

Abstract

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Reduced serum levels of 25-hydroxy and 1,25-dihydroxy vitamin D in Egyptian children with autism.

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OBJECTIVE: The aim of this study was to investigate the potential role of vitamin D in autism through serum level assessment.

DESIGN: This was a case-controlled cross-sectional study.

SETTING: The study was conducted at the Out-patient Clinic for "Children with Special Needs" at the Medical Services Unit of the National Research Centre in Cairo, Egypt.

SUBJECTS: Seventy (70) children with autism diagnosed according to the DSM-IV criteria of the American Psychiatric Association were recruited for this study. The mean age +/- standard deviation (SD) of the patients was 5.3 +/- 2.8 years. Controls included 42 age-matched randomly selected healthy children of the same socioeconomic status (mean age +/- SD, 6.1 +/- 1.8 years).

METHODS: Circulating levels of both forms of vitamin D (25(OH)D and 1,25(OH)(2)D) and serum calcium were measured for all subjects. Associations between vitamin D status, birth season, and clinical characteristics of autism were examined.

RESULTS: Children with autism had significantly lower 25(OH)D ($p < 0.00001$) and 1,25(OH)(2)D ($p < 0.005$) as well as lower calcium ($p < 0.0001$) serum values than the controls. A significant positive correlation was obtained between 25(OH)D and calcium (correlation coefficient $r = 0.309$, $p < 0.01$) within the children with autism. No significant difference was found on comparison of birth month and season of birth between children with autism and healthy controls. Furthermore, associations linking parental consanguinity or convulsions with vitamin D could not be established.

CONCLUSIONS: Serum values of 25(OH)D in the children with autism of this study could classify them as being "vitamin D inadequate," which lends support to the hypothesis that autism is a vitamin D deficiency disorder.

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