

Giant Gastric Lipoma Presenting as Gastric Outlet Obstruction – A Case Report

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ABSTRACT

Gastric lipomas are rare. They are mostly small in size, and usually remain asymptomatic. We report a case of giant (14×11cm) gastric lipoma in a 46-year-old male who presented with features of gastric outlet obstruction clinically mimicking gastric malignancy. Upper endoscopy showed a large smooth polypoid mass with broad base arising from posterior wall of gastric antrum with areas of superficial ulcerations. Multiple endoscopic biopsy specimens were nondiagnostic. A computed tomography (CT) scan of the abdomen revealed a huge cauliflower-like intraluminal mass with lobulated surface projecting into gastric lumen and pyloric canal. The mass demonstrated uniform fat density consistent with lipoma. The case is presented to stress the diagnostic problems related to this condition, and emphasize the role of CT in arriving at a correct diagnosis of lipomatous gastrointestinal tract tumours.

Keywords: Benign tumours, Computed tomography, Gastric malignancy

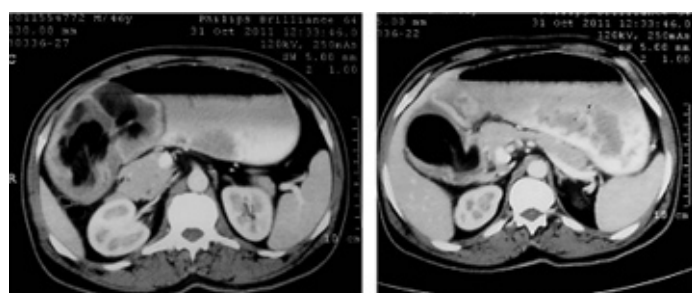
CASE HISTORY

A 46-year-old male patient presented with chief complaints of intermittent abdominal pain, postprandial vomiting and extreme weakness for last 6 months. He had past history of melena for one year which was treated conservatively at a local hospital by H2 blocker. Medical and surgical history was unremarkable.

General examination revealed pallor and the systemic examination was normal. A soft epigastric lump was palpable on abdominal examination. Mild epigastric tenderness was elicited. A clinical diagnosis of gastric outlet obstruction possibly due to gastric malignancy was made.

The haemoglobin level was 5g/dL. Test of blood coagulation and other biochemical profiles were within normal limits. A nasogastric tube was placed which showed blood clots and food residue. Upper GI endoscopy showed a large mass arising from posterior wall of gastric antrum with areas of superficial ulceration. The endoscope could not be negotiated beyond the antrum and the distal extension of the tumour was not assessed. Multiple biopsies were obtained, which disclosed normal gastric mucosa with no evidence of malignant cells. A computed tomography (CT) scan of the abdomen revealed a huge polypoid intraluminal mass with lobulated surface projecting into gastric lumen [Table/Fig-1a]. The mass demonstrated uniform fat density consistent with lipoma. The tumour was seen extending into pyloric canal causing gastric outlet obstruction [Table/Fig-1b]. The portion of stomach proximal to mass was dilated with blood clots and food residue.

At laprotomy, a large soft globular mass was palpated in antrum; the lesion was freely movable in gastric lumen, except a portion of the tumour prolapsing into pyloric canal. The pyloric component of the tumour was easily mobilised into stomach by gentle manipulation. A Billroth type I partial gastrectomy was performed.



[Table/Fig-1a]: CT shows a large low attenuation intraluminal mass consistent with lipoma in gastric antrum with dilated stomach **[Table/Fig-1b]:** The mass prolapses into pylorus leading to gastric outlet obstruction. The gastric lumen shows blood clots and food residue

On gross inspection of the specimen, the surface of the mass was lobulated like cauliflower, and there were superficial ulceration and denuded mucosa [Table/Fig-2a]. The mass was sessile broad based and submucosal in location. The resected specimen measured 14×11×5 cm in size. It was soft in consistency and the cut surface was yellow [Table/Fig-2b]. Microscopy revealed mature adipocytes [Table/Fig-2c].

