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Case Report

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Enteroscopic Management of Life-Threatening Obscure Gastrointestinal Bleeding Due to Jejunal Leiomyoma

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ABSTRACT

Obscure gastrointestinal bleeding is a difficult medical emergency to manage. Benign small bowel tumors are rare cause of obscure gastrointestinal bleeding. A case of jejunal polyp measuring 3x2 cms, is presented which was diagnosed by advanced endoscopic technique of capsule endoscopy and push enteroscopy. The patient had severe comorbid conditions like Diabetes Mellitus, Hypertension, Ischemic Heart Disease with cardiomyopathy (Ejection Fraction-30%) and chronic kidney disease which prevented surgery as the treatment of choice. The polyp was successfully removed en-bloc by endoscopic mucosal resection technique without any complications like bleeding or perforation. Histopathology examination and immunohistochemistry confirmed the polyp to be a leiomyoma.

Introduction: Obscure gastrointestinal bleeding is a difficult medical emergency to manage. Benign small bowel tumors are rare cause of obscure gastrointestinal bleeding.

Methods: A 64 years old male presented with massive gastrointestinal bleeding with hemorrhagic shock. The patient had severe comorbid conditions like Diabetes Mellitus, Hypertension, Ischemic Heart Disease with cardiomyopathy (Ejection Fraction-30%) and Chronic Kidney Disease. After a non-conclusive Upper GI scopy, colonoscopy and a plain CT scan, capsule endoscopy was done which showed proximal jejunal bleeding. Push enteroscopy was the done, which showed a jejunal polyp measuring 3x2 cms.

Result: The polyp was successfully removed en-bloc by endoscopic mucosal resection technique without any complications like bleeding or perforation. Histopathology examination and immunohistochemistry confirmed the polyp to be a leiomyoma. Patient was asymptomatic on follow up at 6 months.

Conclusion: With adequate surgical back up, endoscopic resection of benign small bowel tumors can be done in selected high-risk group of patients in whom surgery may be associated with increased morbidity and mortality.

Introduction

Obscure gastrointestinal (GI) bleeding (OGIB) due to benign small bowel tumor (SBT), is a rare and difficult medical emergency. Jejunal leiomyoma is one such benign SBT. Though usually asymptomatic, complications like GI bleeding or intestinal obstruction occur rarely. A case of a large jejunal polyp (leiomyoma) leading to OGIB was diagnosed using video capsule endoscopy (VCE) and push enteroscopy (PE). Endoscopic resection of jejunal leiomyoma has seldom been reported in the literature. We present a case of jejunal leiomyoma managed endoscopically.

Case Report

A 63 years old male presented to the emergency department with melena for 4 days and hematochesia for 1 day. He had history of passing black colored stools intermittently with generalized weakness for last 3 months. He had hypertension, Diabetes Mellitus (DM) for 3 years, ischemic heart disease (IHD) (Ejection Fraction – 30%) and chronic kidney disease (CKD) for 3 months. At presentation patient had tachycardia, hypotension and hemoglobin was 4.5 gm.%. Hemodynamic stabilization was done and 3 units of Packed Red Blood Cells were transfused. Patient's clopidogrel was stopped, while aspirin was continued.

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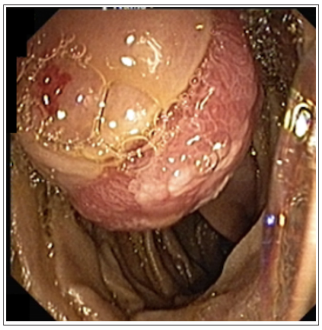
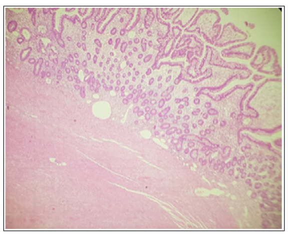
His esophagogastroduodenoscopy was normal and colonoscopy showed altered blood throughout the colon till ileum suggesting small intestine (SI) bleeding. Due to CKD, plain Computed Tomogram (CT) scan of the abdomen was done, which was normal. His Video Capsule Endoscopy (VCE – Pillcam SB, Given Imaging) showed fresh blood at 2 minutes 11 seconds after the capsule crossed the pylorus (Figure 1).

The rest of the small bowel and large bowel had altered blood throughout. However no obvious lesion was identified in VCE. The lesion being suspected in the proximal SI a Push enteroscopy was performed using Olympus Colonoscope. It showed a large, pedunculated, ulcerated polyp around 3 x 2 cm in size, 30 to 40cms beyond the ligament of Treitz (Figure 2).

