

International publications of authors from Bosnia and Herzegovina in Current Contents indexed publications in the second half of 2010*

1. Bašić B, Beganović A, Skopljak-Beganović A, Samek D. Occupational exposure doses in interventional procedures in Bosnia and Herzegovina. Radiat Prot Dosimetry. 2011; 144(1-4):501-4. Epub 2010 Dec 7.

Radiation Protection Centre, Institute of Public Health of Federation of Bosnia and Herzegovina, Maršala Tita 9, Sarajevo, Bosnia and Herzegovina.

Monitoring of occupationally exposed workers in Bosnia and Herzegovina started in 1960s and it was interrupted in 1992. Dosimetry service resumed in 1999 when the International Atomic Energy Agency provided Radiation Protection Centre with Harshaw 4500 Thermoluminescence dosimeter (TLD)-reader and the first set of TLDs. The highest doses are received by professionals working in interventional procedures (radiology, cardiology, gastroenterohepatology etc.). Number of these procedures is increasing each year (just in cardiology this increase is 24 % per year). Results from two TLDs are used to estimate effective dose. One is worn under the apron (chest level), and the other above (neck level). Calculation is performed using Niklason's methodology. Total number of occupationally exposed persons in interventional radiology is 90. The collective dose they receive is 67 person mSv, while the mean dose is 0.77 mSv (based on 12-month period). Highest doses are received by physicians (3.7 mSv), while radiographers and nurses receive 2.1 and 1.9 mSv respectively. This occurs due to the fact that physicians stand closer to the source (patient). The lead apron is proven to be the most efficient radiation protection equipment, but, also, lead thyroid shield and glasses can significantly lower doses received by professionals. The use of this equipment is highly recommended.

2. Brennen T, Hasanović M, Zotović M, Blix I, Skar AM, Prelić NK, Mehmedović I, Pajević I, Popović N, Gavrilov-Jerković V. Trauma exposure in childhood impairs the ability to recall specific autobiographical memories in late adolescence. J Trauma Stress. 2010 Apr;23(2):240-7.

Center for the Study of Human Cognition, Department of Psychology, University of Oslo, Norway.

J. M. G. Williams (1996) predicted that exposure to potentially traumatizing events at an early age would give rise to overgeneral recall from autobiographical memory, i.e., recall of general rather than specific events, and that in adolescence this tendency would be uncorrelated with psychopathological symptoms, e.g., depression. This was supported by two studies where war-exposed Bosnian adolescents produced significantly fewer specific autobiographical memories than a Norwegian control group, as did bombing-exposed Serbian adolescents compared to nontrauma-exposed Serbians. No significant correlations were found between autobiographical memory specificity and measures of depression, anxiety, dissociation or impact of trauma, which is consistent with Williams' idea that an overgeneral memory retrieval strategy is at first protective, and a risk factor for depression only upon reaching adulthood.

3. Čengić B, Resić H, Spasovski G, Avdić E, Alajbegović A. Quality of sleep in patients undergoing hemodialysis. Int Urol Nephrol. 2010 Dec 9. [Epub ahead of print]

Clinic for Hemodialysis, Clinical Centre University of Sarajevo, Bolnička 25, Sarajevo, Bosnia and Herzegovina.

BACKGROUND: Sleeping problems are common in hemodialysis (HD) patients. The aim of this study was to determine sleep quality (SQ) in HD patients and to evaluate its relationship with patient's quality of life (QoL), sociodemographic and laboratory data. **METHODS:** Two hundred HD patients from the Hemodialysis Clinic, Bosnia and Herzegovina, were enrolled in the study. There were 122 men and 78 women with a mean age of 56.8 ± 14.3 (range 20-85) years and a mean HD duration of 62.6 ± 57.0 months. We used the Pittsburgh Sleep Quality Index (PSQI) and the Health Survey for Dialysis Patients (SF-36). **RESULTS:** Seventy-three percent of patients showed a poor SQ response. The average sleep latency of patients was 48.2 min, and the average sleep duration was 4.9 h. Ninety-eight percent of patients experienced some sort of sleep disturbances on weekly basis. The most common sleep disturbances were insomnia (84.5%), day and night sleep reversal (39.0%), excessive daytime sleepiness (EDS) (34.0%), nightmares (25%) and restless legs syndrome (RLS) (20.5%). The most frequent causes of sleep disorders were snoring (47%), pain (35%), daytime napping (34%), breathing problems (30%) and pruritus (28%). Ninety-three percent of patients experienced daytime dysfunction and 46.5% of them were taking sleep medications. Younger patients, employed patients and patients in 3rd HD shift showed significantly better SQ compared to the others. Compared with good sleepers, poor sleepers were more frequently on conventional HD and had higher serum phosphate and PTH and significantly lower Hb. **CONCLUSION:** The poor SQ in our HD population significantly correlated with their QoL.

