P-253 - HEAVY METALS AND AND TRACE ELEMENTS IN HAIR AND URINE OF A SAMPLE OF ARAB CHILDREN WITH AUTISTIC SPECTRUM DISORDER

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Autism is a severe developmental disorder which involves social withdrawal, communication deficits, and stereotypic/repetitive behaviour. One environmental factor is the body burden of mercury, lead and other toxic metals.Exposure to environmental risk factors may affect the body concentration of both heavy metals and trace elements contributing to the genesis of autistic spectrum disorder.

Purpose: Is to examine possible environmental risk factors in children with autism spectrum disorder versus controls. Also, to assess the levels of trace elements and heavy metals in hair and urine in both autistic and control groups.

Methodology: The participants were 25 Autistic Spectrum Disorder (ASD) Saudi children (3-9 years) according to DSM IV criteria.

A control group of 25 children was age and sex-matched. All autistic children were subjected to a parental semi-structured psychiatricl interview. The severity of autistic symptomatology was measured by the Childhood Autism Rating Scale (CARS) and Autism Behavior Checklist (ABC). Both groups were subjected to the Questionnaire on Exposure to Heavy Metals, Physical Symptoms, and Child Development. Hair and baseline urine samples were taken from both groups and sent to the Micro Trace Minerals Gmbh, Germany.

Results: By comparing the ASD Group to the Control Group, we found a statistically significant difference in the mean hair levels of arsenic, cadmium, barium, cerium, lead, magnesium and zinc.

There were also statistically significant differences in the mean urine levels of Aluminum, Barium, Cerium, Mercury, and Lead, Copper and Germanium.

An agreement was found in both specimen (hair and urine) for barium and lead.