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Results of HLA-DR typing and autoantibody response in juvenile multiple sclerosis in Kazakhstan population

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Aim: The aim of the study was to analyze HLA genotype associations and myelin antibodies level in children with acute onset of multiple sclerosis in Kazakhstan population.

Materials & Methods: 19 children (11 females and 8 males) with the first demyelination onset confirmed by MRI aged from 4 to 18 years old were selected for further HLA genotyping, specifically DRB1, DQA1, DQB1 (locus 6p21). Ethnical Kazakh was 11 children, Russian – 8 children. The data were normalized to the HLA expression levels of healthy of Kazakh (Asians) and Russian (Europeans) populations.

Results: Clinically, 4/19 had Shilder leucoencephalitis, 15/19 multiple sclerosis (MS), including 6 cases with clinically isolated syndrome (4 - opticoneuritis and 2 - ataxia). MRI showed T-2 active lesions in 19 and Gd+ lesions in 9 patients. HLA genotyping showed DRB1*1501, DQA1*0102, DQB1*0602 haplotype prevalence in 11/19 children including homozygotic girls, or 13 from 38 alleles group (34,2%). Among 11 carriers of this HLA haplotype: 9/11 children were diagnosed with MS (9 girls and 2 boy), 2/11 – 1 girl and 1 boy - had leucoencephalitis. This haplotype was detected in 5/11 of Russian children, including one homozygous 2 girls and 6 /11 of Kazakh children, who were heterozygous for this haplotype. Relative risk for MS spectrum disorders in comparison with normal healthy population in Kazakh was 7,7 in Russians -3,2. Serum anti-MOG Ab was in average 10-times higher than normal level, anti-MBP Ab was 4 times higher than normal.

Conclusion: DRB1*1501, DQA1*0102, DQB1*0602 was a prevalent haplotype in children of Kazakhstan with the first MS, especially in females. This risk is 2 times higher in Kazakh versus Russian. The most valuable serum markers of demyelination is anti-MOG Ab.

Biography

Z R Idrissova is Head of Department of Neurology at Institute for Postgrad education at Kazak National Medical university since October 2012. She also worked as Professor of Department of Neurology at S D Asfendiyarov. She has published more than 5 papers.

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