4. Ćavar I, Kelava T, Vukojević K, Saraga-Babić M, Čulo F. The role of prostaglandin E2 in acute acetaminophen hepatotoxicity in mice. *Histol Histopathol.* 2010 Jul;25(7):819-30.

Department of Physiology, School of Medicine, University of Mostar, Mostar, Bosnia and Herzegovina.

Prostaglandin E2 (PGE2), which is synthesized by many cell types, has a cytoprotective effect in the gastrointestinal tract and in several other tissues and cells. On the other hand, overdose or chronic use of a high dose of acetaminophen (Paracetamol, APAP) is a major cause of acute liver failure in the western world. These observations prompted us to investigate whether PGE2 plays a role in host defence to toxic effect of APAP. (CBAT6T6xC57Bl/6)F1 hybrid mice of both sexes were intoxicated with a single lethal or high sublethal dose of APAP, which was administered to animals by oral gavage. Stable analogue of PGE2, 16,16-dimethyl PGE2 (dmPGE2), or inhibitor of its production, CAY10526, were given intraperitoneally (i.p.) 30 minutes before or 2 hours after APAP ad-

ministration. The toxicity of APAP was determined by observing the survival of mice during 48 hours, by measuring concentration of alanine-aminotransferase (ALT) in plasma 20-22 hours after APAP administration and by liver histology. The results have shown that PGE2 exhibits a strong hepatoprotective effect when it is given to mice either before or after APAP, while CAY10526 demonstrated mainly the opposite effect. Immunohistochemical or immunofluorescent examinations in the liver tissue generally support these findings, suggesting that PGE2 inhibited APAP-induced activation of nuclear factor kappa B (NF-kappaB). Similarly, PGE2 down regulated the activity of inducible nitric oxide synthase (iNOS), which was up regulated by APAP. Thus, by these and perhaps by other mechanisms, PGE2 contributes to the defence of the organism to noxious effects of xenobiotics on the liver.

5. Ćenanović M, Pojskić N, Kovačević L, Džehverović M, Čakar J, Musemić D, Marjanović D. Diversity of Y-short tandem repeats in the representative sample of the population of Canton Sarajevo residents, Bosnia and Herzegovina. *Coll Antropol.* 2010 Jun;34(2):545-50.

Institute for Genetic Engineering and Biotechnology, Sarajevo University, Sarajevo, Bosnia and Herzegovina.

In our previous population study, we have used twelve Y-chromosomal short tandem repeats loci incorporated in the PowerPlex Y System to determine Y-STR diversity in B&H human population. With intent to obtain additional verification of the previously obtained results as well as to establish specific reference for a local B&H population, we have decided to test DNA samples collected from 100 unrelated healthy male Canton Sarajevo residents (from Sarajevo region) for the same twelve Y-linked short tandem repeats loci. Qiagen DNeasy Tissue Kit (Qiagen, GmbH, Hilden, Germany) was used for DNA extraction from buccal swabs and PowerPlex Y System (Promega Corp., Madison, WI) has been used to simultaneously amplify Y-STR loci by PCR. PowerPlex Y System includes 12 STR loci: DYS19, DYS385a, DYS385b, DYS389I, DYS389II, DYS390, DYS391, DYS392, DYS393, DYS437, DYS438 and DYS439. The total PCR reaction volume was 5 microL. PCR amplifications were carried out in PE GeneAmp PCR System Thermal Cycler (ABI). Electrophoresis of the amplification products was performed on an ABI PRISM 310 genetic analyzer (ABI, Foster City, CA) according to the manufacturer's recommendations. The raw data were compiled and analyzed using the accessory software: ABI PRISM Data Collection Software and Genemapper version 3.2. In addition, we have compared the obtained "Sarajevo" dataset with the data previously generated for the en-

tire Bosnian and Herzegovinian population, as well as with the available data on geographically close (neighboring) European populations. The results of this study will be used as guidelines in additional improving of research into genetic relationship among recent local B&H populations, both isolated and open, which is a long-term project in our country.

