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A Rare Case of Giant Gastric Lipoma Presenting with Gastric Outlet Obstruction

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Abstract: ***A 75-year-old female presented to general surgery out-patient department with four-month history of failure to thrive and three-week history of epigastric discomfort, nausea, vomiting. Gastric submucosal lesion obstructing gastric outlet was found on endoscopy and on follow-up CT abdomen a homogeneous submucosal mass in the lesser curvature of gastric body was identified. Radiological diagnosis of giant gastric lipoma was established, and patient was evaluated and taken for gastric lipoma excision and biopsy.***

Keywords: Epigastric discomfort, Endoscopy, Gastric lipoma

1.Introduction

Symptomatic gastric lipomas are rare neoplasms of GI tract. Bleeding due to mucosal erosions on top on the lipomas and mass effect leading to gastric outlet obstruction are some of the common presentations in such cases. Due to its rarity, there is no generalized consensus on the management. Surgical resection of the mass is the common approach in such cases, but in cases where debility or other comorbidities preclude surgery, endoscopic resection and debulking can be attempted. Here we present the case of a giant gastric lipoma

2.Case Study

A 75-year-old female presented to general surgery out-patient department for evaluation of epigastric discomfort, nausea, vomiting. On obtaining a detailed history she admitted to having early satiety for the past four months and nonbilious vomiting and colicky epigastric abdominal pain for the past three weeks. Her physical examination was pertinent for soft and nontender abdomen with no apparent swelling or hepatosplenomegaly. An esophagogastroduodenoscopy was performed which showed a large mass in the lesser curvature of gastric body obstructing the gastric outlet [Figure 1]. Biopsies were sent due to the concern for Gastrointestinal Stromal Tumor (GIST), gastric lymphoma, or adenocarcinoma stomach.

A Computerized Tomography (CT) abdomen was ordered to further look into the etiology of the mass and determine the size and presence of lesions elsewhere. The CT abdomen [Figure 2] revealed a homogeneous submucosal mass of 8 cm x 7 cm size. The lesion was in lesion was in the lesser curvature of gastric body, homogeneous, and well contained within the gastric wall. There were no lymphadenopathy or remote lesions in the abdomen. This together with endoscopic features of the mass was suggestive of benign gastric lipoma was established, and patient was evaluated and taken for exploratory laparotomy and gastrotomy was performed then we found 12x8x6 cm mass [Figure 3] and intraoperative frozen section revealed no malignancy and gastric lipoma excision and sent for biopsy and primary repair was done. After procedure, patient had good relief of symptoms. The pathology of the excision biopsy that came back positive for fatty tissue confirms the diagnosis of lipoma.

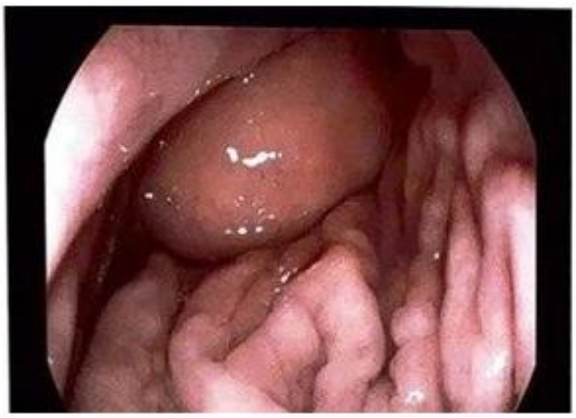

Figure 1: First endoscopy showing large gastric body mass

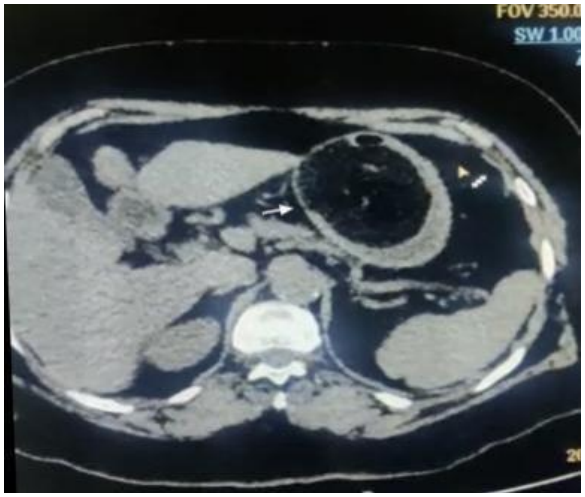

Figure 2: Computerized tomography abdomen. Black arrow showing gastric antral submucosal mass which is homogeneous in densityand has sharp rounded borders. This is indicative of gastric lipoma.

