



Case Report

GASTRIC LIPOMA

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Abstract

Lipoma, a universal tumor of adult fat cells is usually encountered in the subcutaneous plane. However no part of human body is spared of having lipomas. Gastrointestinal lipomas though rare, may prove to be more dangerous and needs special attention for diagnosis and treatment. Here, we report a 55 year old female with gastric lipoma who presented with upper abdominal pain, dyspepsia and acute upper gastrointestinal bleeding.

Key Words: Lipoma, Gastric lipoma, Gastrotomy, Upper GI bleeding.

Introduction

Gastrointestinal lipomas are benign tumors of the gastrointestinal tract, constituting only 5% to 6% of all gastrointestinal tumors; only 5% of them are of gastric origin and this corresponds to 2% to 3% of all benign tumors of the stomach and less than 1% of all gastric neoplasms¹⁻⁴. The majority (60-75%) of gastrointestinal lipomas are located in the colon, followed by the small intestine (20-25%)^{1,5}. Gastric and duodenal lipomas are extremely rare. Gastric lipomas account for only 3% of all benign neoplasms and 5% of all gastrointestinal lipomas^{6,7}. Due to the rarity of the lesion, gastric lipoma is often difficult to

diagnose. Patient with gastric lipoma may present with features of peptic ulcer disease, gastric outlet obstruction, or even with acute upper gastrointestinal bleeding. We present one such case of gastric lipoma that presented with upper abdominal pain, dyspepsia and acute upper GI bleeding.

Case Report

A 55-year-old normotensive, nondiabetic menopausal woman presented to us with the complaints of upper abdominal pain and dyspepsia for 1 year and vomiting of fresh blood for two days. Previously the pain was mild, intermittent, non radiating and burning in nature with no relation to food intake and relieved spontaneously and sometimes with antiulcerant drugs. For the last 6 months pain increased in intensity and became constant and diffuse. There was no history of fever, loss of appetite, weight loss or history of taking NSAIDS. Abdominal examination was normal. The haemogram and ultrasonogram of abdomen were also normal. Upper GI endoscopy (Figure-1) revealed a big rounded submucosal mass with surface ulceration involving the lesser curvature of stomach. Endoscopic biopsy revealed congested gastric mucosa with lymphoid follicle formation in

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lamina propria. Barium meal x-ray (Figure-2) showed normal stomach with no ulcer crater or filling defect. Duodenal cap was deformed. CT scan of the abdomen (Figure-3) showed a fat density non significantly enhancing (pre contrast -122 to -132 HU; post contrast-85 to-117 HU) pedunculated mass lesion

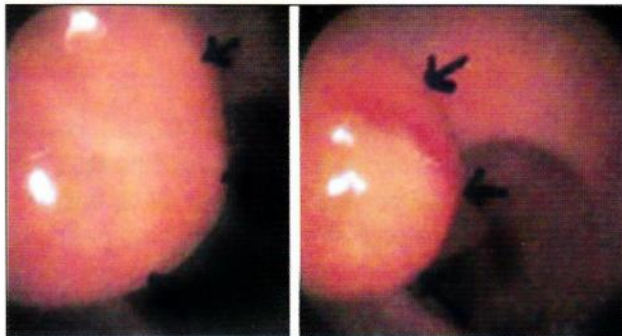


Fig.-1: Endoscopy demonstrates rounded submucosal mass involving lesser curvature of the stomach



Fig.-2: Barium meal x-ray

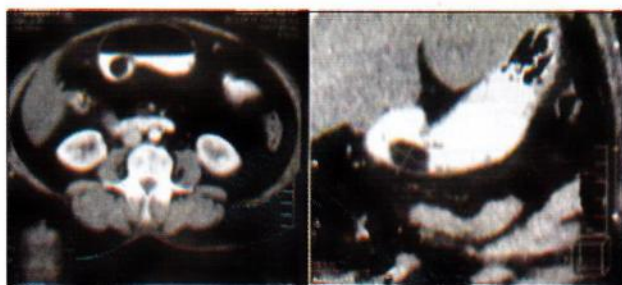


Fig.-3: CT scan showing a pedunculated mass arising from lesser curvature of the stomach.

measuring about 2.2×2×1.5 cm arising from lower part of the body of the stomach along the lesser curvature. The patient was planned for surgery; abdomen was opened by an upper midline incision. Gastrotomy through anterior wall of the stomach revealed a small rounded submucosal swelling of soft consistency on the lesser curvature (Figure-4). The mass was enucleated with ease. The mucosal defect

and anterior gastrotomy were repaired. The mass (3.5×2.5×1 cm) was solid, yellowish and was encapsulated. Histopathology of the excised mass confirmed the diagnosis of 'lipoma'. Postoperative recovery was uneventful and the patient became asymptomatic.

