



Gastrointestinal Polyps with Atypical Presentations: A Case Series

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Gastrointestinal (GI) polyps are uncommon connective tissue or epithelial tumors that typically affect the colon but can affect any part of the digestive system, from the esophagus to the ano-rectum. They may be solitary or multiple, sporadic or inherited, benign or malignant. The risk of malignancy is strongly associated with the type and size of the polyp. GI lipomas and GI stromal tumors are both rare causes of GI polyps which may present with GI hemorrhage or obstruction. Most polyps are asymptomatic and are detected incidentally when patients are being worked up for unrelated symptoms. When present, the symptoms might vary, but the most frequent ones are abdominal pain, GI bleeding, intussusceptions, and intestinal obstruction. A surgeon with keen clinical suspicion can make an early diagnosis to help avoid serious inherent complications.

Key words: Gastroduodenal intussusception, gastric lipoma, gastric polyps, gastric gastrointestinal stromal tumors, colonic lipomas, polyps

INTRODUCTION

Gastrointestinal (GI) polyps are lesions projecting from the epithelial surface which are visible to the naked eye. GI stromal tumors (GIST), which is the most common mesenchymal tumors of the GI tract, and rarely lipomas and leiomyomas may also have a polypoidal appearance on upper GI endoscopy (UGIE) although they arise from other subepithelial connective tissue layers. They may be sporadic or hereditary and, by nature, may be broadly classified into neoplastic or nonneoplastic polyps.

Gastric polyps are rarely symptomatic and usually detected incidentally during UGIE performed for unrelated symptoms. Once detected, further work up is indicated as some polyps have malignant potential.¹

A treating surgeon, with strong clinical suspicion, can promptly work up to timely identify and treat symptomatic polyps, thereby avoiding major complications associated with them. In this case series, we report three unusual presentations of GI polyps that surgeons should be aware of, along with a review of the relevant literature.

CASE REPORTS

Case 1

A woman in her 50s presented with projectile nonbilious vomiting and postprandial epigastric pain for the previous 2 days. Over the past 2 years, she has complained of early satiety, unmeasurable weight loss, and a few instances of melena. She disclaimed having ever had hematemesis, dysphagia, odynophagia, fever, jaundice, or any change in her bowel habits. Except for the presence of microcytic hypochromic anemia (hemoglobin 5.2 g%), the physical examination and laboratory tests, including tumor marker carcinoembryonic antigen (CEA) and carbohydrate antigen 19-9, were unremarkable. Ultrasonography (USG) of the whole abdomen was largely normal aside from a 60 mm × 40 mm × 37 mm homogeneous, intraluminal polyp with a smooth surface, arising from the body of the stomach. UGIE revealed a large pedunculated polyp with an ulcerated overlying mucosa arising

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from the posterior wall of the body of stomach. The lesion was found to invaginate into the duodenal lumen through a patulous pylorus. When the stomach was insufflated, the polyp which was serving as the lead point got reduced into the gastric lumen. Endoscopic biopsy showed features of chronic gastritis. Contrast-enhanced computed tomography (CECT) scan of the abdomen (with oral and intravenous (IV) contrast) demonstrated a homogeneously enhancing polypoidal fat density (-80 to -120 HU) mass with a smooth outline arising from the stomach and intruding into the duodenum [Figure 1]. There was no apparent lymphadenopathy detected.

The patient was explored through an upper midline incision once the hemoglobin percentage was optimized. Anterior gastrotomy revealed a solitary polyp having a narrow attachment to the underlying posterior gastric wall with ulcers on the overlying mucous membrane [Figure 2]. An elliptical incision was made on the mucous membrane around the polyp. The dissection was made in the submucosal plane to approach the narrow stalk, which was transfixed. The polyp was excised, and the mucosa of the posterior wall and the anterior gastrotomy were repaired. The patient had an uneventful recovery. The histopathology showed mature fat cells surrounded by a fibrous capsule, suggestive of a lipomatous polyp.

