210. MONITORING METHOTREXATE-INDUCED LIVER TOXICITY IN JUVENILE IDIOPATHIC ARTHRITIS: NEW PERSPECTIVES

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Introduction. Despite the existing evidence that methotrexate-associated liver toxicity is related to comorbid risk factors and common NSAIDS and steroid therapy use rather than to methotrexate itself, significant research continues in the monitoring of low-dose methotrexate in patients with JIA. The gold standard investigation remains to be liver biopsy with its potential medical risks. However, a number of new evaluation techniques have been developed for this purpose, including transient liver elastography. Moreover, MTHFR genetic susceptibility according to Genome-Wide Association Studies (GWAS) is being involved in most treatment regimen toxicities.
Aim of the study. To appreciate the importance of MTHFR genetic polymorphism and liver elastography screening in children with JIA prior to use of low-dose methotrexate treatment.
Materials and methods. There has been initiated an observational case-control study, involving at least 24 patients using low-dose methotrexate for JIA treatment. All children underwent transient unidimensional liver elastography scanning for estimation of liver toxicity according to EFSUMB pediatric reference values. The statistical evaluation was done through IBM SPSS 22 Software.
Results. The study sample included 40 children aged between 2 and 18 years. There has been determined 6 (15%) cases of combined 677C/T and 1298A/C heterozygote significant mutation, 6 (15%) cases of 677T/T significant homozygotes and 28 (70%) cases of non-significant MTHFR polymorphisms. Children without significant MTHFR polymorphisms had a 67,8% rate of increased liver stiffness and a moderate to low disease activity in the first 148,8 weeks of low-dose methotrexate use (95% CI 2.0-4.2, p=0,00012). In the significant mutation groups, a 41,6% cases resulted in normal liver stiffness values after 6 months of low-dose methotrexate monotherapy use as well as low response with high disease activity according to DAS28 (95% CI 3,6-6.1, p=0,00026).
Conclusions. The value of MTHFR genetic screening and liver stiffness evaluation is well proved in children with low-dose methotrexate JIA treatment. The significant mutations could lead to 4-fold risk of high disease activity and normal liver stiffness despite the appropriate treatment regimen.
Key words: MTHFR, methotrexate, JIA, children, elastography

211. ETIOLOGY OF SEIZURES IN CHILDREN

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Introduction. Seizures in children are the most common neurological manifestations. 0,5-1% of children in the USA and Europe have occasional seizures, caused by metabolic or

neurological disorders, more commonly in the neonatal period. In the Republic of Moldova, the incidence of neonatal seizures varies from 0,2-2,7 per 1000 live births and 57,5-132 per 1000 preterm infants.

Aim of the study. Studying the multi-factorial etiology of seizures in children, in order to highlight the most common causes that lead to their onset. Analyse the particularities of the complaints, according to the cause, the age of the child, the severity in order to highlight the most common ones, to find what is common in these patients.

Materials and methods. The study includes 100 randomly selected patients admitted to the pediatric neurology department of the IMSP ICM (Public Medical Sanitary Institution Scientific Research Institute of Mother and Child Health Care) during the years 2017-2018. 39 girls and 61 boys aged 0-18 were analyzed. The research was based on the clinical examination of the patients and on the results of laboratory and instrumental investigations.

Results. Seizures were distributed by age as follows: 55% in children up to 3 years old, followed by a decrease in frequency up to 18 years, given that in the first years of life the immune system is immature, thus children are more susceptible to infections. In the study group, more frequent fever seizures occurred in the case of intercurrent illnesses (Acute viral respiratory infection, pneumonia-87,5% in children with chest X-ray). Among the complaints at hospitalization were: 18%- headache, 17%- tonic-clonic seizures, 11%-dizziness. Doppler ultrasound of the master vessels was performed at 13%, of which 69,2% were modified: 33,34% venous congestion and 22,22% was due to the slightly diminished flow on the right vertebral artery. CT was performed in 20% of children with changes in 45%, of which 28,57% is hydrocephalus, due to head trauma, brain malformations, meningitis or other infections in the brain. The electroencephalogram was performed in 87%, in 57,5% changes were detected, of which 33,37%- moderate changes in the brain's bioelectrical activity, and in 17,5%- isolated epileptiform K-complexes.

Conclusions. Sezures in children are a medical emergency. Following the study, I can say that 29% of children had seizures due to TORCH, bacterial, viral infections, 21%- due to hypoxic-ischemic and hypoxic-traumatic encephalopathy, 9%-metabolic causes, 2%- cerebral abnormalities, and the rest 39%- other causes.

Key words: Seizures, children.

212. LEFT VENTRICULAR HYPERTROPHY IN PEDIATRIC HYPERTENSION

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Introduction. Left ventricular hypertrophy (LVH) is the most commonly assessed target organ effect of hypertension (HTN) among children and adolescents. Left ventricular hypertrophy is an independent predictor of cardiovascular morbidity and mortality in children. Prevention or regression of left ventricle (LV) geometric changes with blood pressure control is an effective way of decreasing future adverse cardiovascular disease outcomes in patients with HTN.

Aim of the study. The purpose is to provide background on the importance of LVH in children with HTN, to assess frequency of LVH and determine the correlation between cardiac index of left ventricular mass (LVM) and body mass index (BMI), simpatoadrenale system activity and blood pressure variability.