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CASE REPORT

Giant Duodenal Lipoma: a Rare Cause of Vomiting, Anorexia, Unintentional Weight Loss, and Duodenal Intussusception

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Introduction

Gastrointestinal lipomas are benign tumors, comprising only 5 to 6% of all gastrointestinal tumors. The majority (60–75%) of gastrointestinal lipomas are in the colon, followed by the small intestine (20–25%) with only 4% occurring in the duodenum [1]. Duodenal lipomas are usually asymptomatic but larger ones can, in rare cases, cause abdominal pain, intestinal obstruction, or hemorrhage. The peak incidence is around the 5th and 7th decade of life, with a slight female preponderance. Here, we present a rare giant duodenal lipoma mimicking malignancy preoperatively.

Case Presentation

A 75-year-old male presented with abdominal pain, nausea, vomiting, and anorexia with an unintentional weight loss of 20 pounds over 2 weeks. His lab tests revealed microcytic anemia (hemoglobin 10.0 g/dL). Abdominal computerized tomography (CT) scan demonstrated an 11.9 × 5.6 × 5.6 cm large multilobulated fat-containing duodenal mass (Fig. 1a), gastric distention with outlet obstruction, and intussusception of the duodenum. Endoscopy showed ulceration with underlying large submucosal mass lesion in the duodenal bulb extending to the second part of duodenum. Multiple biopsies taken from the ulcerated mucosa and underlying mass lesion showed ulcerated duodenal mucosa with gastric surface foveolar metaplasia. No significant submucosal tissue or malignancy was present in this biopsy. A partial duodenal resection was performed. The resected duodenum demonstrated a luminal bilobed mass (6 × 3.5 × 2.5 cm and 7 × 6 × 2.1 cm, respectively) with continuation of an extraluminal mass (11.5 × 6 × 3.5 cm) (Fig. 1b). The cut surface of the mass lesion is yellow and homogenous without hemorrhage or necrosis (Fig. 1c). The specimen is thoroughly sampled and submitted for histologic examination. Microscopically, the mass is composed of mature adipose tissue (Fig. 1d). There is only mild inflammatory reactive change in the area underneath the ulcerated duodenal mucosa; otherwise, there is no adipocytic nuclear atypia or hyperchromasia, and there is no pleomorphic lipoblast or a background of pleomorphic sarcoma present of the entire tumor. A diagnosis of duodenal lipoma is made. Furthermore, immunohistochemical stains for MDM2 and CDK4 are negative supporting the diagnosis of lipoma.

Discussion

Duodenal lipomas are rare nonepithelial benign tumors. Grossly, they can present as a round or ovoid, soft mass with regular or lobulated contours. They can be either sessile or pedunculated. The overlying mucosa of the duodenal lipoma can be normal, or with areas of ulceration or erosion. Malignant transformation of gastrointestinal lipomas has not been reported [2]. The main differential diagnosis of this giant duodenal lipoma is well-differentiated liposarcoma (atypical lipomatous tumor). In well-differentiated liposarcoma (atypical lipomatous tumor), the tumor is composed of a relatively mature adipocytic proliferation in which a significant variation in cell size is easily recognized. Focal adipocytic nuclear atypia as well as hyperchromasia is a consistent finding and scattered hyperchromatic as well as multinucleated stromal cells are often appreciated. MDM2 and or CDK4 nuclear immunopositivity is present in most cases [3]. Another

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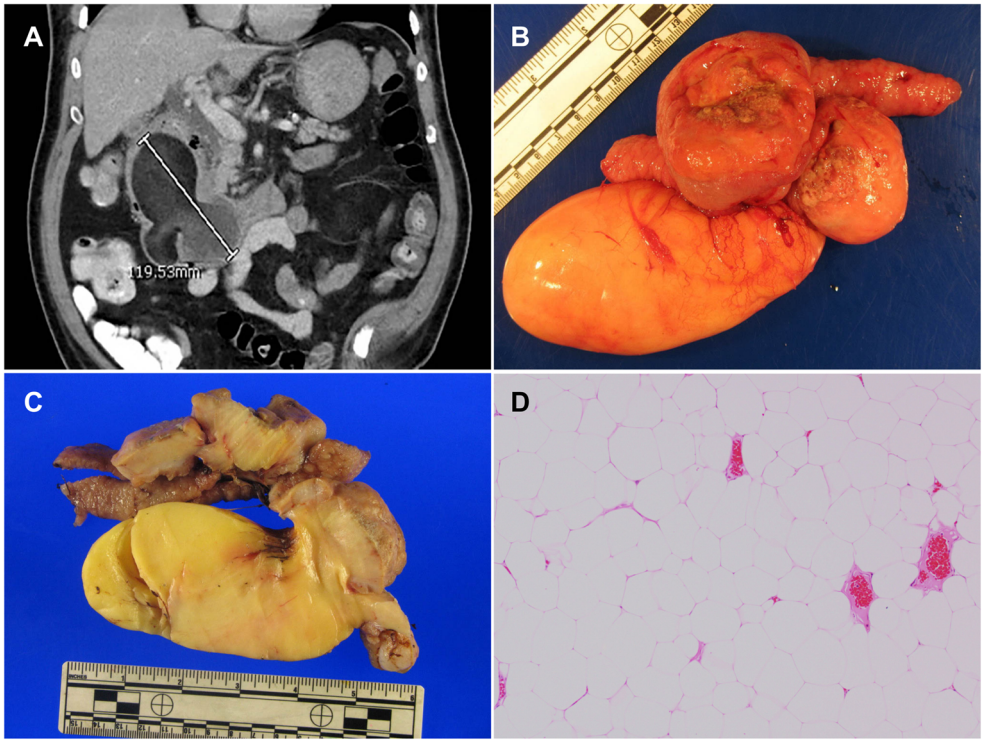