Case 2

A 50-year-old woman came in with upper abdomen pain, sporadic episodes of hematemesis, and melena during the previous 2 years, and recurrent episodes of nonbilious vomiting for 3 months. She denied any changes in her bowel habit, weight loss, dysphagia, odynophagia, fever, or jaundice. Except for the presence of microcytic hypochromic anemia (hemoglobin 7.8 g%), the physical examination and laboratory tests were normal. USG of the whole abdomen revealed a heterogeneous lesion with lobulated components

arising from the stomach wall, which was mostly intraluminal. Doppler evaluation revealed the lesion to be fairly vascular.

UGIE revealed an endoluminal, sessile, globular mass with central umbilication arising from the posterior wall of the gastric antrum. The overlying mucous membrane was smooth and normal looking.

A soft-tissue lesion in the shape of a dumbbell that was partially exophytic (3 cm in diameter) and predominantly intraluminal (6 cm in diameter) and connected by a short stalk was visible on a computed tomography (CT) scan of the abdomen with oral and IV contrast enhancement. In the arterial phase, it was uniformly enhanced. Between the exophytic component and the posterior abdominal wall, the fat plane was preserved. No observable lymphadenopathy or signs of liver metastases were present. Based on the results of the endoscopic examination and imaging, a diagnosis of the resectable gastric stromal tumor was made, and surgical exploration was planned.

The patient was explored through an upper midline incision. The lesser sac was entered through the gastrocolic omentum, and the exophytic component was dissected from the retroperitoneum. The anterior gastrotomy was then performed to reveal the endophytic portion of the tumor. The mucous membrane of the posterior wall of the stomach overlying the intraluminal portion was incised circumferentially with a 1 cm margin [Figure 3]. The exophytic part could now be mobilized so that the occlusion clamps could be placed beneath it to secure the posterior wall of the stomach attached to the tumor. The dumbbell-shaped tumor, along with 2 cm of the adjoining posterior gastric wall, was excised, and the specimen was sent for histopathological examination [Figure 4]. The posterior and anterior gastrotomy wounds were next repaired sequentially. The patient had an uneventful recovery and was discharged in favorable conditions. The histopathology

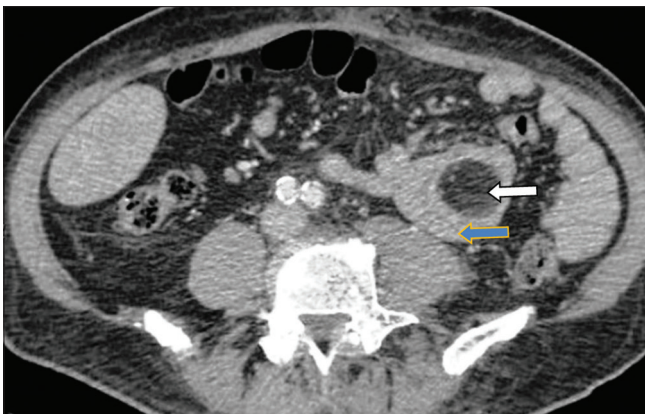


Figure 1: A homogeneously enhancing fat density (-80 to -120 HU) mass with a smooth outline (white arrow) arising from the stomach and intruding into duodenum lumen (blue arrow)

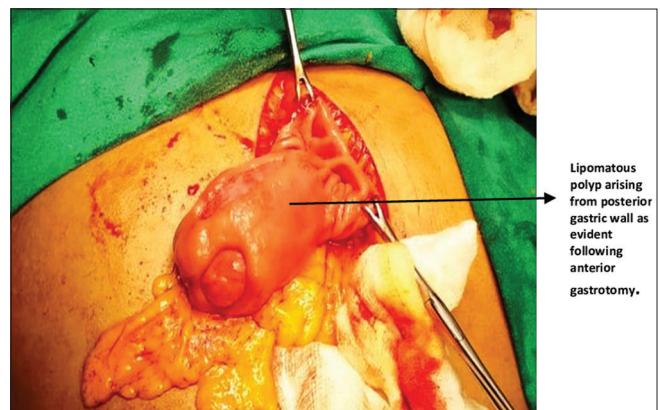


Figure 2: Solitary polyp having a narrow attachment to the underlying posterior gastric wall (black arrow) with ulcers on the overlying mucous membrane