6. Dujic T, Ostanek B, Marc J, Čaušević A, Mlinar B. Optimization of high-resolution melting analysis for simultaneous genotyping of two 11 β -hydroxysteroid dehydrogenase type 1 gene polymorphisms. Genet Test Mol Biomarkers. 2011 Jan-Feb;15(1-2):43-9. Epub 2010 Nov 30.

Department of Biochemistry and Clinical Analysis, Faculty of Pharmacy, University of Sarajevo, Sarajevo, Bosnia and Herzegovina.

BACKGROUND: Polymorphisms in HSD11B1, the gene encoding 11 β -hydroxysteroid dehydrogenase type 1 enzyme, have been associated with obesity, metabolic syndrome, and type 2 diabetes. In this study, we present an optimized high-resolution melting (HRM) method for genotyping two common polymorphisms of the HSD11B1 gene: rs846910: G>A and rs45487298: insA. **METHODS:** One hundred DNA samples from patients with polycystic ovary syndrome and healthy controls were genotyped by HRM. The results were compared with those obtained with classic polymerase chain reaction followed by restriction fragment length polymorphism analysis. **RESULTS:** Various approaches were used during HRM specificity optimization. With the optimized method, genotyping accuracy of 100% was achieved. **CONCLUSIONS:** HRM analysis is a fast, simple, and cost-effective method compared with the alternative genotyping approaches. The work required for optimizing the method (improvement of specificity) is minor compared to the advantages.

7. Hukić M, Valjevac A, Tulumović D, Numanović F, Heyman P. Pathogenicity and virulence of the present hantaviruses in Bosnia and Herzegovina: the impact on renal function. Eur J Clin Microbiol Infect Dis. 2011 Mar;30(3):381-5. Epub 2010 Oct 23.

Institute of Clinical Microbiology, Clinical Center University of Sarajevo, Sarajevo, Bosnia and Herzegovina.

Dobrava (DOBV) and Puumala (PUUV) viruses are endemic throughout the Balkans and cause haemorrhagic fever with renal syndrome (HFRS). The aim of this study was to assess the impact of two different hantaviruses on renal function in HFRS patients during the acute stage of illness. We also aimed to assess the DOBV and PUUV distribution between

symptomatic HFRS patients and asymptomatic hantavirus antibody-positive subjects. The study included 264 symptomatic HFRS patients and 63 asymptomatic hantavirus antibody-positive healthy subjects. In our study, 131 (49.6%) HFRS patients were regarded as PUUV- and 69 (26.1%) as DOBV-infected patients, while in 64 (24.2%) of HFRS patients that showed all clinical and biochemical signs of HFRS, the causal hantavirus could not be determined with commercially available tests. DOBV-infected patients were associated with more requirements for haemodialysis treatment, lower diuresis and higher serum creatinine and urea values compared to PUUV-infected patients. PUUV was significantly predominant in asymptomatic hantavirus antibody-positive subjects (69.8%) compared to HFRS patients. DOBV was present in 17.5% of asymptomatic subjects and, interestingly, the preferential hantavirus serotype could not be determined in 12.7% of the asymptomatic antibody-positive subjects.

8. Imamović G, Zerem E, Osmanović E. Kidney graft outcomes in living-related transplantation have improved with substitution of basiliximab and mycophenolate mofetil for antithymocyte globulin and azathioprine: a single center retrospective cohort study. Eur J Intern Med. 2010 Dec;21(6):524-9. Epub 2010 Oct 12.

University Clinical Center Tuzla, Department of Nephrology and Dialysis, Tuzla, Bosnia and Herzegovina.

BACKGROUND: Despite significant reduction in acute rejection rates and improvements in one year kidney allograft outcomes over the past decade, there is an overall lack of improvement in long-term allograft outcomes. We conducted this study to evaluate whether immunosuppressive regimens involving basiliximab and mycophenolate mofetil improved allograft outcomes in living-related kidney transplantation beyond the first year. **METHODS:** In a retrospective cohort study we analyzed kidney graft survival, acute rejection-free survival, kidney function, delayed graft function, and primary non-function in patients receiving an immunosuppressive regimen that included basiliximab and mycophenolate mofetil (group A), and compared to patients receiving antithymocyte globulin and azathioprine (group B). The rest of the treatment protocols remained the same, including cyclosporine A and steroids in both groups. **RESULTS:** Seven-year graft survival rates in groups A and B were 83% and 44%, respectively ($p=0.005$), 7-year acute rejection-free survival rates were 82% and 53%, respectively ($p=0.03$), kidney function was better ($p=0.004$) and its deterioration rate was lower ($p=0.006$) in patients receiving regimen A. In group A 1 primary non-function event was observed in con-

trast to 4 composite events of delayed graft function and primary non-function in group B ($p>0.05$). **CONCLUSION:** Long-term graft outcomes in living-related kidney transplantation have improved with substitution of basiliximab and mycophenolate mofetil for antithymocyte globulin and azathioprine in immunosuppressive protocols.

