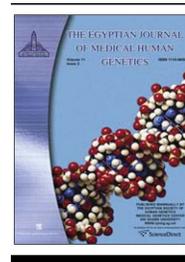




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ORIGINAL ARTICLE

## Hair mercury measurement in Egyptian autistic children

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### KEYWORDS

Autism;  
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**Abstract** *Background:* A review of medical literature has shown that exposure to mercury, whether organic or inorganic, can give rise to the symptoms and traits defining or commonly found in autism spectrum disorders (ASD). Mercury can cause impairments in social interaction, communication difficulties, and repetitive and stereotyped patterns of behavior, which comprise the three DSM-IV diagnostic criteria of autism. The aim of this work was to measure the concentration of total mercury trace elements in the hair of some Egyptian autistic children and to correlate these levels with severity of the disease.

*Methods:* Thirty-two patients diagnosed by DSM-IV-TR criteria (diagnostic and statistical manual of mental disorders, 4th edition criteria, text revised) were subjected to hair mercury measurement using Atomic Absorption Spectrometry (AAS) and were compared to hair mercury measurement of fifteen, age and sex matched healthy children.

*Results:* Results revealed a highly significant increase in the mean hair mercury level in autistic patients than the control group ( $0.79 \pm 0.51$  vs  $0.12 \pm 0.086$  ppm) respectively, ( $P < 0.001$ ). There was a significant increase of mercury level in autistic children who received routine and additional vaccines, and there was mild yet not significant increase in mercury level in patients with maternal history of dental amalgam and high fish consumption during pregnancy and also in autistic children whose mother received anti-D.

*Conclusion:* There was a higher concentration of mercury levels in the hair of children with autism as compared to the age and sex matched healthy controls. Hair analysis is of potential usefulness for determination of mercury level and offering a chance for intervention to treat by chelation therapy.

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