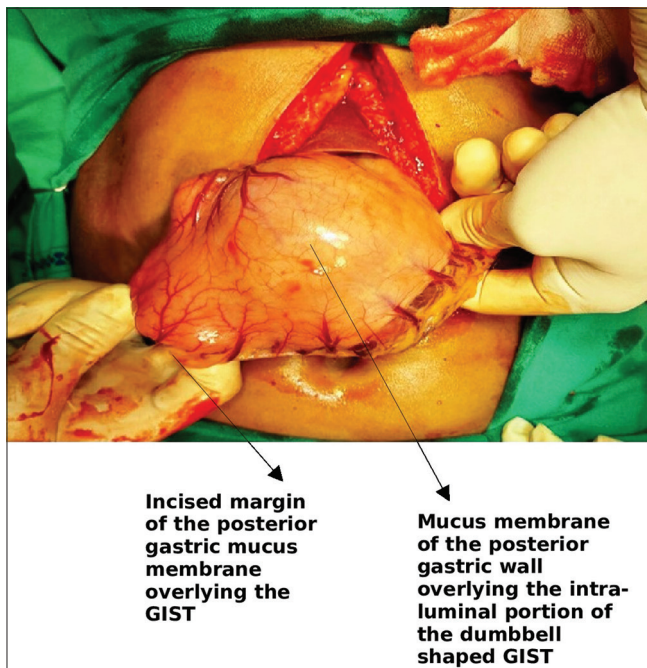


Figure 3: The smooth gastric mucous membrane overlying the intraluminal portion of the sessile dumbbell-shaped gastric gastrointestinal stromal tumors as seen through the anterior gastrotomy (black arrow)

revealed paucicellular stroma with spindle cells showing mitotic rates $\leq 5/50$ high power fields. The tumor was positive for CD117 (c-KIT) on immunohistochemistry, supporting the diagnosis of gastric GIST.

Case 3

A 65-year-old man arrived at the emergency room with acute onset colicky upper abdominal pain, constipation, and abdominal distension of 1-day duration. He described a history of intermittent bouts of pain in the left upper quadrant, changing bowel habits, including increasing constipation, occasional episodes of diarrhea, the passage of mucus with stool, and a few occurrences of painless rectal bleeding for 4 weeks before this event. He denied any prior abdominal surgery, anorexia, significant weight loss, or a history of fever. On physical examination, the patient had pallor, a softly distended abdomen with a mildly tender left upper quadrant.

The patient improved symptomatically with expectant treatment and was subsequently worked up further. Laboratory tests were unremarkable, including CEA. A full-length colonoscopy was attempted, but the scope was unable to pass past the splenic flexor, the precise reason for the obstruction remained unknown. He underwent CT colonography (virtual colonoscopy) to evaluate the colon segment that could not be assessed by conventional colonoscopy. The distal transverse colon showed a 5 cm submucosal, pedunculated, homogenous fat density (-80 to -120 HU) polyp that was

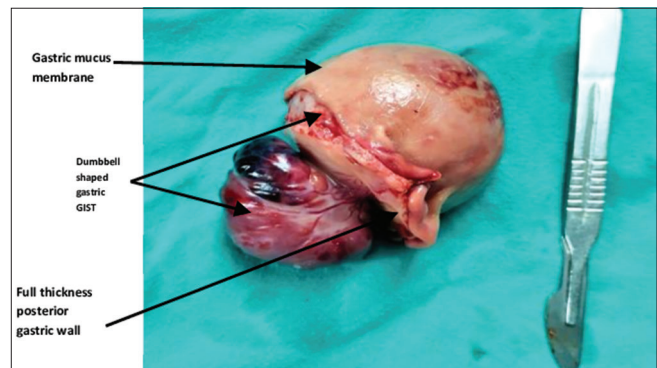


Figure 4: The dumbbell-shaped gastric gastrointestinal stromal tumors along with 2 cm of the adjoining posterior gastric wall and overlying gastric mucosa. (black arrow)

nearly obstructing its lumen [Figures 5 and 6]. The imaging evidence was enough for the diagnosis of a submucosal pedunculated lipoma, and a decision for surgery was taken because of the incipient large gut obstruction.

