

Duodenal lipoma associated with ectopic duodenal glands

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Abstract

Duodenal lipomas are relatively uncommon and are rarely responsible for clinical symptoms. Occasionally, searching for aetiology of gastrointestinal bleeding leads to the final diagnosis of duodenal lipomas. Here, we present the case of a 68-year-old woman who suffered with repeated melena and weight loss. Endoscopy, abdominal computed tomography (CT) and histopathological outcomes are described in this case of duodenal lipoma with ectopic duodenal glands.

Introduction

Lipomas arise from adipocytes and are generally found in subcutaneous tissue of the proximal extremities and trunk. Gastrointestinal (GI) lipomas are rare, benign, slowly growing, submucosal tumors, which can either be incidentally found as silent tumors of the GI tract or be the cause for GI bleeding, anemia, intussusception, and bowel obstruction. Most of them are located in the colon, ileum, and jejunum, and are rarely found in the duodenum. Gastrointestinal lipomas are typically found in patients who are in their fifth or sixth decade of life. Imaging and endoscopic examination are the main methods to detect the lesion. Although Endoscopy was most helpful in establishing the diagnosis on the basis of their morphologic characteristics, surface inflammation and inadequate biopsy specimens often lead to confused diagnosis. Endoscopic ultrasonography usually shows a homogenous, hyperechoic mass within the submucosal layer which is highly characteristic, while computed tomography (CT) examination is highly specific for the detection of fat, and identification for adipose density within the lesion convincingly narrows the differential diagnosis to lipoma, liposarcoma, hamartoma. Duodenal lipomas manifest as homogenous adipose density in the literatures and there is no report about duodenal lipoma accompanying with ectopic duodenal glands so far. Therefore, we describe this rare case.

Case Report

A 68-year-old woman experienced black stool three times over a period of 9 months and was admitted to our hospital for further investigation of recurrent gastrointestinal bleeding. She had lost approximately 2 kg in weight since the onset of his illness. Physical examination was unremarkable except for mild tenderness in the right upper abdomen. The hematological and biochemical profiles were normal, including carcino-embryonic antigen, carbohydrate antigen 19-9 and alpha fetoprotein. The patient underwent endoscopic examination and was found to have a large, lobulated, soft mass in the second portion of the duodenum. The polypoid mass measured 3×4×3 cm in size, and was covered with normal mucosa (Figure 1). Abdominal CT scan revealed a well-circumscribed adipose mass with heterogeneous density (indicating a part density equivalent to fat) at the second part of the duodenum (Figure 2 and 3), leading to the diagnosis of intraluminal lipoma of the duodenum with suspected malignant transition. Due to the large size and suspicion of partial malignant transition, endoscopic resection was cancelled. At laparotomy, neoplasm originated from the posterior wall of duodenum and was completely removed. Histological examination demonstrated the tumor was predominantly composed of mature fat cell and combined with duodenal glands within the mass (Figure 4). So, the final diagnosis was duodenal lipoma associated with ectopic duodenal glands. The patient had an uneventful recovery and was in good condition on the follow-up of 18 months.

Discussion

Lipomas arise from adipocytes and are generally found in subcutaneous tissue of the proximal extremities and trunk. Lipomas may occur in all parts of the gastrointestinal tract from the esophagus to the rectum. Lipomas are rarely found in the esophagus, stomach, and duodenum.^{1,2} A study by Mayo *et al.*³ showed that out of 4000 cases of benign gastrointestinal tumors, 164 (4%) were lipomas. The site most common was the colon (64%), followed by small intestine (26%), duodenum (4%), stomach (3%) and oesophagus (2%). In the duodenum, lipomas tend to be noted mostly in the second part and are most often situated in the submucosal plane, but can also be subserosal and can be sessile or pedunculated. Most of these patients with duodenal lipoma are asymptomatic, less than one-third are symptomatic. Occurrence of symptoms is usually related to the size of the tumor. Lesions of less than 1 cm remain occult, where virtually all

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lipomas larger than 4 cm are symptomatic. The common symptoms of pain and bleeding are related to complications of obstruction, intussusception and hemorrhage.⁴ The present case had no other symptoms except for episodic bleeding and weight loss, the tumors were

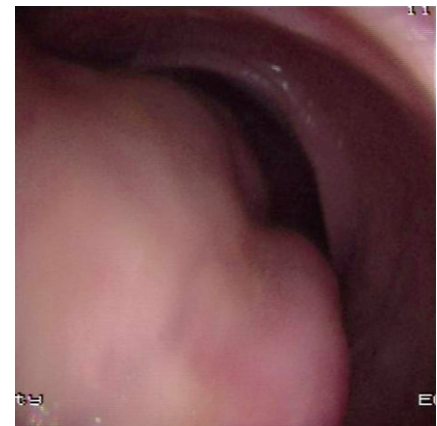


Figure 1. Endoscopy showing a lobulated mass with smooth surface.



Figure 2. Coronary reconstruction image showing inhomogeneous high density within adipose mass.



Figure 3. Sagittal reconstruction image showing inhomogenous high density within adipose mass.

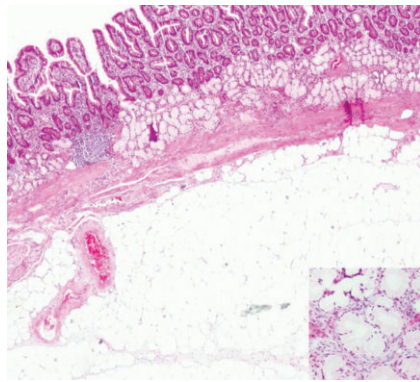


Figure 4. Histologic examination showing a duodenal lipoma under a normal duodenal mucosal layer with ectopic duodenal glands (hematoxylin-eosin stain, 4X and 10X).

finally found due to searching for aetiology of gastrointestinal bleeding through endoscopy.

Duodenal lipomas are benign submucosal masses. On the endoscopic appearance, duodenal lipomas manifest as smooth masses with normal overlying mucosa or sometimes ulceration that might lead to a mistaken impression of carcinoma. Superficial biopsies will not be sufficient because the location of the lesion is submucosal. CT examination is highly specific and sensitive for the detection of fat, and the presence of fat within a lesion strongly suggests a benign etiology, such as a lipoma, hamartoma or teratoma. The combination of fat and calcification within a lesion is essentially pathognomonic for a hamartoma or teratoma. However, in our case heterogeneous fat density lacking calcification confused us and exploratory laparotomy had to be performed. Those hyperdense tissues arise from the ectopic duodenal glands basing on the pathological findings of the resected tumor. These new recognitions for this rare disease entity have not been reported in the literatures.

Symptomatic duodenal lipomas warrant treatment. The recommended treatment is endoscopic excision if the lesion is polypoid and of manageable size. However, for large, sessile lesions or suspected malignant transition endoscopic excision may prove technically difficult and increase the risk of bleeding and perforation, surgical excision would be the preferred approach in such cases.⁵ In our case, due to the broad-base and suspicion of partial malignant transition, endoscopic resection was cancelled and surgery had to be performed.

In conclusion, duodenal lipomas are uncommon benign tumors that can present with intermittent upper gastrointestinal bleeding. They can be suspected on endoscopic examination but may require CT or endoscopic ultrasonography for further evaluation. Endoscopic excision is the treatment of choice if the tumor is pedunculated or relatively small, but for those cases associated with large-sized or suspected malignant transition, open surgical excision is the preferred choice.⁶

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