9. Latić F, Zerem E. Phytobezoar of the stomach - laparoscopic approach. Dig Surg. 2010;27(4):338. Epub 2010 Aug 3.

No abstract available.

10. Muratbegović AA, Marković N, Zukanović A, Kobašlija S, Dragaš MS, Jurić H. Oral health related to demographic features in Bosnian children aged six. Coll Antropol. 2010 Sep;34(3):1027-33.

Department of Preventive and Paediatric Dentistry, Faculty of Dentistry, Sarajevo University, Sarajevo, Bosnia and Herzegovina.

The main aim of this paper is to present epidemiological indicators of oral health among six-year olds in Bosnia and Herzegovina (BH) and to analyze values of dmft index and dental treatment needs in order to identify differences in parts of the country. Another aim is to identify the needs from the public oral health care system in Bosnia and Herzegovina related to early permanent dentition by analyzing the condition of first permanent molars (FPM) as an indicator of oral health of permanent dentition. Survey was carried out in 2004 in 8 cantons of the Federation of BH (FBH) and in the Republic of Srpska (RS). Final sample included 560 participants aged six (mean 6.2, SD +/- 0.87). One dental team clinically examined all participants according to WHO methodology and criteria. The parameters used were: dmft index, DMFT index of first permanent molars (FPM), presence of sealants and treatment needs. A questionnaire about oral health habits had been administered. Dmft was 6.71 in that the d-component constituted the major part of the index. DMFT index of FPM was 0.61 (SD +/- 1.08). Percentage of caries free participants aged 6 was 6.8%. Average number of FPM with fissure sealants in BH was 0.25 (SD +/- 0.78). Significant demographic differences in dmft index, DMFT FPM and treatment needs were identified. Most participants (48.5%) had their first dental visit between the ages of five and seven. National oral health goal for Bosnia and Herzegovina should be to develop and implement disease prevention programs based on education of both parents and dental practitioners. It is necessary to improve access to dental care and shift focus from

curative to preventive procedures. It is also necessary to set real goals for improvement of oral health which can be achieved within a desired time frame, as well as to precisely define measures to be taken.

11. Obradović Z, Velić R. Epidemiological characteristics of brucellosis in Federation of Bosnia and Herzegovina. Croat Med J. 2010 Aug 15;51(4):345-50.

Public Health Institute, Canton Sarajevo, Sarajevo, Bosnia and Herzegovina.

AIM: To analyze the frequency and distribution of human brucellosis in the Federation of Bosnia and Herzegovina in the period 2001-2008, and measures and activities undertaken for prevention and control of the disease. **METHOD:** In this descriptive, retrospective study, we used official reports on infectious diseases from public health institutes at the federal and cantonal level, as well as epidemiological surveys. For comparison with animal brucellosis cases, we used the distribution data from veterinary surveillance. **RESULTS:** Since 2001, the number of infected people has rapidly increased and brucellosis has become a very important public health problem. In the period 2001-2008, there were 1639 human brucellosis cases and the number of cases increased every year. The morbidity rate over the study period ranged from 3.8 to 33.4 per 100,000 inhabitants. According to epidemiological surveys, in villages human brucellosis was transmitted mostly by contact with infected animals and their products, and in cities by consumption of dairy products made from contaminated, unpasteurized milk. When test-and-slaughter control approach was used, the prevalence of seropositive livestock was 4.6% and approximately 70,000 animals were slaughtered after testing between 2001 and 2008. From 1 June 2009, this approach was replaced with mass vaccination of sheep and goats. **CONCLUSION:** The large number of human brucellosis cases and seropositive livestock poses a very serious problem for Bosnia and Herzegovina. The solution may be the introduction of mass vaccination.

