

Prevalence of Positive Serology for Celiac Disease in Children With Autism Spectrum Disorder

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Abstract : Background: Gastrointestinal dysfunction is an emerging co morbidity seen in autism and may further strengthen the association between autism and celiac disease. This is supported by increased rates (22-70%) of gastrointestinal symptoms like diarrhea, constipation, abdominal discomfort/pain, and gastrointestinal inflammation in children with the etiology of autism is still elusive. In addition to genetic factors, environmental factors such as toxin exposure, intrauterine exposure to certain teratogenic drugs, are being proposed as possible contributing factors in the etiology of Autism Spectrum Disorders (ASD) in cognizance with reports of increased gut permeability and high rates of gastrointestinal symptoms noted in children with ASD, celiac disease has also been proposed as a possible etiological factor. Despite insufficient evidence regarding the benefit of restricted diets in Autism, GFD has been promoted as an alternative treatment for ASD. This study attempts to discern any correlation between ASD and celiac disease. Objective: This cross sectional study aims to determine the proportion of celiac disease in children with ASD. Methods: Study included 155 participants aged 2-12 yrs, diagnosed as ASD as per DSM-5 attending the child development center at a tertiary care hospital in Northern India. Those on gluten free diet or having other autoimmune conditions were excluded. A detailed Performa was filled which included sociodemographic details, history of gastrointestinal symptoms, anthropometry, systemic examination, and pertinent psychological testing was done using was assessed using Developmental Profile-3(DP-3) for Developmental Quotient, Childhood Autism Rating Scale-2 (CARS-2) for severity of ASD, Vineland Adaptive Behavior Scales (VABS) for adaptive behavior, Child Behavior Checklist (CBCL) for behavioral problems and BAMBI (Brief Autism Mealtime Behavior Scales) for feeding problems. Screening for celiac was done by TTG-IgA levels, and total serum IgA levels were measured to exclude IgA deficiency. Those with positive screen were further planned for HLA typing and endoscopic biopsy. Results: A total of 155 cases were included, out of which 5 had low IgA levels and were hence excluded from the study. The rest 150 children had TTG levels below the ULN and normal total serum IgA level. History of Gastrointestinal symptoms was present in 51 (34%) cases abdominal pain was the most frequent complaint (16.6%), followed by constipation (12.6%). Diarrhea was seen in 8 %. Gastrointestinal symptoms were significantly more common in children with ASD above 5 yrs (p-value 0.006) and those who were verbal (p = 0.000). There was no significant association between socio-demographic factors, anthropometric data, or severity of autism with gastrointestinal symptoms. Conclusion: None of the 150 patients with ASD had raised TTG levels; hence no association was found between ASD and celiac disease. There is no justification for routine screening for celiac disease in children with ASD. Further studies are warranted to evaluate association of Non Celiac Gluten Sensitivity with ASD and any role of gluten-free diet in such patients.

Keywords : autism, celiac, gastrointestinal, gluten

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