Fig. 1 **a** Abdominal computerized tomography (CT) scan demonstrating an 11.9 × 5.6 × 5.6 cm multilobulated fat-containing duodenal mass. **b** The resected duodenum demonstrating a luminal bilobed mass (6 × 3.5 × 2.5 cm and 7 × 6 × 2.1 cm, respectively) with continuation of an extraluminal mass (11.5 × 6 × 3.5 cm). **c** The cut surface of the mass lesion showing yellow and homogenous appearance without hemorrhage or necrosis. **d** The mass is composed of mature adipose tissue (H&E, ×200)

important differential diagnosis is pleomorphic lipoma which is typically negative for MDM2 and CDK4 by immunohistochemical stain and has been reported in a colonic polyp confined to the mucosa and submucosa [4]. Classic pleomorphic liposarcomas often have infiltrative margins and all tumors contain a varying proportion of pleomormorphic lipoblasts in a background of a high-grade, usually pleomorphic sarcoma. The presence of lipoblasts is necessary for the diagnosis but their number varies considerably between cases and between separate areas within the same tumor. Therefore, adequate tumor sampling is extremely important in the diagnosis of pleomorphic liposarcoma [3, 4]. In our current case, the tumor is well-encapsulated and the specimen is thoroughly sampled and submitted for histologic examination. There is no adipocytic nuclear atypia or hyperchromasia, and there is no pleomorphic lipoblast or a background of pleomorphic sarcoma present in the entire tumor to indicate liposarcoma. Immunohistochemical stains for MDM2 and CDK4 were performed on our current case, which were negative. The histologic findings as well as the immunoprofile are consistent with the diagnosis of duodenal benign lipoma. The accurate preoperative diagnosis of giant duodenal lipomas is difficult and they can be mistaken for malignancy, especially when the lesion is large in size with clinical complications. A surgical approach remains the treatment of choice for large and complicated cases [5]. The definitive diagnosis should only be made after tumor excision and thorough sampling and histopathologic examinations to exclude the possibilities of malignancy such as well-differentiated liposarcoma (atypical lipomatous tumor) or pleomorphic liposarcoma [6].

Compliance with Ethical Standards

Conflicts of Interest The authors declare that they have no conflicts of interest.

Informed Consent Informed consent was obtained from all individual participants included in the study.

References

1. Wichendu PN, Dodiyi-Manuel A. Gastric outlet obstruction from duodenal lipoma in an adult. Niger J Surg. 2013;19(2):79–81.
2. Zirpe D, Wani M, Tiwari P, Ramaswamy PK, Kumar RP. Duodenal lipomatosis as a curious cause of upper gastrointestinal bleed: a report with review of literature. J Clin Diagn Res. 2016;10(5):PE01–4.
3. Fletcher CDM, Bridge JA, Hogendoorn PCW, Mertens F. WHO classification of tumors of soft tissue and bone. 4th ed. Lyon: IARC; 2013.
4. Hornick JL, Bosenberg MW, Mentzel T, McMenamin ME, Oliveira AM, Fletcher CD. Pleomorphic liposarcoma: clinicopathologic analysis of 57 cases. Am J Surg Pathol. 2004;28(10):1257–67.
5. Thorlacius H, Weiber H, Ljungberg O, Nielsen J, Toth E. Endoscopic diagnosis and treatment of a giant duodenal lipoma presenting with gastrointestinal bleeding. *Endoscopy*. 2013;45(Suppl 2 UCTN):E385–6.
6. Yaman I, Derici H, Paksoy S. Symptomatic duodenal lipoma with endoscopic snare polypectomy. Ulus Cerrahi Derg. 2014;30(2):103–5.