DISCUSSION

Gastric lipomas are rare slow-growing benign tumours accounting for 5% of alimentary tract lipomas and for only 3% of all benign gastric masses [1]. They are composed of well-differentiated adipose tissue surrounded by a fibrous capsule [2]. Approximately 90% to 95% of lipomas are located in the submucosa; the remainder are subserosal. Most gastric lipomas are small, asymptomatic, and detected as incidental findings on radiologic evaluation or endoscopic examination of the upper gastrointestinal tract [2,3].

In gastrointestinal (GI) tract, these tumours most frequently arise from the colon, and rarely seen in stomach [4]. Lipomas of the GI tract are mainly found in patients in their fifth or sixth decade, with seemingly higher incidence in women than men [4]. The posterior wall of the antrum is the most common site of origin [2]. The size of gastric lipoma is usually small, and ranges from 4 to 9 cm, but occasionally may be massive as in the case presented [5]. Smaller lesions are rarely symptomatic as demonstrated by their occurrence in autopsy series (0.03%); but the large tumours usually present with gastric ulcer like symptomatology, including epigastric pain, nausea, vomiting and upper GI tract haemorrhage [6]. GI bleeding is the most frequent clinical manifestation (50%), which is usually due to ulceration of overlying mucosa [7]. In a large lipoma, the venous stasis is probably the single most important factor of mucosal ulceration which may lead to chronic and sometimes dramatic upper GI haemorrhage [4]. Many authors have reported iron deficiency anaemia as a first manifestation of a large gastric lipoma [8,9].



[Table/Fig-2a]: Photograph of surgical specimen shows cauliflower-like polypoid mass with lobulated surface and superficial ulcerations **[Table/Fig-2b]:** The cut section of gross specimen shows yellow submucosal mass with intact overlying mucosa **[Table/Fig-2c]:** Microscopic appearance of gastric lipoma demonstrating submucosal location of mass (H&E, 40X). *Inset*, high power view shows the tumour composed of mature adipocytes (H&E, 400X)

Although, gastric lipoma has been traditionally considered as nonocclusive because of its supple nature, complete GOO can rarely be the initial manifestation of this entity, such as the case reported herein [3,10-12]. Intermittent obstruction is more common with pre-pyloric tumours as the mass prolapses through the pyloric canal [2]. Due to contraction of the underlying muscularis propria, there is a progressive tendency for the large soft submucosal mass to extrude into the lumen leading to formation of pseudopedicle [4]. Obstructive symptoms due to gastric lipomas seem to be more prevalent in elderly male [10-12]. When symptoms of GOO accompany signs of upper GI chronic blood loss in elderly patients, the condition may be mistaken for a malignant growth.

A correct endoscopic diagnosis of gastric lipoma is difficult because the tumour is submucosal in location covered by normal mucosa. Gastric lipomas, however, sometimes demonstrate characteristic endoscopic features leading to correct diagnosis. Cushing sign (i.e., indentation over the mass due to pressure by biopsy forceps) and tenting sign (i.e., the ability to separate the mucosa from underlying lipoma using biopsy forceps), have been described as a classical endoscopic features. At times, bulky lobulated mass with extensive mucosal ulceration can lead to false impression of malignant gastric mass.

CT scan is an excellent investigation for GI tract lipoma that permits the specific diagnosis of lipoma based on fat density of the tumour, and precludes the need of endoscopic biopsy [2,13]. A homogeneous mass with fat density ranging between -70 and -120 HU, is considered as pathognomonic for the diagnosis of gastric lipoma [14]. Histologically, lipomas of the GI tract demonstrate the structure of well-differentiated adipose tissue.

Although asymptomatic small lipomas are usually not treated, most surgeons prefer to treat larger lipoma due potential risk of complication. Surgery is the treatment of choice for symptomatic large tumours. Endoscopic polypectomy can be tried for submucosal lesions smaller than 3 cm. The larger broad based tumours have higher risk of perforation by endoscopic approach [15].

CONCLUSION

A large ulcerated gastric lipoma causing gastric outlet obstruction may be clinically and endoscopically confused with gastric malignancy. Computed tomography is of paramount importance in establishing the correct preoperative diagnosis.

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