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## Poster Presentation

# Serological Changes of Cytokines, in Diagnosing and Treatment Children with Autism

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***Abstract***

Autism is a severe neurodevelopmental disorder that characterized by abnormal bilateral social interaction, deficiency in verbal and nonverbal communication, restricted interests and repetitive behaviors .autism caused by the inappropriate immune response which released several cytokines. One of the most important and main causes of autism is a defect in, the formation of the neuronal synaptic circuit. IL6 acts in this circuit. Autistic children have increased IL6 serum and CNS level. This additional IL6 made by excess activity of neuroglia or CNS resident cells or maternal IL6. In autistic cases, CNS IL6 level in frontal cortex and cerebellum is high which lead to increased brain ventricles volume, anatomical and functional changes. In the animal model of autism, BTBR mice, inhibition of IL6 trans-signaling increased active glutamate release in synaptic space that improves communicational behaviors. TH17 cells are one of the main sources for IL6, that activated by IL23and produce IL17. IL17 is to produce IL6 and TNFα. Elevation of IL6 serum level caused asthma, which is one of the disorders of autistic children. Decreased Extracellular density of IL2, IL15 and Glutathione is observed in autism, lead to decrease activity and performance NK cells. Finding that has been observed in 45% of cases. To investigate the association of cytokine changes behaviors in autism, the Autism Diagnostic Interview (ADR) was used. ADI results suggest that elevation serum level of IL-1β, IL12 and IFNγ causes repetitive behaviors, whereas increase IL-6 to IL-10 ratio, lead to social behaviors and interactions impaired. As a result, an increase in inflammatory cytokines causes more severe behavioral disorders. Autism immunotherapy: decrease the production of IL6 by use of Anti IL23 or inhibition brain IL6 trans-signaling.

***Keywords:*** Autism, Cytokines, Serum level, IL6

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