



An incidental upper gastrointestinal lesion: Duodenal lipoma

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Case Report

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ABSTRACT

Lipomas are relatively frequent mesenchymal duodenal mass-forming tumors. The duodenum is the third common location of lipomas. They are solitary, slow-growing, well-circumscribed and benign lesions that are often discovered incidentally during endoscopy or cross-sectional radiological examinations. Herein, we present an incidentally detected asymptomatic duodenal lipoma case with radiological imaging findings.

Keywords: Computed tomography, duodenum, lipoma, magnetic resonance imaging

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Süreç

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Öz

Lipomlar nispeten sık görülen mezenkimal kökenli duodenal tümörlerdir. Duodenum, lipomların üçüncü ortak konumudur. Endoskopi veya kesitsel radyolojik incelemeler sırasında genellikle tesadüfen keşfedilen yalnız, yavaş büyüyen, iyi sınırlı ve iyi huylu lezyonlardır. Burada, radyolojik görüntüleme bulguları ile tesadüfen tespit edilen bir asemptomatik duodenal lipom olgusunu sunuyoruz.

Anahtar sözcükler: Duodenum, lipom, bilgisayarlı tomografi, manyetik rezonans görüntüleme

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Introduction

Duodenal lipomas (DLs) are rare (4%) benign tumors and generally located in the second part ¹. Ninety percent of DLs arise from the submucosa, 10% arise from the subserosa ². DLs are usually asymptomatic and found incidentally during computed tomography (CT), magnetic resonance imaging (MRI), endoscopy, surgery or autopsy. Symptoms are related to the size of the lesion, those greater than 4 centimeters in diameter ³. If symptomatic, the most common findings are GI bleeding, ulceration, abdominal pain, intussusception or intestinal obstruction ⁴. Diagnosis can be established by radiological, endoscopic or operative means. Current imaging modalities such as CT and MRI can rarely accurately provide the diagnosis of lipoma. Herein, we present a 42-year-old woman with an asymptomatic duodenal lipoma and the evaluation of the lesion by CT and MRI.

Case Report

A 42-year-old woman was referred because of renal colic. She had no significant medical history except extracorporeal shock wave lithotripsy (ESWL) treatment for kidney stones in the past. There was no abnormality on physical examination. Laboratory findings were within normal limits. A non-contrast thin section abdominal CT performed to evaluate the kidney and ureteric stones revealed a 2x5 cm well-circumscribed hypodense lesion with CT value of -60 to -125 HU located in the third portion of the duodenum, which was suggestive of lipoma (Figure 1 A, B). On MRI, the lesion was hypointense on T1- and T2-weighted fat suppressed images consistent with a diagnosis of duodenal lipoma (Figure 1 C, D). Endoscopic ultrasound (EUS) detected a submucosal hyperechoic well-defined duodenal lipoma. The patient did not undergo an operation and was decided to be observed because she was asymptomatic. Written consent of the patient was obtained.

