

Clinical Image

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An unusual cause of abdominal bloating**Badhe Satyendra^{1*}; Sheth Vrunda²; Bhanushali Shankar¹; Deotale Rahul¹; Tate Ronak¹; Gupta Deepakkumar¹; Sonavane Amey¹; Aabha Nagral³**¹Department of Gastroenterology and Hepatology, Apollo Hospital, Navi Mumbai, India.²Department of Pathology, Apollo Hospital, Navi Mumbai, India.³Department of Gastroenterology and Hepatology, Apollo Hospital, Navi Mumbai, Jaslok Hospital and Research Centre, Mumbai, India.***Corresponding Author: Badhe Satyendra, MBBS**

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Clinical image description

Bloating is a common symptom reported in Gastroenterology clinics. A 37-year old man presented with history of abdominal bloating and increased frequency of stools for two months which was not relieved with pro-kinetic drugs or proton pump inhibitors. His physical examination was unremarkable. Lab tests and abdominal USG were normal. Since his symptoms persisted, he was subjected to an upper GI endoscopy revealing numerous white spots over the duodenal mucosa (Figure 1A), which were biopsied. Pink pear shaped trophozoites of *Giardia lamblia* (arrow) were seen attached to the surface epithelium and in the luminal aspect. Moderate eosinophil rich infiltrate was present in the lamina propria along with mild villous at-

rophy (Figure 1B, Hematoxylin and Eosin staining X 400). The patient was effectively treated with a course of tinidazole.

Giardiasis should be considered in the differential diagnosis in a patient with symptoms of short term dyspepsia especially bloating which is refractory to standard therapy. The parasite attaches itself to the surface epithelial cells in the duodenum and jejunum with the help of its ventral sucking disc [1]. As per previous experimental and clinical observations, malabsorption and hypersecretion during chronic infection are major causes of diarrhea in giardiasis [2]. Arginine, zinc and bile are essential nutrients for *Giardia*, which along with its functional virulence factors such as arginine deiminase, variant surface proteins and cysteine proteases, play a key role in its pathogenesis [3]. This

causes T cell-induced epithelial brush border injury, inflammation and villous atrophy. Consequent microvilli loss, luminal competition for nutrients and decreased villus-to-crypt ratios and translocation of microbiota across the mucosa lead to lactase deficiency, causing carbohydrate malabsorption and symptoms of bloating and flatulence [4,5].

Giardiasis needs to be included in the differential diagnosis of short term symptom of “bloating” and bowel complaints which are unresponsive to symptomatic therapy.

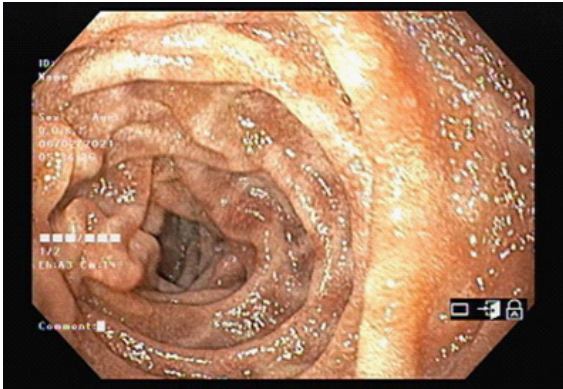


Figure 1A:

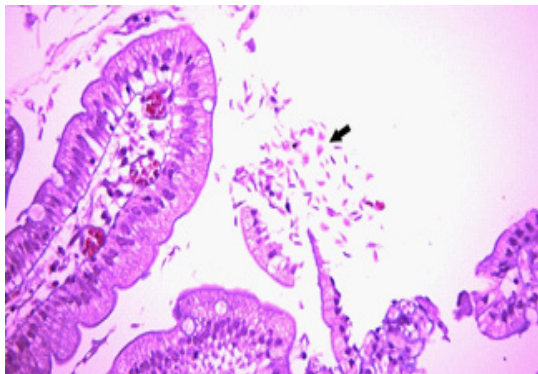


Figure 1B:

Conflict of interest statement: We the authors hereby declare that there is no conflict of interest.

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