Angiolipoma of Stomach: A Case Report

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Angiolipoma is a variant of benign lipomatous tumors and generally found in subcutaneous tissues. The tumor is rarely found in gastrointestinal tract. We present a case of a 55-year-old male who presented with melena. Endoscopy of upper gastrointestinal tract showed a polypoid mass, while abdominal CT scan suggested a submucosal lipoma. After partial gastrectomy, histological examination of the tumor revealed an encapsulated nodule composed of mature fatty tissue, fibrous tissue and small blood vessels, and accordingly the lesion was diagnosed as angiolipoma.

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Key words: Angiolipoma, Stomach

Introduction

Angiolipoma is one of the benign adipocytic tumors that usually occur in subcutaneous tissues.[1] The tumor is composed of adipose tissue and proliferating blood vessels. It is commonly found in subcutaneous tissues of the trunk and extremities.[2] Although endoscopic and radiologic examination may provide helpful information, the final diagnosis of angiolipoma relies on histopathological features of excised specimen.[3]

Case report

A 55-year-old male patient was admitted in a private hospital in Dhaka with the complaints of gastric mass, melena and generalized weakness. His symptoms had begun 20 days back and he experienced bloody stool with foul smell, which had lasted for seven days. Initially he visited an outside hospital, where he was diagnosed as a severely anaemic patient. His laboratory test results were as follows: hemoglobin level 7.8 g/dl, red blood cell count 2.78×10^{12}/L, white blood cell count 13×10^{9}/L, neutrophil count 74% and erythrocyte sedimentation rate (ESR) 82 mm in first hour. He was admitted in that hospital for blood transfusion because of his severe anemia and 2 units of fresh whole blood were transfused. Further investigation including complete metabolic panel, liver function tests, serum ferritin, urinalysis and stool culture were all found within normal limit. Ultrasound of whole abdomen was also performed, which showed fatty infiltration in the liver (Grade-1). Endoscopy of upper gastro-intestinal tract revealed a polypoid mass in the gastric antrum with smooth surface and evidence of recent bleeding (Fig. 1).

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The esophagus and duodenum appeared normal. Biopsy of the lesion showed massive necrosis and fibrinous exudate. After the blood transfusions when the patient became hemodynamically stable, he was discharged on request. Later the patient got admitted into Bangabandhu Sheikh Mujib Medical University with melena, cough and fever for definitive treatment. On arrival his abdomen was soft and non-distended. The patient's past medical history was occasional dyspepsia for one year which was relieved by antacids. The family history was unremarkable. Repeat laboratory tests showed haemoglobin level of 11.6 g/dl, red blood cell count of 4.15 × 10^{12}/L, white blood cell count of 9.0× 10^{9}/L, neutrophil count of 67% and erythrocyte sedimentation rate (ESR) of 60 mm in 1st hour. A complete biochemical panel, serum albumin, fasting blood sugar, complete urine analysis, chest X-ray, electrocardiography (ECG) and echocardiography were all normal. An abdominal CT scan with contrast showed a well defined almost rounded fat density area measuring about 4.1 cm x 3.9 cm in the lumen of pyloric and antral part of stomach appeared to be arising from posterior wall, suggestive of submucosal lipoma at pyloric and antral part of stomach (Fig. 2). Tiny calcification is seen in hepatic parenchyma. Accordingly the patient was operated. A large antral growth was found and distal partial gastrectomy with gastrojejunostomy was performed. The patient recovered from surgery without complication. The specimen was sent to the department of pathology where gross examination showed a 5 × 5 × 3 cm polypoid tumor on the lesser curvature and posterior surface in the antrum (Fig. 3). Three lymph nodes ranging from 02 mm to 04 mm were identified. Histologic examination revealed a tumor composed of lobules of fatty tissue with intervening fibrous tissue and small thin walled blood vessels (Fig. 4 and 5). Mucosal ulceration was present. Lymph nodes showed reactive changes with no evidence of tumor. The final pathologic diagnosis was angiolipoma of the stomach. During follow-up, this patient showed no recurrence.

