IMMUNE ACTIVITY IS ALTERED IN AUTISM SPECTRUM DISORDER

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Autism spectrum disorder (ASD) is a common and severe neurodevelopmental disorder in early childhood characterized by social and communication deficits and repetitive and stereotypic behaviours. Recent research is focused on the immune dysregulation in ASD as a potential pathomechanism leading to the rapid development of ASD. Thus, we addressed the hypothesis that cytokine profiles are impaired in children suffering from ASD. Methods: We have examined 15 children with ASD (13 boys, age: 10.8±1.3 yr) and 14 age/gender-matched healthy subjects as a control grop. All children were medication free and in good health at time of blood draw. For each subject peripheral blood was collected to EDTA tubes in the fasting state. The plasma levels of the proinflammatory cytokines tumor necrosis alpha (TNF-α), interleukine 1ß (IL-1ß), and interleukine 8 (IL-8) were determined using human ultra-sensitive ELISA kits. In addition, TBARS as a marker of oxidative stress were evaluated Results: In ASD group, plasma levels of IL-8 was significantly higher compared to controls (p=0.012). The differences in the plasma concentrations of IL-1ß, TNF-α, and TBARS were without significant differences between groups. Conclusion: Our study revealed different cytokine profile in ASD group compared to controls indicating potential discrete immune abnormalities in children suffering from autism spectrum disorders. The characterization of inflammatory parameters in ASD has important implications for diagnosis, and understanding of potential pathomechanisms leading to autism spectrum disorders. Support: VEGA 1/0087/14, APVV-0254-11, BioMed (ITMS: 26220220187).