Core symptoms of autism improved after vitamin D supplementation.


Abstract

Autism spectrum disorder (ASD) is a common neurodevelopmental disorder caused by a complex interaction between genetic and environmental risk factors. Among the environmental factors, vitamin D3 (cholecaliferol) seems to play a significant role in the etiology of ASD because this vitamin is important for brain development. Lower concentrations of vitamin D3 may lead to increased brain size, altered brain shape, and enlarged ventricles, which have been observed in patients with ASD. Vitamin D3 is converted into 25-hydroxyvitamin D3 in the liver. Higher serum concentrations of this steroid may reduce the risk of autism. Importantly, children with ASD are at an increased risk of vitamin D deficiency, possibly due to environmental factors. It has also been suggested that vitamin D3 deficiency may cause ASD symptoms. Here, we report on a 32-month-old boy with ASD and vitamin D3 deficiency. His core symptoms of autism improved significantly after vitamin D3 supplementation. This case suggests that vitamin D3 may play an important role in the etiology of ASD, stressing the importance of clinical assessment of vitamin D3 deficiency and the need for vitamin D3 supplementation in case of deficiency.

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KEYWORDS: autism spectrum disorders; brain development; children; treatment; vitamin D

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