

scores MMSE, FAB, ADAS-cog and between IL-23 and the scores MoCA, FAB and ADAS-cog.

**Conclusions:** Proinflammatory cytokines (such as IL-17 and IL-23) have been associated with cognitive impairment. However, the complicated relationships of the two cytokines with the pathogenesis of AD need to be further investigated in the future.

**Disclosure:** No significant relationships.

**Keywords:** Alzheimer's disease; inflammation; interleukin; neurocognitive scales.

## EPV0335

### The impact of the environment and parental education on the emotional state of adolescents

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**Introduction:** Its basic object of study is the understanding of the individual and the group, Scientific direction in the study of behavior is an important feature of psychiatry.

**Objectives:** Adolescence is a stage of physical and mental development of human, usually listed between the stage of childhood and legal maturity. in the middle aged 13 and 18 years the sexual way begins.

**Methods:** Education is the primary category of pedagogical theory, which includes the concepts of education and teaching. Physical education is a subject taught in school to train students physically, to enable them to work and to defend themselves. The totality of spiritual, mental and physical qualities or qualities of family and society and learning and working.

**Results:** By taking preventive measures to close educational institutions against the spread of the covid virus 19, it has affected the education system of students, teachers and parents because it has been physically disconnected from learning and has gone virtually ONLINE, where it has been a form of home isolation.

**Conclusions:** Parenting is a constant concern for our entire society today, for child and adolescent psychiatry specialists and education experts, especially for all young parents.

**Disclosure:** No significant relationships.

**Keyword:** beli

## EPV0336

### Protective role of lipoic acid in the prevention of oxidative stress caused by cadmium in the vascular endothelium of rats

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**Introduction:** Acute and chronic exposure to cadmium (Cd), due to its increased use and application in the industry, can result in the

development of atherosclerosis, the occurrence of cardiomyopathy, cerebrovascular stroke, as well as carcinogenesis in some organs. The target for cadmium action is thought to be the vascular endothelium.

**Objectives:** The aim of this study is to investigate the occurrence of oxidative stress on blood vessel endothelium induced by subacute administration of cadmium, as well as the protective power of alpha-lipoic acid ( $\alpha$ -LA) supplementation on the Wistar strain albino rat model system.

**Methods:** After anesthesia of rats in the vivarium of the Scientific Research Center for Biomedicine, Faculty of Medicine in Niš, blood was collected by cardiac puncture and sent to the Clinic of Nephrology, Clinical Center in Niš, Serbia for determination of hematological parameters.

**Results:** According to the results of this study, it can be seen that the number of granulocytes is reduced due to cadmium intoxication, which is probably induced by the migration of neutrophils into tissues. The number of lymphocytes was increased due to subacute cadmium intoxication compared to the control group of animals. The positive efficacy of  $\alpha$ -LA supplements in combating the adverse effects of cadmium on blood vessels is also confirmed.

**Conclusions:** Cadmium administration is thought to cause a systemic inflammatory reaction due to the formation of free radicals in the blood vessel endothelium. Administration of  $\alpha$ -LA supplement confirms that it can be used as an antioxidant in the clinical management of many diseases and also in cadmium intoxication.

**Disclosure:** No significant relationships.

**Keywords:** cadmium; blood vessel; antioxidant; oxidative stress; alpha-lipoic acid

## EPV0337

### Glutathione as a powerful antioxidant in oxidative stress in the brain tissue of rats caused by the pathophysiological action of copper

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**Introduction:** Due to increased human activity, the amount of copper in air, soil and water has increased. Copper, at minimum concentrations, is essential for the normal functioning of the organism (cellular respiration, hemoglobin formation, growth and reproduction). At higher concentrations, copper is deposited in the liver, brain tissue, and bone marrow.

**Objectives:** To investigate the protective role of the supplement, glutathione (GSH), the S-donor ligand, in conditions of chronic copper intoxication via the parameters of oxidative stress, ie. Alkaline and acidic DNase values in brain tissue in albino rats of Wistar strain.

**Methods:** The model system for testing the effects of copper exposure and the protective effect of GSH was a study on female albino rats of Wistar strain, stored in the vivarium of the Scientific Research Center for Biomedicine, Faculty of Medicine, Niš, Serbia.

Endonucleases, alkaline and acidic DNase activities were determined spectrophotometrically from homogenates of brain tissue.