12. Odošić A, Pašić A, Iljazović-Latifagić E, Arnautalić L, Odošić A, Idrizović E, Dervišević M, Dedić L. Perineal endometriosis: a case report and review of the literature. Tech Coloproctol. 2010 Nov;14 Suppl 1:S25-7.

Surgery Clinic, University Clinical Center Tuzla, Trnovac bb, Tuzla, Bosnia and Herzegovina.

Endometriosis is the presence of endometrial-like tissue outside the uterine cavity, which most commonly affects peritoneal surfaces, ovaries and uterine ligaments. Even it is quite rare, endometriosis may

affect the vulva, vagina, rectovaginal septum or perineal region, generally secondary to obstetric or surgical trauma. In this case report, we present a patient with perineal endometriosis in an episiotomy scar. Diagnostic tools used included transvaginal and endorectal ultrasonography (USG), magnetic resonance imaging (MRI) and biopsy. The endometriotic mass was wide-excised together with episiotomy scar. The recovery was uneventful with excellent functional and esthetic results. Six months after operation, woman is asymptomatic. According to the literature and our own experience, wide excision of endometriotic tissue seems to be the best chance of cure with satisfactory functional results and should be recommended.

13. Omeragić J. Ixodid ticks in Bosnia and Herzegovina. Exp Appl Acarol. 2011 Mar;53(3):301-9. Epub 2010 Oct 22.

Department of Parasitology and Invasive Diseases, Veterinary Faculty Sarajevo, University of Sarajevo, Zmaja od Bosne 90, Sarajevo, Bosnia and Herzegovina.

Ticks of the Ixodidae family represent an enormous threat to human and animal health. From January to December 2004, a total of 10,050 ixodid ticks were collected from 26 areas in Bosnia and Herzegovina and determined to the species level. Ticks were collected from dogs, sheep, cows, goats, rodents, humans and plants. *Ixodes ricinus* was the most prevalent species, followed by *Dermacentor marginatus marginatus*, *Rhipicephalus bursa*, *Hyalomma marginatum marginatum*, *Rhipicephalus sanguineus*, *Haemaphysalis punctata*, *Dermacentor reticulatus* and *Ixodes hexagonus*.

14. Petričević J, Forempoher G, Ostojić Lj, Mardešić-Brakus S, Anđelinović Š, Vukojević K, Saraga-Babić M. Expression of nestin, mesothelin and epithelial membrane antigen (EMA) in developing and adult human meninges and meningiomas. Acta Histochem. 2010 Oct 11. [Epub ahead of print]

Department of Pathology, Cytology and Forensic Medicine, University Clinical Hospital Mostar, Kralja Tvrtka bb, Mostar, Bosnia and Herzegovina; Department of Histology and Embryology, School of Medicine, University of Mostar, Bijeli brijeg bb, Mostar, Bosnia and Herzegovina.

The spatial and temporal pattern of appearance of nestin, epithelial membrane antigen (EMA) and mesothelin proteins was immunohistochemically determined in the cells of normal developing and adult human meninges and meningiomas. Human meninges developed as two mesenchymal condensations in the

head region. The simple squamous epithelium on the surface of leptomeninges developed during mesenchymal to epithelial transformation. Nestin appeared for the first time in week 7, EMA in week 8, while mesothelin appeared in week 22 of development. In the late fetal period and after birth, nestin expression decreased, whereas expression of EMA and mesothelin increased. EMA appeared in all surface epithelial cells and nodules, while mesothelin was found only in some of them. In adult meninges, all three proteins were predominantly localized in the surface epithelium and meningeal nodules. In meningothelial meningiomas (WHO grade I), EMA was detected in all tumor cells except in the endothelial cells, mesothelin characterized nests of tumor cells, while nestin was found predominantly in the walls of blood vessels. The distribution pattern of those proteins in normal meningeal and tumor cells indicates that nestin might characterize immature cells, while EMA and mesothelin appeared in maturing epithelial cells. Neoplastic transformation of these specific cell lineages contributes to the cell population in meningiomas.

15. Poljac E, Montagne B, de Haan EH. Reduced recognition of fear and sadness in post-traumatic stress disorder. Cortex. 2010 Oct 21. [Epub ahead of print]

Laboratory of Experimental Psychology, University of Leuven, Leuven, Belgium; Department of Psychology, International University of Sarajevo, Sarajevo, Bosnia and Herzegovina.

