

Efficacy of DMSA Therapy in a Sample of Arab Children with Autistic Spectrum Disorder

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ABSTRACT

Objective: the aim of this study was to provide evidence that DMSA detoxification treatments cause a reduction of the heavy metal burden in the autistic, and that this reduction lessens neurological symptoms associated with ASD (Autistic Spectrum Disorder).

Method: The participants were 44 children, age 3 to 9 years of age, with Autistic Spectrum Disorder (ASD) according to Diagnostic and Statistical Manual of Mental Disorders 4th Edition, (DMS-IV). The severity of the autistics symptomatology had been measured by the Childhood Autism Rating Scale (SCARS). We collected urine samples before and after the DMSA challenge test, comparing urine metal output. We also compared the results of the DMSA detoxification (=the urine challenge test) with behavioral effects, typical for ASD.

Results: The DMSA challenge test increased the urine metal output for a number of potentially toxic metals. Statistically significant difference were noted between the baseline urine and DMSA challenge test regarding the level of cadmium, mercury, and lead ($P=0.006$, $P=0.049$, and $P=0.008$ respectively). We also noted that behavioral effects, typical for ASD (autism spectrum disorders) were reduced with this method of detoxification. A comparison between CARS Subscales and Total Score before and after a 6-month chelation program showed greatest improvements for Verbal and nonverbal communication ($P < 0.001$), Taste, Smell and Touch ($P 0.001$) and Relating to People ($P 0.005$). Other improvements were noted for Adaptation to Change and Improvement.

Conclusion: DMSA chelation increased the urinary output of toxic and neurotoxic metals. Our data supports evidence that detoxification treatment with oral DMSA has beneficial effect on ASD patients.

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