ($p = 0.022$). FIGO substage IC proved to be independent predictor for recurrence (OR = 16.87, $p = 0.015$, and OR = 23.49, $p = 0.023$, resp.) and disease-free survival ($p = 0.0002$; HR 20.84, $p = 0.02$) at the uni- and multivariate analyses. CONCLUSIONS: FIGO substage IC is predictive of recurrence and disease-free survival in patients with early-stage AGCTs. LVSI, presence of necrosis and hemorrhage, diffuse growth pattern, and nuclear atypia in AGCTs seem to be associated with overall and disease-free survival, so these pathological features should be taken into consideration when managing patients with AGCT.

Pačarić S[1,2], Kristek J[1,2], Mirat J[3], Kondža G[1,2], Turk T[4,5], Farčić N[2,6], Orkić Ž[1,2], Nemčić A[1,2]. The quality of life of Croatian women after mastectomy: a cross-sectional single-center study. BMC Public Health. 2018;18(1):999.

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BACKGROUND: Measuring the quality of life (QoL) of women with breast cancer is an important aspect of measuring treatment success. In Croatia, no QoL studies have been carried out with a focus on patients after mastectomy. The aim of this study was to examine QoL 1 month and 1 year after mastectomy. METHODS: This cross-sectional single-center study of quality of life was conducted in 101 patients, 50 of whom had undergone a mastectomy 1 month prior, and 51 of whom had undergone a mastectomy 1 year prior. The study was conducted from July 2015 to June 2016. The questionnaires used in the study were developed by the European Organisation for Research and Treatment of Cancer (EORTC). The questionnaire EORTC QLQ-C30 assesses the QoL of cancer patients, and the questionnaire EORTC QLQ-BR23 is a disease-specific breast cancer module. A chi square test, Fisher's exact test, Kolmogorov-Smirnov test, Student's t-test and Mann-Whitney U test were performed in the statistical analysis using the statistical program SPSS (Inc. Released 2008. SPSS Statistics for Windows, Version 17.0. Chicago: SPSS Inc.). RESULTS: Patients who had undergone a mastectomy a year earlier placed a higher value on their health state than did those who had undergone a mastectomy a month earlier. The most affected values of functional status on the EORTC QLQ-C30 scale were emotional functioning (37.5 [95% CI 33.3-61.6]) and sexual functioning (16.67 [95% CI 0-33.3]) 1 month and 1 year after mastectomy, respectively. The most affected symptoms on the EORTC QLQ-C30 scale were hair loss 66.67 [95% CI 33.3-100]) and fatigue 33.33 [95% CI 24-44]) 1 month and 1 year after mastectomy, respectively. CONCLUSION: In our study, both functional and symptom scales were more affected in women 1 month after mastectomy. QoL was considerably improved in women 1 year after the surgery compared to 1 month after mastectomy. The results of this study could contribute to the public awareness of the QoL of breast cancer patients.

Sakan S[1], Premuzic V[2], Bandic Pavlovic D[1,3], Basic-Jukic N[2,3,4]. Consequence of elevated fibroblast growth factor 23 levels in acute kidney injury, renal recovery and overall survival in intensive care unit patients after major surgery. Ther Apher Dial. 2018;22(5):544-551.

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The main goal of our study was to investigate the role of increased fibroblast growth factor 23 (FGF23) lev-

els on renal recovery and overall survival. We conducted a prospective case-control cohort study, which included 121 adult cases who developed AKI after major surgical procedures. The subjects were followed-up until the last enrolled patient survived 180 days or until the time of death. Higher FGF23 levels positively correlated with serum creatinine levels ($P < 0.05$). Significantly higher number of patients without diuresis and with FGF23 ≤ 709 RU/mL survived when compared to patients without diuresis and with FGF23 ≥ 709 RU/mL ($P < 0.001$). FGF23 levels >709 RU/mL were a good predictive tool for overall mortality in a 6-month period ($P < 0.05$). This is the first study to analyze the impact of FGF23 values on short-term renal recovery and survival of patients with AKI after major surgery. The FGF23 increase related to AKI especially in more severe stages and in patients without diuresis is an independent risk factor for mortality.

Tomic S[1,2], Pekic V[1,2], Popijac Z[1], Pucic T[1], Vinkovic MP[1,2], Kuric TG[1,2], Popovic Z[1,2]. Hyperhomocysteinemia influenced malnutrition in Parkinson's disease patients. Neurol Sci. 2018;39(10):1691-1695.

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INTRODUCTION: Parkinson's disease (PD) is a neurodegenerative disease with many motor and non-motor symptoms. Hyperhomocysteinemia is reported in many PD patients. Homocysteine (Hcy) is reported to be a risk factor for some PD non-motor symptoms. AIM: The aim was to analyze Hcy level and its correlation with physical activity and motor and some non-motor symptoms (depression and cognition) in PD patients. PATIENTS AND METHODS: Patients were surveyed for physical activity and demographic data. Blood samples were obtained for Hcy, vitamin B12, and folic acid determination. The Mini Nutritional Assessment (MNA), Unified Parkinson's Disease Rating Scale (UPDRS) parts III and IV, Hoehn and Yahr (H&Y) Scale, Beck Depression Inventory (BDI), and Mini Mental State Examination (MMSE) were used to assess nutritional status, disease stage, and motor and some non-motor symptoms (depression and cognition) of PD in study patients. RESULTS: We analyzed 34 PD patients. Elevated Hcy level was found in 70.6% of these patients. Patients reporting regular exercise had lower Hcy level ($p < 0.025$). Hcy level yielded a statistically significant correlation with MNA score ($rs = -0.510$; $p < 0.003$), UPDRS part III ($rs = 0.372$; $p < 0.030$), vitamin B12 ($rs = -0.519$; $p < 0.002$), and folic acid ($rs = -0.502$; $p < 0.003$) but not with cognition and depression. There were no statistically significant differences in Hcy level for disease stage either for dyskinesia or "off" periods. CONCLUSION: PD patients are at a risk of hyperhomocysteinemia. Regular physical activity decreases Hcy level, whereas poor motor function increases it. There is correlation between Hcy level and malnutrition in PD patients.