After optimizing the hemoglobin percentage and preparing the colon, the patient was explored through an upper midline incision. The lesion was easy to localize because of its size. A segmental transverse colectomy was performed with limited margins on either side, and the colon was primarily repaired. The patient had an uneventful recovery and was discharged in favorable conditions. The preoperative diagnosis of pedunculated lipoma of the colon was confirmed by the histology, which showed mature adipocytes with an enclosing fibrous capsule.

DISCUSSION

GI polyps are mostly benign and most frequently found in the colon but may occur in the esophagus, stomach, the small and large intestines. They may remain asymptomatic and discovered unexpectedly on radiologic or endoscopic studies carried out for other reasons or present with GI bleeding/iron deficiency anemia (following ulceration), pain, and obstruction, especially if they are large. Some of these polyps, based on their size (>1 cm for colonic adenomatous polyps), morphology (the sessile or papillary form), and histological nature (adenomatous polyps), are at risk of malignant transformation.^{1,2}

Pedunculated polyps can occasionally act as the intussusception's lead point, as in case number 1 of this reported series.² Although intussusception can occur in any part of the GI tract, gastroduodenal intussusception caused by a mobile, pedunculated gastric polyp prolapsing into the duodenum is extremely uncommon in clinical practice.³ There have only been a few reports of gastroduodenal intussusceptions brought on by polypoid submucous gastric lipomas.⁴ Preoperative diagnosis is rather simple, and therapy

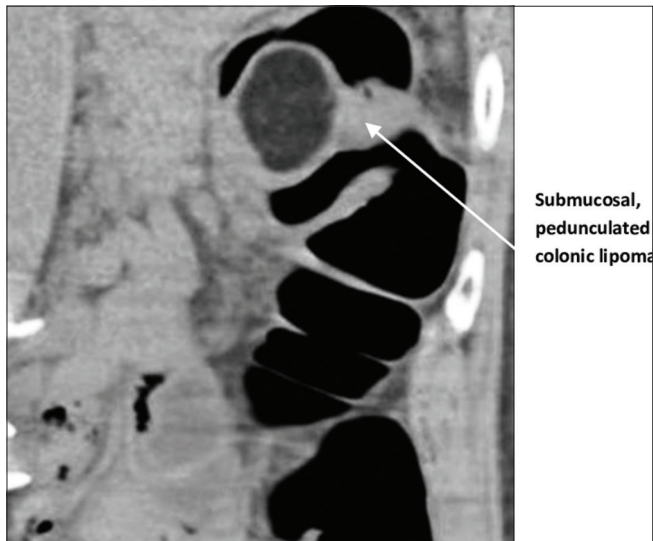


Figure 5: Contrast-enhanced computed tomography showing a 5-cm submucosal, pedunculated, homogenous fat density polyp of transverse colon nearly obstructing its lumen (white arrow)

entails reducing intussusceptions and removing polyps using endoscopic, laparoscopic means, or formal laparotomy.

GISTs are rare GI tract tumors that make up 1%–3% of gastric neoplasms. However, they are the most common mesenchymal tumor of the GI tract (80%), and the stomach is the most common site (60%).⁵ Ninety-five percentage of GISTs are immunohistochemical positive for KIT (CD117), a growth factor receptor tyrosine kinase encoded by the proto-oncogene *c-kit*; mutations in *c-kit* are present in 85%–100% of GIST (greater malignant potential) but not in leiomyomas or leiomyosarcomas.⁵ The common symptoms of gastric GIST are GI bleeding and abdominal discomfort, both were present in case number 2 of our series. Usually, they present as submucosal protuberant mass with central ulceration; our case had a central umbilication, probably a healed ulcer.⁶ Small gastric GISTs can occur as sub-serosal or intramural nodules, whereas large tumors have variable intraluminal, and external components as in our reported 2nd case. A routine biopsy is not needed (risk of bleeding and tumor dissemination due to perforation) if imaging studies suggest that R0 resection is feasible.⁷ Symptomatic, large gastric GISTs (>2 cm) will need surgical intervention.⁶ Spindle cell type, which was detected in our patient, is the most common (70%) histological variety of GIST. The most reliable prognostic factors for GISTs are the site (gastric GIST has a better prognosis), size of the primary tumor, and mitotic index.^{5,6}

