

Eosinophilic Gastroenteritis Presenting as Gastric Pneumatosis

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INTRODUCTION

Eosinophilic inflammation of the gastrointestinal tract is a rare disease with an incidence of 22 to 28 per 100,000 persons. More unusual still is its presentation with gastrointestinal pneumatosis. Eosinophilic gastroenteritis (EG) can present with varying symptoms, compounding the difficulty of diagnosis. Generally, patients present with years of gastrointestinal symptoms including growth retardation, failure to thrive, delayed puberty or amenorrhea in children and abdominal pain, diarrhea or dysphagia in adults.¹ Here we describe a case of a male patient, initially diagnosed with mesenteric ischemia, who was later found to meet criteria for eosinophilic gastroenteritis presenting as gastric pneumatosis and colonic pneumatosis, both of which have not previously been described in human adults. He achieved resolution of gastrointestinal symptoms with treatment with prednisone.

Case Presentation

A 76-year-old Caucasian male presented to our hospital with acute abdominal pain, nausea and vomiting of three to five days duration. He carried a recent history of right hemicolectomy for intestinal pneumatosis thought to be related to ischemic colitis four months prior to

admission. His physical exam was normal except for diffuse abdominal tenderness on palpation. On initial laboratory evaluation, his white blood cell count was 8,500 and hemoglobin 10.5g/dL. The patient had a non-contrast computed tomography (CT) of the abdomen and pelvis which demonstrated gastric pneumatosis, portal venous gas in the right and left hepatic lobes, and mesenteric gas in the right upper quadrant that was not seen on a CT scan nine days earlier.

Non-surgical management was pursued, though the patient continued to have symptoms. Due to the lack of clinical improvement, esophagogastroduodenoscopy (EGD) was performed three days later with findings suggestive of ischemic gastritis involving the gastric fundus and body, and biopsies were obtained from the stomach and duodenum. It was initially thought that chronic mesenteric ischemia was the likely cause of these findings and the patient was treated conservatively. However, pathology showed increased eosinophils in the lamina propria suggestive of eosinophilic gastritis, while staining for *Helicobacter pylori* was negative. Stool studies for ova and parasites returned negative. With these findings, a thorough chart review discovered that the recent hemicolectomy pathology report also revealed increased eosinophils within the submucosa, muscularis propria and serosa consistent with eosinophilic colitis. The patient also had a peripheral eosinophilia at 6.5%. He was treated with intravenous methylprednisolone that was later transitioned to oral

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A CASE REPORT

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prednisone once he was able to tolerate a regular diet. He continued to improve clinically and discharged 12 days after initiation of steroids to an extended care geriatrics facility.

Discussion

Eosinophilic gastroenteritis is an eosinophilic inflammation of the gastrointestinal tract and can have a varied presentation depending on the location and depth of the eosinophilic infiltration. The diagnosis of EG can be difficult and delayed due to the uncommon nature and its varying presentation as well as difficulty in obtaining pathological diagnosis. Most patients with eosinophilic gastroenteritis present with a combination of abdominal pain, vomiting or diarrhea which are not specific to this disease process. The diagnosis of EG is based on four criteria including: presence of gastrointestinal symptoms, eosinophilic infiltration of gastrointestinal tract, exclusion of parasitic disease and absence of other systemic involvement.¹ Gastrointestinal symptoms may be severe in some cases and can differ depending on the site and layer of involvement.² For example, ascites has been reported as the presenting symptom but more common presenting symptoms include diarrhea, weight loss and abdominal pain.³ Eosinophilic gastroenteritis presenting with colonic pneumatosis is previously described in one child with eosinophilic colitis.⁴ Gastric pneumatosis related to eosinophilia is reported in four black and white lemurs in association with eosinophilic gastroenteritis.⁵

Once an index of suspicion has been established, histological evidence of eosinophilic infiltration is necessary to confirm the diagnosis.² Parasitic infection such as *Anisakis simplex* have been reported as a cause of eosinophilic gastroenteritis⁶ supporting the necessity to rule out parasitic infections prior to establishing a diagnosis. Eosinophilic gastroenteritis should be considered in patients with unexplained gastrointestinal symptoms and peripheral eosinophilia,² however peripheral eosinophilia is not always found in eosinophilic gastroenteritis.⁷ Furthermore, its presence as a diagnostic criterion is uncertain.² Treatment for both adults and children consists of corticosteroids, with improvement in symptoms usually seen within two weeks.² Other treatments that have been reported include montelukast, keitofen, sodium cromoglycate and humanized IL-5.⁸⁻¹¹

The finding of gastric pneumatosis can be seen in a

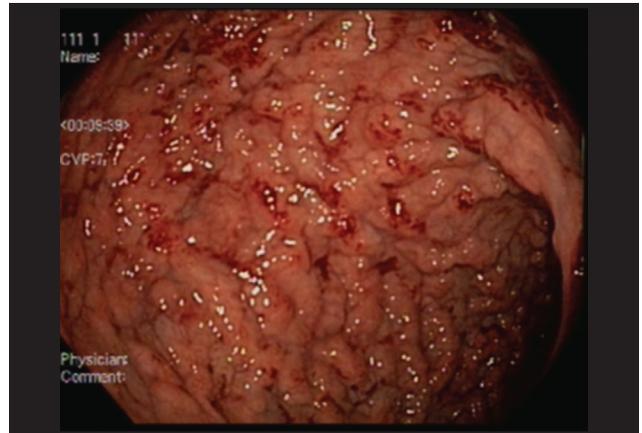


Figure 1. Intestinal pneumatosis on colonoscopy

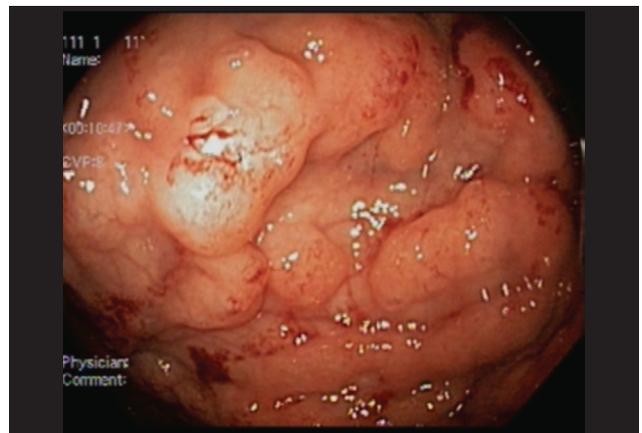


Figure 2. Submucosal blebs in the colon



Figure 3. Gastric pneumatosis on CT

wide range of conditions with some of the most common causes being infection, trauma and medications.¹² As noted above, it has been rarely associated with eosinophilic gastroenteritis.

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