J Pediatr. 2017 Sep;188:240-244. doi: 10.1016/j.jpeds.2017.04.004. Epub 2017 May 11.

Increased Serum Zonulin Levels as an Intestinal Permeability Marker in Autistic Subjects.

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Abstract

OBJECTIVE: To evaluate the serum levels of zonulin, which regulates tight junctions between enterocytes and is a physiological modulator controlling intestinal permeability, in patients with autism spectrum disorders (ASDs).

STUDY DESIGN: Serum zonulin levels were determined in 32 patients with ASD and 33 healthy controls using an enzyme-linked immunosorbent assay. The severity of ASD symptoms was assessed with the Childhood Autism Rating Scale.

RESULTS: Serum zonulin levels were significantly higher in the patients with ASD (122.3 ± 98.46 ng/mL) compared with the healthy controls (41.89 ± 45.83 ng/mL). There was a positive correlation between zonulin levels and Childhood Autism Rating Scale score when all subjects were assessed ($r = 0.523$; $P < .001$).

CONCLUSIONS: This study suggests that zonulin, which regulates intestinal permeability, plays a role in the development of symptoms of ASD.

KEYWORDS: GI-brain interaction; autism spectrum disorder; gastrointestinal system; intestinal permeability; tight junctions; zonulin

PMID: 28502607 DOI: 10.1016/j.jpeds.2017.04.004