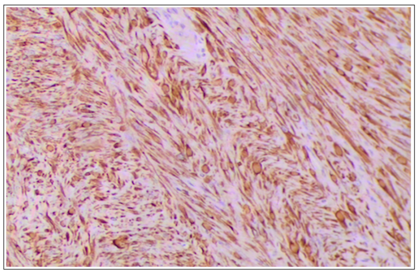


The polyp had a thick, long stalk. Due to multiple comorbidities, endoscopic polypectomy was planned. The possibility of bleeding and perforation was discussed with the family and surgical back up was kept ready. After thorough inspection, normal saline mixed with dilute epinephrine (1 in 10000) and methylene blue was injected in the stalk and the polyp was caught by snare and removed by electrocoagulation using Endocut current. The polyp was removed enbloc by endoscopic mucosal resection (EMR) technique. No bleeding or perforation occurred during or after polypectomy. The polyp was retrieved using retrieval device. On examination the polyp was 3 x 2 cm in size, single, ovoid and firm in consistency.

Histopathology showed ulcerated intestinal mucosa, mild inflammatory infiltrate, muscular layer showing spindle shaped cells arranged in fascicles and whorled pattern, with eosinophilic cytoplasm and minimal nuclear pleomorphism, without atypia, suggestive of benign stromal tumor (Figure 3 and 4).



Immunohistochemistry (IHC) stained positive for smooth muscle actin, desmin and negative for c-kit, Dog-1 and caldesmon confirming leiomyoma and ruling out gastrointestinal stromal tumor (GIST) (Figure 5). The patient was discharged after 2 days without any complication and was asymptomatic at 6 months follow-up.



Discussion

OGIB due to small bowel diseases is a challenging medical emergency, as small bowel is relatively inaccessible endoscopically. The management becomes even more difficult in patients with IHD needing antiplatelet agents, CKD patients as contrast CT scan can't be performed.

OGIB accounts for 5 % of all the GI bleeding. Small bowel pathology contributes 80% to these cases. Of these, small bowel tumors (SBTs) account for 10-20% of cases [1].

SBTs account for less than 2% of all body tumors. Of them, 30% are benign and 70% are malignant. Out of all the benign tumors of the gastrointestinal tract (GIT), benign SBTs account for about 10% [2,3].

GIT is the third most common site for leiomyoma after uterus and skin. SI in GIT is the second most common site after stomach. In the SI, jejunum is the most common site followed by ileum. It usually occurs in sixth decade, however case has been reported at one month of age also [4-7].

Leiomyoma arises from muscularis mucosa or muscularis propria. They are classified as submucosal, subserosal or both. Submucosal present as sessile or pedunculated polyps, grow intraluminally, are smaller than subserosal variant and rarely undergo malignant transformation. Most leiomyomas are asymptomatic, being incidentally detected at surgery or autopsy. The sypmtoms depend upon the size and the location of the tumor. The two common complications include GI bleeding and intestinal obstruction. Smooth muscle tumor (SMT) of the GIT include GIST, leiomyoma and schawanoma. Miettinen et al showed that out of 1091 patients with SMT of intestine only 2% had true leiomyoma and majority were GIST, suggesting that true leiomyoma of the small intestine is a very rare entitiy [8-10].

After inconclusive esophagogastroduodenoscopy, colonoscopy and CT scan, VCE helped us in localizing the lesion, though it couldn't diagnose the pathology. The combination of CT scan and VCE is comparable to Device Assisted Enteroscopy (DAE) to diagnose OGIB. The sensitivity of VCE in diagnosing OGIB ranges from 35-77%.Von Delius et al reported bleeding jejunal leiomyoma diagnosed by VCE in a child. Conventionally symptomatic or complicated jejunal leiomyomas are managed surgically. Multiple recent studies of DAE for SBT, having large number of cases mention true leiomyoma (after excluding GIST on IHC) as a rare disease. Data about their endoscopic removal is also not available in these studies [6,11-16].

The leiomyoma being a subepithelial tumor, DAE guided biopsies may be inadequate to give diagnosis. The differential diagnosis of leiomyoma is GIST. As GIST has high risk of bleeding, it is preferably removed surgically. Hence these subepithelial tumors (leiomyoma or GIST) are preferably removed surgically.

Endoscopic removal of true jejunal leiomyoma is seldom reported. In a study of 159 SBTs by Wataru Honda et al, DAE guided biopsy could diagnose 1 out of 2 leiomyoma found and one of those patient underwent endoscopic resection [17].

Thus a true, bleeding jejunal leiomyoma is an extremely rare entity. EMR can be a feasible option in selected cases.

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