Nutritional Aspects of Autism Spectrum Disorder – Case Study of the Role of Folate

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Abstract

Autism Spectrum Disorder (ASD) is a developmental disability that can create significant behavioral and communication challenges. The prevalence of ASD among children at 8 years of age is approximately 2%, and the prevalence is similar across ethnic groups and countries. Studies have shown that the majority of ASD children develop autoantibodies to the high-affinity folate receptor in response to a dietary component. This Folate Receptor Antibody (FRA) blocks transport of folate across the Blood-Brain Barrier (BBB), resulting in a Cerebral Folate Deficiency (CFD). In clinical trials, these ASD children showed improvement in communication when placed on a daily supplement of folate in its reduced form, which can enter the brain via low-affinity transport.

Here, we report that nutritional modification combined with psychotherapy in ASD children can partially overcome this CFD, reducing ASD symptoms. Our study indicates that nutritional treatment of CFD with reduced folate in children at the earliest stages may be most productive in limiting long-term ASD symptoms.

Keywords

ASD, Folate, Autism, Clinical.