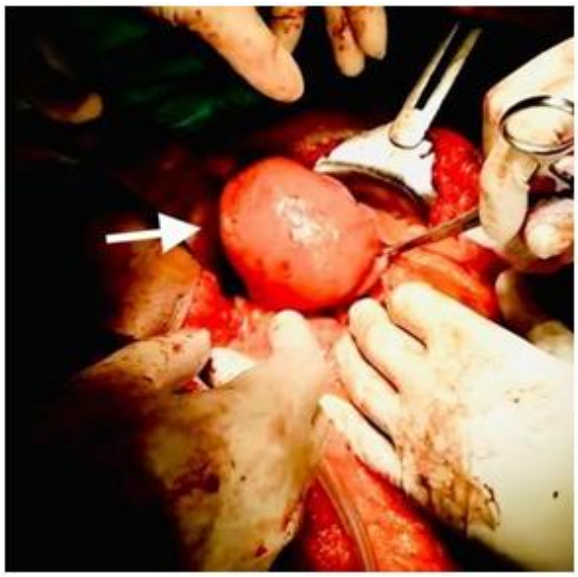

Figure 3: Intraoperative photograph showing a gastric lipoma in white

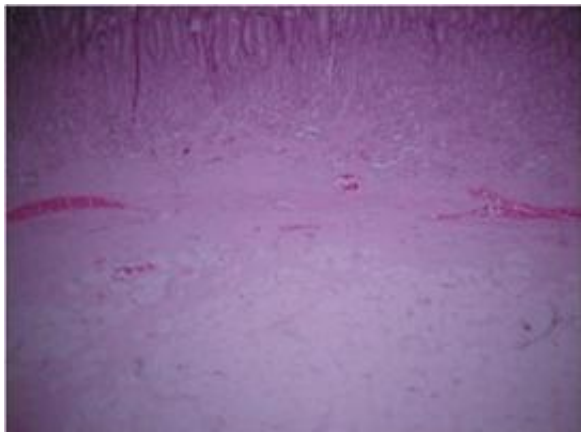

Figure 4: Photomicrograph showing gastric mucosa with submucosal adipocytes, confirming lipoma

3.Discussion

Gastrointestinal (GI) lipomas are benign tumors composed of mature adipose tissue covered with a fibrous capsule. Most GI lipomas are located in the colon, ileum, and jejunum and are predominantly asymptomatic. Gastric lipomas consist of less than 1 percent of all benign gastric tumors and 5 percent of all GI lipomas [1, 2]. They are typically found in patients in the 50-60 age range, but cases have been reported in significantly younger persons, with a total of 6 reported pediatric cases [6].

Most lipomas are found in the submucosa (95%), the subserosal subtype being extremely rare. They are usually solitary and most commonly found in the antrum, with an incidence of 75% [3]. Although predominantly asymptomatic and indolent, they may be symptomatic owing to size and ulceration. It is reported that a lipoma of size greater than 2.0 cm will present with abdominal pain more than 50% of the time; however, 37% of patients will have a presentation of chronic or acute GI bleeding, obstruction, and dyspepsia [7, 8].

Reports discuss ulceration with necrosis and inflammation as frequent findings; however, gastroduodenal intussusception and massive upper GI bleeding are rarely seen. One report notes that it can present as both a diagnostic problem and as a life threatening lesion due to exsanguinating hemorrhage. The differential diagnosis includes peptic ulcer disease, stromal tumor, liposarcoma, fibroma, or a glomus tumor. The diagnosis is made by endoscopy and radiology [7, 8].

Upper GI endoscopy will show a submucosal mass and three signs which help diagnosis [9]. These are the tenting sign, the cushion sign, and the naked fat sign and are characteristics of gastric lipomas. The tenting sign occurs when the overlying mucosa can be easily retracted with the biopsy forceps, the cushion sign is demonstrated when the forceps makes a soft, cushioning indentation when pressed against the lipoma, and the naked fat sign is visible, exposed adipose tissue on the surface of the lipoma that is projected through the normal overlying mucosa after multiple biopsies of the normal mucosa are done [9]. Endoscopic biopsy is usually inconclusive since the tumour is frequently submucosal.

Computed tomography has been shown to be valuable for diagnosis, demonstrating a well-circumscribed, submucosal mass with uniform fat density and attenuation ranging between −70 and −120 Hz. CT scanning of large (>2 cm) submucosal gastric masses detected on endoscopy can obviate the need for biopsy. Magnetic resonance imaging may show high signal intensity on T1 weighted sequences typical of a lipoma. Endoscopic ultrasound is also quite useful and may show a hyperechoic and isodense mass as opposed to a fibrolipoma which is hyperechoic and heterogenous [10].

The histology in this particular case showed a tumor composed of mature adipocyte proliferation, showing significant variation in cell size, associated with some lipoblasts. Some nuclei were large, slightly irregular but without hyperchromasia or mitosis. Grossly, a lipoma with ulceration, haemorrhage, acute, and chronic inflammation was seen (Figure 4). The diagnosis of a well-differentiated liposarcoma was suspected but molecular cytogenetic

analyses showed no MDM2 or CDK4 gene amplification on fluorescent in situ hybridization
[9] and the diagnosis of a benign lipoma was confirmed.

Significant complications of a symptomatic gastric lipoma include gastrointestinal obstruction, gastroduodenal intussusception, and severe massive GI haemorrhage. Very rarely, these tumors can become malignant, with a handful of cases being reported in the literature. Histologically, there are four types of liposarcomas including well-differentiated, myxoid, round cell, and pleomorphic. Well-differentiated liposarcomas account for 40% of all liposarcomas, having a peak incidence between the 5th and 7th decades and are further subdivided into adipocytic, sclerosing, inflammatory, and spindle cell subtypes [11].

In conclusion gastric lipomas are benign, typically submucosal tumors occurring in the gastric antrum. They are usually asymptomatic but can become symptomatic depending on size, location, and if there is ulceration of the lesion. These lesions may be mistaken as malignant tumors or present with upper GI bleeding or intussusception. The diagnosis can be made using a combination of upper endoscopy, endoscopic ultrasound, CT, and MRI with surgical excision being the definitive treatment of choice. We hope that this case highlights the fact that these lesions can present with massive upper GI haemorrhage and should be included in the diagnosis when appropriate.

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