Post-traumatic stress disorder (PTSD) is associated with impairments in emotional experience and expression. The current study examined the recognition of emotional facial expressions in PTSD patients and matched healthy controls, both in terms of accuracy and sensitivity. The task involved short video clips of a neutral face changing (morphing) into one of the six basic emotions (happiness, anger, fear, surprise, disgust and sadness). Clips differed in length, with short clips terminating at 20% of maximum emotional intensity, and the longest ones ending with a full-blown expression. We observed a specific impairment in the PTSD group for recognizing the emotions fear and sadness. This result was observed via a reduced accuracy and a decreased sensitivity for these emotions. We discuss the observed altered affective processing and its possible clinical implications.

16. Prohić A, Kasumagić-Halilović E. Identification of Malassezia species from immunocompetent and immunocompromised patients with seborrheic dermatitis. Eur Rev Med Pharmacol Sci. 2010 Dec;14(12):1019-23.

Department of Dermatovenerology, University Clinical Center of Sarajevo, Sarajevo, Bosnia and Herzegovina.

BACKGROUND AND OBJECTIVES: Differences in prevalence, clinical and histological manifestations between seborrheic dermatitis (SD) in immunocompetent and immunocompromised patients suggest that these two populations might also differ in a spectrum of isolated *Malassezia* species. The purpose of our study was to analyse the prevalence of *Malassezia* species in immunocompromised and non-immunocompromised patients with SD and to examine if the range of isolated yeasts varies between these two study groups. **PATIENTS AND METHODS:** Specimens were taken from 50 patients with SD: 30 without any underlying disease and 20 with confirmed immunosuppression. The samples were obtained by scraping the skin surface of the scalp and trunk lesions of all subjects and then incubated on modified Dixon agar. The yeasts isolated were identified by their morphological and physiological properties according to Guillot et al method. **RESULTS:** In both groups, the most commonly isolated species from the scalp lesions were *Malassezia restricta* and *Malassezia globosa*, the later being the most common species isolated from lesional trunk skin. No significant differences were found between immunocompromised and immunocompetent patients from both sampled sites. **CONCLUSIONS:** There is no difference in the distribution of *Malassezia* species isolated from SD lesions between immunocompetent and immunocompromised patients. However, the much higher percentage of positive cultures in immunocompromised patients confirms that impaired cellular immunity may facilitate fungal survival on the skin.

17. Redžić S. Use of wild and semi-wild edible plants in nutrition and survival of people in 1430 days of siege of Sarajevo during the war in Bosnia and Herzegovina (1992-1995). Coll Antropol. 2010 Jun;34(2):551-70.

Academy of Sciences and Arts of Bosnia and Herzegovina, Sarajevo, Bosnia and Herzegovina.

This study is a systematic overview of data on use of wild and semi-wild edible plants in nutrition of people in 1430 days of the siege of Sarajevo during aggression on Bosnia and Herzegovina (1992-1995). The author of this study spent all that time in Sarajevo. In 1993, the author prepared a survival program for people that included usage of edible wild plants. In addition, he conducted a detailed survey, including special interviews, on 630 people of average age 37.4 years (55% residential inhabitants, the rest were refugees), 310 males and the rest were females. According to survey, 91 species of mostly wild plants and three species of

fungus were used: *Küchneromyces mutabilis*, *Armillariella mellea* and *Coprinus comatus*. Wild vegetables included 49 species, spices 24, wild fruits 16, and 2 species of bread-plants. They belong to 26 plants communities, and grew on 24 different habitats (urban surfaces, river coasts, low forest and scrubs, meadows and rocky grasslands). The 156 plant parts (leaves, young branches, fruit, flower, seed, root and rhizome) from 91 plant species were used. Vegetables were dominant category of use (soups, pottages, sauces) with 80 ways of preparation (30.53%), then salads 41 (15.65%), spices 39 (14.89%), different beverages 38 (14.50%), sweets 21 (8.02%), nutritive teas 15 (5.73%), and other preparations. In order to improve conventional food (war pasta, rice, lentils, old beans) people used spices made from different wild plants.

18. Sesar K, Šimić N, Barišić M. Multi-type childhood abuse, strategies of coping, and psychological adaptations in young adults. Croat Med J. 2010 Oct 15;51(5):406-16.

Center for Mental Health, Health Center, Dr J Grubišića 11, Široki Brijeg, Bosnia and Herzegovina.

