

Abstract

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The plasma zinc/serum copper ratio as a biomarker in children with autism spectrum disorders.

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OBJECTIVE: The frequency of zinc deficiency, copper toxicity and low zinc/copper in children with autism spectrum disorders (ASDs) may indicate decrement in metallothionein system functioning.

METHODS: A retrospective review of plasma zinc, serum copper and zinc/copper was performed on data from 230 children with autistic disorder, pervasive developmental disorder-NOS and Asperger's syndrome.

RESULTS: The entire cohort's mean zinc level was 77.2 mug dl(-1), mean copper level was 131.5 mug dl(-1), and mean Zn/Cu was 0.608, which was below the 0.7 cut-off of the lowest 2.5% of healthy children.

CONCLUSION: The plasma zinc/serum copper ratio may be a biomarker of heavy metal, particularly mercury, toxicity in children with ASDs.

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