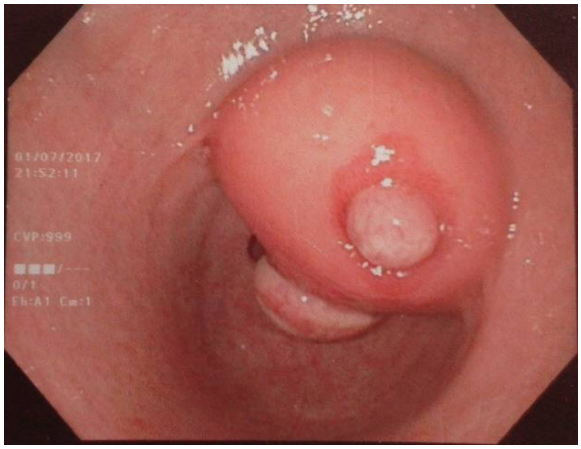

Fig 1. Endoscopic appearance of the gastric polypoid mass.

Fig 2. CT scan of abdomen showing gastric mass with low intensity in the centre (arrow)

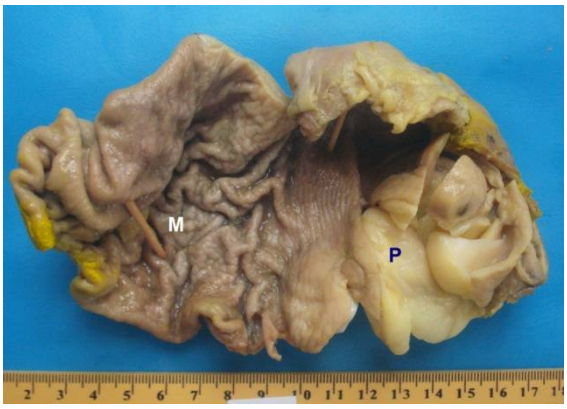

Fig 3. Specimen of stomach showing mass with yellow fatty core (P) and normal mucosa (M).

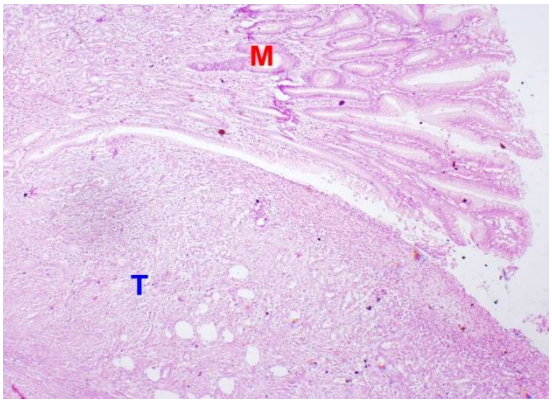

Fig 4. Histological section of stomach showing angiolipoma (T) and normal mucosa (M) (H&E x120)

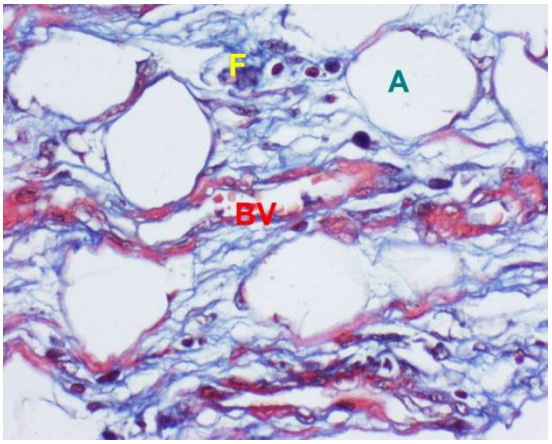

Fig 5. Histological section showing adepocytes (A), blood vessels (BV) and fibrous tissue (F) (Masson Trichrome x220)

Discussion

Angiolipoma is a benign adipocytic tumour, usually arising in subcutaneous tissue. It is composed of adipose tissue and proliferating blood vessels.[2] Most common site of angiolipoma are the extremities. It also involves subcutaneous tissue of trunk. Angiolipomas usually appear in the late teens or early twenties and has a male predominance.[1]