Both the aforementioned cases included middle-aged females who had nonspecific GI symptoms, a history of upper GI hemorrhage, and anemia. Abdominal USG detected the tumors, and endoscopy and imaging helped in confirmation. The management was simple, and the outcome was good.

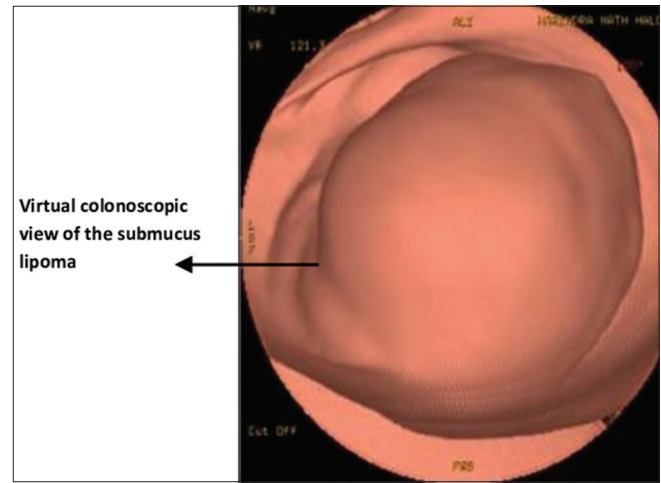


Figure 6: Virtual colonoscopy showing the intraluminal bulging due to the same polyp (black arrow)

Neoplastic colonic polyps encompass epithelial tumors (adenomas, polypoidal adenocarcinomas, and carcinoids) as well as nonepithelial tumors (lipomas and leiomyomas). The vast majority of polyps are asymptomatic, but when large (>2 cm), they may produce symptoms.⁶ Although the colon is the most common site of GI polyps, submucosal polypoid lipomas are rare.⁸ Colonic lipomas are the second-most common benign tumor of the colon, which may be discovered incidentally or may present with bleeding, intussusceptions, or bowel obstruction, as in case number 3 of our series.⁸ When symptomatic, surgical intervention is warranted. Large bowel lipomas occur in order of frequency in the ascending colon, cecum, transverse colon (including both hepatic and splenic flexure), descending colon, sigmoid colon, and rectum.⁹ CECT scan with water-soluble rectal contrast usually shows a homogenous fat density lesion and, along with colonoscopy, helps in definitive diagnosis. CT colonography (virtual colonoscopy) can do away with the need for colonoscopy as in our reported case.

As in the cases of gastric polyps, the elderly patient with colonic lipomatous polyp presented with nonspecific symptoms and was diagnosed accurately by imaging and managed easily.

To summarize, any gastric GISTs, regardless of size that present with bleeding, pain, or obstruction, as well as those that are >5 cm in size, should be removed. Small asymptomatic GISTs (up to 2 cm in diameter) can be safely ignored, but bigger ones (2–5 cm) should be kept under observation.¹⁰ The colon is the most common site for GI lipomas, which are uncommon GI polyps that can develop anywhere along its length.

CONCLUSION

We can draw the following conclusions from these three cases as our lessons. People in their fifth decade or older who

appear with vague upper GI symptoms, a history of upper GI bleeding, anemia, or recent changes in bowel habits should be promptly evaluated endoscopically and with imaging studies as they may be harboring GI polyps. An excellent outcome can be achieved with early detection and prompt action.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patients have given their consent for their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Data availability statement

The data that support the findings of this study are available from the corresponding author, P. K. Bhattacharjee, upon reasonable request.

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Conflicts of interest

There are no conflicts of interest.

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