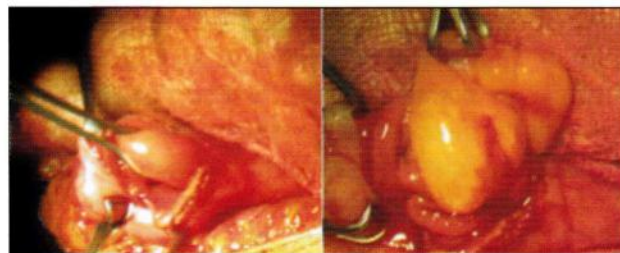


Fig.-4: Per-operative photography showing a pedunculated mass.

Discussion

Gastrointestinal lipomas are typically found in patients who are in their fifth or sixth decade⁸. The commonest location for a gastrointestinal lipoma is colon⁹. The majority (95%) of GI lipomas originate from the submucosal layer, the remaining being either subserosal or intramural¹⁰. Similar in pathologic and gross appearance to lipomas found elsewhere in the gastrointestinal tract, gastric lipomas appear as solitary smooth, discrete, soft masses and appear yellow and adipose when transected³. The etiology of gastric lipoma is unknown. The common view favours embryologically sequestered adipose tissue. However, since they are seen in an older age group only, an acquired etiology seems more probable. Most gastric lipomas are asymptomatic, and often discovered incidentally. Clinical symptoms depend on the size of the lesion. When small (< 2cm), lipomas are usually asymptomatic. However when the tumors are large (> 3cm), patients often present with upper gastrointestinal hemorrhage, either chronic or acute, caused by ulceration of the neoplasm⁹. They can also present with dyspeptic symptoms. Lipomas located close to the pylorus can cause obstructive symptoms, frequently by obstructing the pylorus or prolapsing through the pylorus into the duodenum¹⁰. A more recent case series reported on patients with gastric lipomas, with the most common presenting symptoms being abdominal pain (50%) and gastrointestinal bleeding (37.5%)^{1,4}. Rarely, such cases may present with gastroduodenal intussusceptions. Diagnosis of gastric lipoma, in the past, before the era of modern diagnostic

technology was generally made after surgery. Usually, on barium studies, extra mucosal tumors including lipomas reveal a smooth filling defect with a "bull's eye" appearance that is indistinguishable from other mesenchymal tumors. Endoscopically, gastric lipomas typically appear as a soft, sharply defined, submucosal mass, often yellow in color as opposed to the surrounding pink mucosa. Typically, three clues help to identify these lesions as lipomas on endoscopic examination: the "tenting sign", in which the overlying mucosa is easily retracted with the biopsy forceps; the "cushion sign" which occurs when the forceps produces a soft, cushioning indentation when applied to the lipoma; and the "naked fat" sign produced when fat protrudes through the overlying mucosa after multiple biopsies are performed¹¹. Computerized tomography (CT) is a highly specific imaging diagnostic tool for lipoma. It shows a homogenous structure with a negative Hounsfield Unit [HU] value [—30 to —100 HU] with regular shape, without infiltration, and sometimes with a fibrous capsule. It permits a specific diagnosis on the basis of fat density of the tumor^{10,11}. Therefore, a gastric lipoma can be diagnosed with certainty by CT in most of the cases. In our case too, CT findings showed well defined lesion approximately 2.2 x 2 x 1.5 cm of fat HU value arising from lesser curvature. However, ulceration and inflammation of the tumor and extension of the scarring for a considerable distance may mask the lipomatous characteristics at CT.

Endoultrasonogram (EUS) is also useful in the diagnosis of gastric lipomas. The typical findings of EUS reveal the tumor as a hypertrophic lesion in the submucosal layer¹³. Magnetic resonance imaging (MRI) also aids in diagnosis showing high signal intensity on T1 weighted sequences typical of a lipoma¹⁴. Use of MRI has been limited in diagnosing gastric lipomas but MRI is extremely sensitive to fat and could be used instead of CT in certain patient populations, especially in children and perhaps in patients allergic to iodinated contrast agents¹⁴. The treatment modalities for gastric lipomas have changed in parallel with the advances in endoscopic and imaging techniques. The different surgical and endoscopic procedures have been used in the treatment of submucosal lipomas, but more accurate diagnosis preoperatively enables the replacement of previously used resection methods by limited procedures such as tumor enucleation, partial resection or other endoscopic and minimally invasive procedures^{12,15,16}.

Although there is no malignant transformation of a gastric lipoma, coincidental separate malignant lesions have been reported. Submucosal lipomas that have extended into the gastric lumen may provoke repeated erosions or local inflammation of gastric epithelium, which are thought to promote gastric cancer. Therefore, complete pretreatment diagnostic evaluation is needed¹³.

Conclusion

Despite their rarity, gastric lipomas should be included in the differential diagnoses of masses of the stomach wall, gastric outlet obstruction, upper GI bleeding or dyspepsia. In the past, the diagnosis was provided following a surgical resection. Currently, we have available investigations that allow accurate preoperative diagnosis, which constitutes a very useful precondition in choosing an appropriate management strategy for such cases.

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