AIM: To retrospectively analyze the rate of multi-type abuse in childhood and the effects of childhood abuse and type of coping strategies on the psychological adaptation of young adults in a sample from the student population of the University of Mostar. **METHODS:** The study was conducted on a convenience sample of 233 students from the University of Mostar (196 female and 37 male), with a median age of 20 (interquartile range, 2). Exposure to abuse was determined using the Child Maltreatment Scales for Adults, which assesses emotional, physical, and sexual abuse, neglect, and witnessing family violence. Psychological adaptation was explored by the Trauma Symptom Checklist, which assesses anxiety/depression, sexual problems, trauma symptoms, and somatic symptoms. Strategies of coping with stress were explored by the Coping Inventory for Stressful Situations. **RESULTS:** Multi-type abuse in childhood was experienced by 172 participants (74%) and all types of abuse by 11 (5%) participants. Emotional and physical maltreatment were the most frequent types of abuse and mostly occurred together with other types of abuse. Significant association was found between all types of abuse ($r=0.436-0.778$, $P<0.050$). Exposure to sexual abuse in childhood and coping strategies were significant predictors of anxiety/depression ($R(2)=0.3553$), traumatic symptoms ($R(2)=0.2299$), somatic symptoms ($R(2)=0.2173$), and sexual problems ($R(2)=0.1550$, $P<0.001$). **CONCLUSION:** Exposure to multi-type abuse in childhood is a traumatic experience with long-term negative effects. Problem-oriented coping strategies ensure a better psychosocial adaptation than emotion-oriented strategies.

19. Spasojević GD, Malobabić S, Sušćević D, Stijak L, Nikolić V, Gojković I. Morphological variability of the subcallosal area of man. Surg Radiol Anat. 2010 Aug 21. [Epub ahead of print]

Department of Anatomy, Faculty of Medicine, University of Banja Luka, Banja Luka, Bosnia and Herzegovina.

BACKGROUND: Knowledge of morphology of human anterior cingulate and medial frontal cortex related to the knee of corpus callosum is important in the diagnostics and neurosurgical treatment. Neuroimaging studies did not provide a clear picture of this region, what is also caused by terminological inconsistencies. It is not always clear what is actually defined under the terms subcallosal area, subcallosal cingulate gyrus, subcallosal gyrus, subcallosal region, or subgenual prefrontal gyrus. Our study of subcallosal area provides morphological data useful for recent imaging studies. **METHODS:** Digital photographs (42 formalin fixed brains: 26 males, 16 females) were used in morphometry (surfaces and lengths) of subcallosal area. We defined all its boundaries: superoanterior, anterior, posterior, and inferior one. If anterior subcallosal sulcus, as anterior delineation of subcallosal area was absent, we used intercommissural line system. **RESULTS:** Anterior subcallosal sulcus we found in 86.9% of cases. Its variations were classified into four types: Type 1-vertical or slightly oblique sulcus (most often type on right hemispheres-30.1%), Type 2-in form of letter C or inverted letter C (most often type on left hemispheres-42.9%), Type 3-sulcus in form of letter S or inverted letter S, and Type 4-sulcus not belonging to any previous type. Mean surface of subcallosal area was in males 2.65 cm² (right hemispheres), and on left 2.70 cm². In females on right it was 2.56 cm², and on left 2.55 cm². All measured values were not significantly different (left/right; males/females). **CONCLUSIONS:** Accurate neuroanatomical localization requires exact determination of boundaries of subcallosal area. Therefore, standardized criteria were proposed for definition of subcallosal area.

20. Vidić A, Ilić Z, Deljković D, Adrović F. Exposure of workers in Tusnica coal mine. Radiat Prot Dosimetry. 2011;144(1-4):672-4. Epub 2010 Oct 19.

Institute for Public Health of FBiH, M. Tita 9, Sarajevo, Bosnia and Herzegovina.

The aim of this paper is to identify potential exposure of the workers in the coal mine Tusnica. The results of the investigation showed increased activity of brown coal up to 1060±88 Bq kg⁻¹ for (238)U, 976±30 Bq kg⁻¹ for (226)Ra and 118±31 Bq kg⁻¹ for (232)Th. Dose rate measurements ranged from 0.07 to 0.25 μSv h⁻¹. The annual effective dose, taking into account

external exposure to ambient gamma radiation and internal exposure due to inhalation of the resuspended dust, would be 1.6 mSv a⁻¹. The results presented lead to the conclusion that Tusnica coal mine contains brown coal with significant radioactivity, indicating that the working hours in the area should be regulated and the use of respiratory protective equipment is obligatory.

