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Small Bowel Resection of Inflammatory Fibroid Polyp Following Occult Gastrointestinal Bleeding

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Background	A 70-year-old man was incidentally found to have anemia due to occult gastrointestinal (GI) bleeding from a small bowel inflammatory fibroid polyp (IFP).
Summary	Our patient was found to have asymptomatic anemia. He was worked up for occult GI bleeding, through which a capsule endoscopy showed a small bowel mass. Magnetic resonance (MR) enterography characterized the mass as a 6.5 cm segment of the mid-distal ileum with no small bowel distention or lymphadenopathy. The patient underwent small bowel resection, and pathological evaluation identified the mass as a CD34+ IFP with overlying mucosal ulcerations—the likely cause of his occult bleeding. IFPs are rare benign mesenchymal tumors found anywhere along the GI tract; however, their location in the small intestine is uncommon. Current literature shows that small intestine IFPs, in particular, often present with signs of intussusception and/or small bowel obstruction (SBO). In contrast, our patient did not have such an acute presentation. Accordingly, our case report discusses the importance of complete resection of small intestine IFP, even in nonemergent situations.
Conclusion	Patients with IFPs found in the small intestine are at high risk for intussusception and/or SBO. Given the benign nature of the tumor and the low likelihood of recurrence, surgical resection can serve as both diagnostic and curative intervention for patients.
Key Words	small bowel neoplasm; small bowel obstruction; gastrointestinal bleed; gastrointestinal; magnetic resonance enterography

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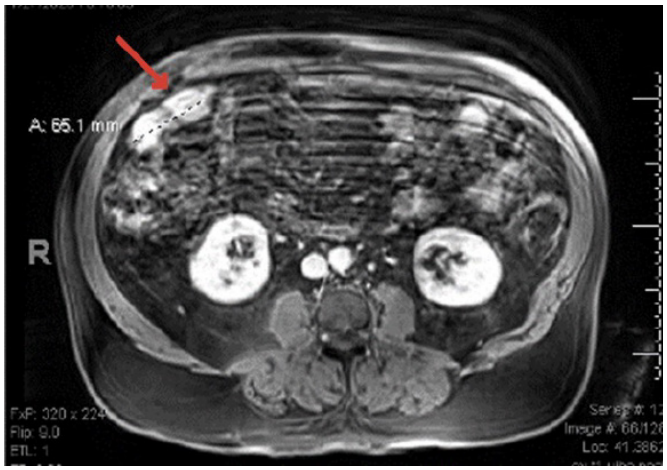
Case Description

The patient is a 70-year-old man with a history of diverticulitis and gastroesophageal reflux disease (GERD) who presented with anemia after a low-impact fall. On arrival to the emergency department, the patient's vital signs were stable, and he was alert. On exam, his only evidence of trauma was a 4.0 × 0.3 cm laceration to his forehead. Labs showed a hemoglobin of 8.9. Computed tomography (CT) of his head demonstrated no acute intracranial hemorrhage. The laceration was repaired with sutures, and the patient was recommended to follow up with his primary care physician.

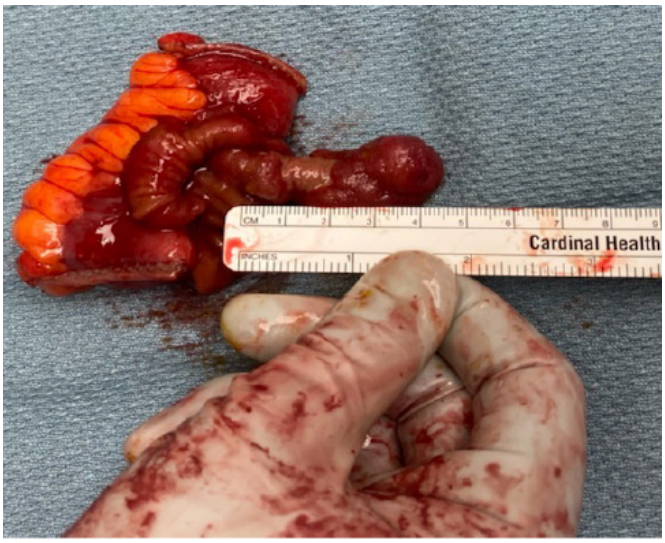
On further investigation, it was identified that the patient had an esophagogastroduodenoscopy (EGD) just prior to this incident for longstanding reflux. The EGD showed multiple gastric antral ulcers and grade B esophagitis with no evidence of bleeding. He then underwent a colonoscopy for his anemia workup, which showed scattered sigmoid diverticula. A capsule endoscopy, performed to evaluate for distal small intestine pathology, demonstrated a friable polypoid lesion in the mid-distal ileum. To further characterize the mass, he had a magnetic resonance (MR) enterography scan, which showed abnormal thickening and enhancement of a 6.5 cm segment of the mid-distal ileum with no small bowel distention or lymphadenopathy (Figure 1). The patient was referred to our colorectal surgery department for surgical resection.