**Results:** Copper is believed to be a likely cause of oxidative damage to the DNA molecule, as manifested by increased alkaline and acidic DNase activity. The results of this study show that GSH is a potent chelator that binds copper and enables its elimination from the body.

**Conclusions:** In this experiment, the beneficial role of GSH supplements, which has an antioxidant character, in the prevention and reduction of the adverse effects of chronic copper intoxication was demonstrated. In this way, GSH acts as a powerful protector and antioxidant.

**Disclosure:** No significant relationships.

**Keywords:** DNase; Copper; Brain of rats; glutathione

### EPV0338

#### Investigation of the glucocorticoid receptor co-chaperone FKBP5 in individuals with first-episode psychosis

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**Introduction:** Stress has been associated with the onset and progression of neuropsychiatric conditions. The neuroendocrine response to psychosocial stressors is mediated via the hypothalamus-pituitary-adrenal axis, resulting in systemic glucocorticoid secretion. FKBP5 is a co-chaperone of the cortisol-bound glucocorticoid receptor. FKBP5 Single Nucleotide Polymorphisms (SNPs) may indicate stress-response alterations, thus affecting vulnerability or resilience to neuropsychiatric phenotypes.

**Objectives:** To investigate the FKBP5 polymorphism rs1360780 and FKBP5 mRNA levels in a well-characterized, drug-naïve sample of First-Episode Psychosis (FEP) individuals and matched controls.

**Methods:** For genotyping rs1360780, whole blood DNA was extracted from FEP individuals and matched controls. The presence of the C (protective)→T (risk) alleles was assessed using TaqMan SNP genotyping assay. Peripheral Blood Mononuclear Cells (PBMCs) were isolated and whole RNA was extracted. FKBP5 mRNA levels were detected with RT-qPCR, using SYBRgreen. Results were normalized against the 18s rRNA reference gene. Statistical analysis was performed in GraphPad Prism 8.

**Results:** The distribution of C→T alleles of rs1360780 genotyped in FEP (N=44) and controls (N=39) indicate a statistically significant prevalence of the C/C alleles in FEP individuals (\*p=0.0432). mRNA FKBP5 data revealed increased levels of FKBP5 in FEP individuals (N=25) compared to controls (N=18), (\*\*p=0.0007).

**Conclusions:** Our data show increased FKBP5 mRNA levels in FEP individuals compared to matched controls, as well as the presence of the rs1360780 protective (C) allele. Follow up studies include investigation of the translational profile of stress-mediators, in

order to pave an individualized approach towards deciphering psychosis onset pathobiology.

**Disclosure:** No significant relationships.

**Keywords:** glucocorticoids; FKBP5; stress; First episode psychosis

### EPV0339

#### The psychiatric phenotype of 15q11.2-q13.3 duplications

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**Introduction:** 15q11.2-q13.3 region is prone to genomic rearrangements leading to both deletions and duplications. A wide spectrum of neuropsychiatric conditions, such as developmental delay/intellectual disability (DD/ID), autism, attention-deficit hyperactivity disorder, schizophrenia, epilepsy was reported in association with genomic imbalances of this region.

**Objectives:** In this paper we report on 9 children carrying 15q11.2-q13.3 duplications.

**Methods:** Seven boys and two girls, aged 15 months to 15 years, were included in the study. Genomic investigations were carried out by array-based comparative genomic hybridization (Agilent Technologies). In all patients the psychomotor development, dysmorphic features, neuroimaging and EEG anomalies were assessed. Psychologic and psychiatric evaluation was performed with specific tests.

**Results:** The size of the duplications ranged from 9.65 Mb to 0.38 Mb. All patients presented speech delay. Autistic behavior and muscular hypotonia were detected in 8 out of 9 patients, DD/ID in 6. Two children presented epileptic seizures, in addition 4 other children had EEG anomalies. Facial dysmorphic features were observed in 5 patients. Neuroimaging studies showed anomalies in 4 children. The smallest region of overlap in our patient group harbors CHRNA7 gene, a candidate for the behavioral abnormalities.

**Conclusions:** 15q duplications encompassing CHRNA7 gene were associated with different neuropsychiatric features in our patients. Our results further support the association of 15q duplications with neuropsychiatric phenotypes, with clinical heterogeneity and variable severity, which is yet to be explained. Acknowledgment: The research leading to these results has received funding from the EEA RO NO Grant 2014-2021, the project contract No 6/2019.

**Disclosure:** No significant relationships.

**Keywords:** intellectual disability; autism; 15q11.2-q13.3 duplications; phenotype