21. Vidić D, Ćavar S, Šolić ME, Maksimović M. Volatile constituents of two rare subspecies of Thymus praecox. Nat Prod Commun. 2010 Jul;5(7):1123-6.

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Hydrodistilled essential oil and the corresponding headspace volatiles of Bosnian wild growing *Thymus praecox* ssp. *polytrichus* (A. Kern. Ex Borbàs) Jalas and *Thymus praecox* ssp. *skorpilii* (Velen.) Jalas were subjected to capillary GC-MS analysis. This work presents a detailed essential oil analysis of these two rare *Thymus* subspecies from Bosnia, as well as the very first report on their headspace composition. Eighty-seven volatile constituents were identified in four samples. Two alcohols were the major constituents in the essential oil of *T. praecox* ssp. *polytrichus*, a monoterpene, linalool (13.9%), and a sesquiterpene, (E)-nerolidol (10.4%), while linalyl acetate (36.7%) and linalool (22.7%) were the most abundant volatiles in the corresponding headspace sample. Oxygenated monoterpenes (57.5%) predominate in the essential oil of *T. praecox* ssp. *skorpilii* with linalyl acetate (28.7%) and linalool (14.4%) as the main representatives. Headspace sample of this subspecies also showed richness in linalyl acetate (52.4%), while the second most abundant compound was alpha-pinene (14.5%), a monoterpene hydrocarbon.

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Adenoid cystic carcinoma of the breast is a rare subtype of breast cancer with basal-like features. Published studies on breast adenoid cystic carcinoma are limited, resulting in relatively scarce information on the value of predictive tumor markers. We studied

20 primary cases of adenoid cystic carcinoma of the breast for expression of estrogen receptor, progesterone receptor, androgen receptor, epidermal growth factor receptor, HER-2/neu, and topoisomerase II α using immunohistochemistry and fluorescent in situ hybridization methods. Estrogen and progesterone receptor expression were detected in 1 case each. All tumors were uniformly negative for Her-2/neu expression. Androgen receptor and topoisomerase II α expression were weakly positive in three cases and 7 cases, respectively. Epidermal growth factor receptor overexpression was detected in 13 cases (65% of all cases). Amplification of TOP2A or HER-2/neu gene was not detected in any of the cases. Our study shows that the majority of adenoid cystic carcinomas of the breast do not overexpress Her-2/neu, topoisomerase II α , or estrogen receptor, and thus, they are unlikely to respond to therapies targeting these proteins. However, these tumors frequently over-express epidermal growth factor receptor, indicating a potential benefit from anti-epidermal growth factor receptor therapy for patients with advanced adenoid cystic carcinomas of the breast.

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25. Zerem E, Imamović G, Omerović S, Ljuca F, Haračić B. Percutaneous treatment for

symptomatic pancreatic pseudocysts: Long-term results in a single center. Eur J Intern Med. 2010 Oct;21(5):393-7. Epub 2010 Jul 24.

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PURPOSE: The aim of the study was to present and evaluate the long-term results of percutaneous catheter drainage (PCD) in the treatment of symptomatic pancreatic pseudocysts (PPC). **METHODS:** We performed a retrospective analysis of 128 patients with 140 PPC treated by PCD from 01/01/1989 to 12/31/2008. All procedures were performed under ultrasound control. Surgical treatment was planned only in patients with failed PCD. The patients were followed up monthly with sonography for 12 months. The primary outcome was conversion rate to surgery. Secondary outcomes were disappearance of PPC, requirement for additional treatment, length of hospital stay, and catheter dwell time. **RESULTS:** During the follow-up, 42 of the 140 cysts (30%) recurred. 19/42 cysts were small and they were followed up without intervention and 23/42 cysts required further intervention. These patients were offered a second attempt but 5 patients declined it and they chose to undergo surgery. The remaining 18 patients underwent second PCD and 10 of them developed recurrence. All of them underwent third PCD and 6 of the 10 patients developed recurrences. Four and 2 of them necessitated surgery and follow-up, respectively. In total, 9 of the 128 patients (7%) underwent surgery during the study period. Medians (interquartile ranges) of hospital stay and catheter dwell time were 19 (14-23) and 23 (15-43) days, respectively. There were no complications related to the procedure. **CONCLUSION:** PCD is a safe and effective management for PPC, with low recurrence rates and complication rate and it can eliminate the need for surgery in majority of patients with PPC.

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