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