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Iodine deficiency in egyptian autistic children and their mothers: relation to disease severity.

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BACKGROUND AND AIMS: Because autism may be a disease of early fetal brain development, maternal hypothyroxinemia (HT) in early pregnancy secondary to iodine deficiency (ID) may be related to etiology of autism. The aim of the study was to assess the iodine nutritional status in Egyptian autistic children and their mothers and its relationship with disease characteristics.
METHODS: Fifty autistic children and their mothers were studied in comparison to 50 controls. All subjects were subjected to clinical evaluation, measurement of urinary iodine (UI), free triiodothyronine (fT3), free tetraiodothyronine (fT4) and thyroid-stimulating hormone (TSH) along with measurement of thyroid volume (TV). In addition, electroencephalography (EEG) and intelligence quotient (IQ) assessment were done for all autistic children.
RESULTS: Of autistic children and their mothers, 54% and 58%, respectively, were iodine deficient. None of the control children or their mothers was iodine deficient. UI was lower among autistic patients ($p < 0.001$) and their mothers ($p < 0.001$). Childhood Autism Rating Scale (CARS) score correlated negatively with UI ($r = -0.94$, $p < 0.001$). Positive correlations were detected between autistic patients and their mothers regarding UI ($r = 0.88$, $p < 0.001$), fT3 ($r = 0.79$, $p = 0.03$), fT4 ($r = 0.91$, $p < 0.001$) and TSH ($r = 0.69$, $p = 0.04$). Autism had a significant risk for association with each of low UI (OR: 9.5, 95% CI: 2.15-33.8, $p = 0.02$) and intake of noniodized salt (OR: 6.82, 95% CI = 1.36-34.27, $p = 0.031$).
CONCLUSIONS: ID is prevalent in Egyptian autistic children and their mothers and was inversely related to disease severity and could be related to its etiology.

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