Figure 1. Magnetic Resonance Enterography Showing Mid-Distal Ileum Enhancement (arrow). Published with Permission



Subsequently, he underwent elective small bowel resection. The mass was readily palpable in the mid-ileum and measured 4.5 cm at its longest dimension following resection (Figure 2). A side-to-side stapled anastomosis was performed. Pathology demonstrated a CD34+ inflammatory fibroid polyp with overlying mucosal ulcerations measuring 4.2 × 2.0 × 1.5 cm.

Figure 2. Excised Small Bowel Mass. Published with Permission



The patient's postoperative course was complicated by *Serratia marcescens* septicemia secondary to superficial thrombophlebitis that was treated with antibiotics and removal of the associated IV catheter. He was discharged on postoperative day 8.

Discussion

Inflammatory fibroid polyps (IFP) are benign mesenchymal tumors consisting of spindle and stellate cells in a loose edematous stroma surrounding blood vessels found on diagnostic pathology via resection or endoscopic biopsy.[1] These tumors are often, but not always, found to be CD34+ and have platelet-derived growth factor receptor alpha (PDGFRA) mutations.[2,3] IFPs can be found throughout the gastrointestinal (GI) tract, with the stomach being the most common location.[2] In contrast, IFPs of the small intestine are rare; small intestine stromal tumors generally have an incidence of 0.2 per 100,000 people.[4] In our case, the IFP location played a pivotal role as a mass in the small intestine can more easily lead to luminal occlusion.

Imaging, such as MR enterography, can provide valuable information on the size and location of intestinal masses, but only pathological evaluation will yield a definitive diagnosis. However, small intestine IFPs warrant complete resection rather than endoscopic biopsy to obtain the aforementioned pathological diagnosis due to their tendency to grow and become a lead point for intussusception and obstruction. In fact, the most common reports of small intestine IFPs present with intussusception or small bowel obstruction (SBO).[5-7] A single-institution retrospective review of 83 patients over 13 years showed that 20% of their IFPs occurred in the small intestine, and 50% of the small intestine IFPs presented with intussusception.8 IFPs originate from the submucosa and tend to grow inward into the GI lumen.[1] Reported IFP size ranges from 0.2-4.2 cm, with a mean of 1.7 cm.[8] Accordingly, patient presentation, mass size, and mass pathology are three important factors when deciding to resect a small intestine IFP.

Regarding patient presentation, if a patient were to show symptoms of small bowel obstruction (nausea, vomiting, crampy abdominal pain, constipation, etc.) or intussusception, it naturally follows that small bowel resection would be the next step in treatment. In such a case, one can infer that the mass is large enough to occlude the bowel lumen or become a lead point, respectively. Similarly, in cases when the mass is found in nonemergent settings (e.g., incidental finding or hemodynamically stable occult GI bleeding), the mass' size can indicate whether the small intestine IFP should be considered for resection, given its potential to obstruct. A study comparing 280 MR enterography scans of normal small intestines showed ileum diameters ranging from 1.47 to 2.31 cm.[9] Masses sized beyond such parameters could be concerning for the development of obstruction. However, this idea considers the tendency of masses to grow and, if they were to be resected, their tendency to recur. While their tendency to grow has been explored, IFPs are infrequently reported to recur, making resection a curative treatment option.

In our patient's case, he developed symptomatic anemia from his IFP but did not present with signs or symptoms of SBO or intussusception. However, his tumor measured 4.2 cm in its longest dimension, which reasonably suggests the possibility of obstruction or intussusception in the future. Given these factors, it was deemed appropriate for our patient to proceed with elective small bowel resection for IFP diagnosis and symptomatic management.

As informed by this case, we recommend that IFP of the small bowel be considered when building a differential for asymptomatic anemia. Following more common strategies of diagnostic evaluation (e.g., EGD, colonoscopy), capsule endoscopy can be a favorable strategy in a stable patient without signs of obstruction and a valuable tool to identify the bleeding source when all else fails. If surgery is then deemed appropriate, MR enterography scans can provide additional insight into the mass's characteristics.

Conclusion

Small intestine inflammatory fibroid polyps often present with SBO or intussusception. Here, we present a case of a small intestine IFP leading to occult GI bleeding in a 70-year-old man that was successfully treated with operative resection.

Lessons Learned

While small intestine IFPs are benign tumors, their tendency to grow, become a lead point for intussusception, or obstruct is important to consider when deciding to operate. Patient presentation and IFP size are two factors that can guide the surgeon.

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