Eosinophilic gastroenteritis and colitis after intragastric balloon placement

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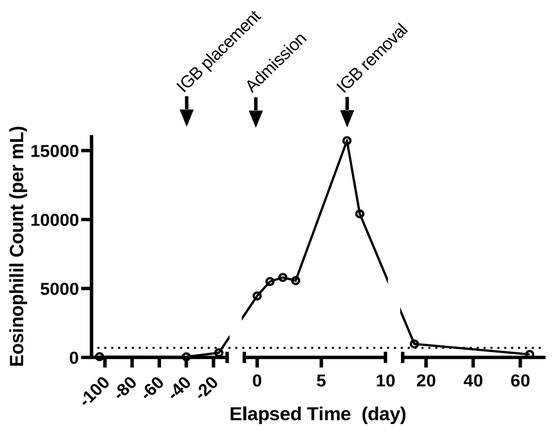
Introduction

- Eosinophilic gastrointestinal diseases (EGIDs) are a group of rare disorders characterized by infiltration of eosinophils in the gastrointestinal tract.[1]
- Intragastric balloon (IGB) has been demonstrated as an effective and safe therapy for weight loss.[2]
- A previously published case study reported development of eosinophilic esophagitis (EoE) following IGB placement.[3]
- No report is seen in the literature that suggests a link between IGB and non-EoE EGIDs.
- We herein report a case of eosinophilic gastroenteritis (EGE) and eosinophilic colitis (EC) with peripheral eosinophilia after IGB placement, in whom rapid improvement and complete resolution of clinical symptoms and peripheral eosinophilia were achieved following IGB removal without additional therapies.

Figure 1. Blood eosinophil count over time. Dotted line represents the upper limit of normal eosinophil count (700/mL).

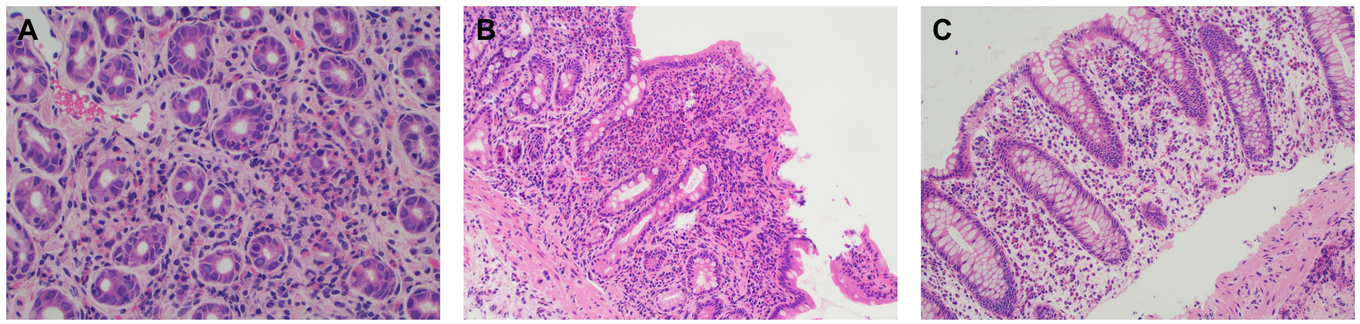


Case Report

- A 61-year-old Caucasian male underwent endoscopic placement of an Orbera® intragastric balloon (Apollo Endosurgery, Austin, TX) for weight reduction.
- Forty days later, he was admitted with a three-day history of watery and non-bloody diarrhea, nocturnal bowel movements, abdominal pain, nausea, non-bloody non-bilious emesis. He had no fever, chills, or skin rashes. He reported no sick contact, recent travel, new medications, or new pets.
- Labs were notable for severe peripheral eosinophilia (Figure 1). Infectious workup, including stool Clostridium difficile toxin, stool ova and parasite, stool culture, stool gastrointestinal pathogen panel (BioFire Diagnostics, Salt Lake City, UT), Strongyloides IgG, and HIV, were negative.
- Six days after admission, his IGB was removed as he had reached his goal weight, and he underwent esophagogastroduodenoscopy (EGD) and flexible sigmoidoscopy with biopsy due to persistent symptoms.
- Endoscopic exam was notable for diffuse erythema in the stomach and duodenum, and congestion in the entire examined colon (Figure 2A-C).
- Histologically, dense inflammatory infiltration of eosinophils and plasma cells in the lamina propria was observed in the stomach, duodenum, and colon, whereas the biopsies of distal and middle esophagus were unremarkable (Figure 3A-C).
- After removal of the IGB, his symptoms and peripheral eosinophilia improved dramatically within three days, and were completely resolved within one month. He did not require additional therapies such as corticosteroids, elimination diet, and biologic agents.

Figure 2. Representative endoscopic findings in the stomach (A), duodenum (B), and colon (C).

Figure 3. Representative histological findings in the stomach (A), duodenum (B), and colon (C).



Conclusions

- We describe a case of EGE and EC following IGB placement, presenting the first report that suggests a possible association between IGB and non-EoE EGIDs.
- This possible association warrants clinicians' awareness.
- We suspect that the IGB triggered a hypersensitivity reaction that eventually led to an EGID in our case.
- Further studies are needed to confirm our observation and elucidate the underlying mechanism.

References

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