

# Gastro-Intestinal Symptoms and Autism Spectrum Disorder: A Potential Link [Response to Letter]

Eric D Shah 

Section of Gastroenterology and  
Hepatology, Dartmouth-Hitchcock  
Health, Lebanon, NH, USA

## Dear editor

Recognizing that our list of conditions associated with disorders of gut-brain interaction (DGBI) is not inclusive, we thank Drs. Mir, Sahito, and Ullah for considering associations between autism spectrum disorders (ASD) and DGBI.<sup>1</sup> On one hand, DGBI are incredibly common (comprising up to 40% of the general population).<sup>2</sup> Whether associations are truly causal or an epiphenomenon can be challenging to distinguish in research settings, and thus the implications of associations on direct clinical care in current practice must be approached with caution in an evidence-based manner.<sup>3</sup> Yet it is important to recognize that this does not detract from the importance of appropriately managing each condition or from the need to seek new evidence in research settings. For ASD in particular, the conceptual overlap between pathophysiological constructs across both sets of conditions is significant and thus remains an active and rapidly growing area of ongoing research in recent years.

Our understanding of DGBIs more broadly now involves complex interrelated mechanisms within a broader gut-brain-microbiome axis.<sup>4</sup> In ASD, differences in gut microbial diversity and content have been well described in recent years.<sup>5–7</sup> Recent mouse models evaluating transplanted gut microbiota from humans with or without ASD suggests the importance of the gut microbiome and gut-brain in regulating symptoms consistent with DGBIs as well as ASD behaviors.<sup>8</sup> Moving beyond these initial studies, learning how these changes manifest in human health (in a cause-and-effect manner) in prospective studies as well as understanding mechanisms that facilitate these potential effects remain needed—such that treatment for patients affected by ASD and DGBI can be individualized to meet the comprehensive needs of the patient by appropriate specialists for each condition.

## Disclosure

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Correspondence: Eric D Shah  
Center for Gastrointestinal Motility,  
Esophageal, and Swallowing Disorders,  
Section of Gastroenterology and  
Hepatology, Dartmouth-Hitchcock  
Health, One Medical Center Drive,  
Lebanon, NH, 03756, USA  
Tel +1 603 650-5261  
Fax +1 603 727-7925  
Email [eric.d.shah@hitchcock.org](mailto:eric.d.shah@hitchcock.org)

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