Angiolipoma was first defined in 1912 by Bowen (cited by Howard).[4] The histopathological features of angiolipomas were differentiated from those of lipomas by Howard (1960).[5] Clinically angiolipomas usually present with multiple subcutaneous, tender, small nodules in arms and trunk. They are most often less than 2 cm in diameter.[1,6] Cytogenetic analysis detected chromosomal aberrations, such as rearrangements of 12q14-15, rearrangements of 6p21-22, or deletions of 13q12-14 and 13q22. The gene involved in 12q14-15 is HMG A2 and in 6p21-22 is HMG A1.[7] These aberrant expressions suggest that the pathogenesis of angiolipomas may be different from other lipomas. The tumor in some cases show familial incidence, which is rare (5% of all cases) and have autosomal dominant inheritance.[1,8]

Grossly, the tumour is well defined, encapsulated and have cut surface which is yellowish to reddish according to the prevalence of fat or vascular component. Morphologically, it is comprised of mature adipose tissue with an interspersed vascular proliferation.[1,2] Occasional fibrin thrombi are seen. The tumor can be classified as lipomatous or angiomatous type. This classification is based on the ratio of presence of adipose tissue or vascular tissue (8). The tumor is typically diagnosed with hemotoxylin & eosin stain.

The immunohistochemical examination is rarely needed. Angiolipoma shows focal to diffuse positivity for S100 protein in the adipocytes. Also endothelial markers e.g. CD34 and CD31 are positive in the vascular component.[2]

Angiolipoma in the gastrointestinal tract is very rare and seen mostly in the colon.[9, 10] Twenty two cases of angiolipoma involving the gastrointestinal tract have been reported in the literature up to 2013. Among them, four cases were in the stomach. The antrum is the common site for gastric angiolipoma. Other involved areas are oesophagus, duodenum, small intestine, colon and rectum.[9, 2]

Patients with angiolipoma in the gastrointestinal tract are usually asymptomatic. Some may present with indigestion, abdominal discomfort, abdominal pain, GI bleeding and anaemia, symptoms of intussusceptions or obstruction with increasing size of the tumor .[2, 9, 10] Submucosal polypoid mass lesion is typically found in upper GI endoscopy. Histologically, angiolipoma in the stomach is composed of mature fatty tissue and proliferating blood vessels. Fibrin thrombus is rarely seen in gastric angiolipoma and other nonsubcutaneous angiolipomas, in contrast to cutaneous angiolipomas.[2, 10]

Diagnosis of angiolipomas in the gastrointestinal tract can be made by radiological examination via barium radiograph, abdominal ultrasound, abdominal computed tomography (CT) or magnetic resonance imaging (MRI) before polypectomy or resection. A filling-defect in lumen by barium enema and a hyperechoic lesion on transabdominal ultrasound. Abdominal computed tomography (CT) image may show variable findings depending on tissue components of the lesion. This has an appearance from high-density mass due to lipomatous component to heterogeneous lesion with mixed fatty and soft tissue density.[2, 9] The final diagnosis is confirmed by histopathological examination.[2,8,9]

The pre-operative diagnostic accuracy for gastric angiolipomas is quite low. So the correct diagnosis is usually made intraoperatively and confirmed by histopathology.[9] The treatment options depend on the type of the lesion. It varies from polypectomy of small pedunculated lesions to surgical excision of large mass. After complete excision, the tumor typically does not recur.[2]

The angiolipoma in our case presented with melena and anaemia requiring whole blood transfusion. Endoscopy revealed polypoid mass with recent bleeding. As the lesion was submucosal, endoscopic biopsy failed to diagnose the tumour. A well circumscribed submucosal lipoma was identified on abdominal CT scan. After distal partial gastrectomy, final diagnosis of gastric angiolipoma was made by histopathological examination by its typical morphological features.

Conclusion

Angiolipoma is a benign tumor, commonly occurring in subcutaneous tissue but rare in gastrointestinal tract. It is important to remember that submucosal polypoid lesions in GI tract with or without symptoms can be an angiolipoma, although it is quite rare.

References

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