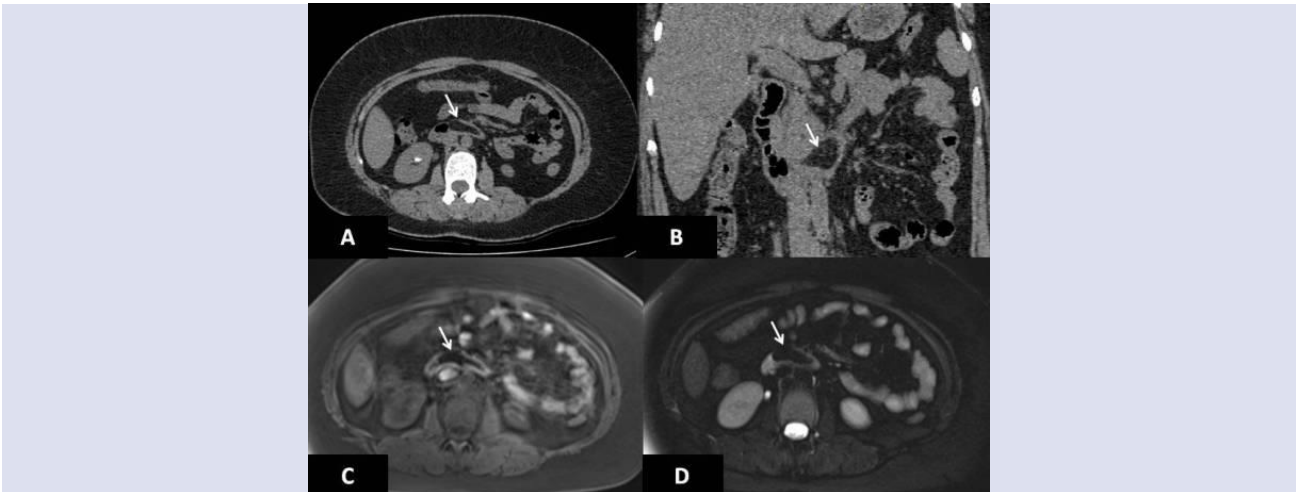


Figure 1. (A) Axial and (B) coronal abdominal CT images show a smooth-walled, fat density mass in the third portion of the duodenum (arrows). Axial fat-suppressed (C) T1-weighted and (D) T2-weighted images demonstrate a well-defined, hypointense, oval lesion in the third portion of the duodenum (arrows).

Discussion

Gastrointestinal (GI) lipomas are benign, usually single and slow growing tumors. They may occur in all parts of GI track. A study by Mayo et al. ¹ 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%) ¹. Duodenal lipomas (DLs) are generally located in the second part, however they can occur in all duodenal portions including the third part as in our case. The peak incidence seems to be around 5th and 7th decade of life, with a slight female dominance ⁵. Ninety percent of DLs arise from the submucosa, 10% arise from the subserosa ². They can be either sessile or pedunculated. Multiple DLs are very rare, there are only

11 cases reported so far ⁴. DLs are usually asymptomatic and found incidentally during CT or MR imaging, endoscopy, surgery or autopsy. Symptoms are related to the size of the lesion, those greater than 4 centimeters in diameter ³. However Pei MW et al reported that %80 of symptomatic DLs were larger than 2 cm in diameter ⁴. If symptomatic, the most common findings are GI bleeding, ulceration, abdominal pain, intussusception or intestinal obstruction ⁴.

Diagnosis can be established by radiological, endoscopic or operative means. Although endoscopy is the preferred means for detecting upper GI lesions, it is usually insufficient in making a definite diagnosis and it may not visualize lesions beyond the second part of duodenum ⁵. It can only suggest the presence of submucosal protruding lesion, but cannot provide further

characterization of the lesion ^{6, 7}. Current imaging modalities such as CT and MRI can rarely accurately provide the diagnosis of lipoma based on low attenuation ranging from -60 to -120 HU on CT, corresponding with the density of fat ⁸. In the present case, the lesion were noted on CT with a value of -60 to -125 HU which is typical of lipomas. On MRI, lipomas are hyperintense on T1-weighted images and usually present intermediate signal intensity on T2-weighted images. The loss of signal intensity on T1- and T2-weighted fat suppressed images provides the final diagnosis ⁶. Lipomas show no contrast enhancement. Though CT and MRI are helpful in diagnosis, they are unable to locate the origin of the lesion ⁸. Endoscopic ultrasound (EUS) provides information about the original layer, echogenicity, depth and invasion ⁴. The typical EUS presentations of DLs are intensive homogeneous hyperechoic lesions originating from the submucosa, with echo attenuation behind and/or inside the rear area ⁷.

In the differential diagnosis of duodenal lipoma, malignant duodenal mass-forming lesions (e.g. adenocarcinoma, neuroendocrine tumors, stromal tumors, lymphoma), benign duodenal mass-forming lesions (e.g. adenoma, polyposis syndromes, leiomyomas, Brunner's gland hyperplasia and hamartoma) should be considered primarily ^{5, 6, 7, 8}.

Malignant transformation of GI lipomas has not been reported. Asymptomatic DLs may be observed but Zipse et al. ⁵ reported that 61% of DLs presenting as upper GI bleeding were 4 to 5,9 cm in size, so asymptomatic giant DLs (>4 cm) should be removed endoscopically or operatively. Symptomatic DLs warrant treatment. The recommended treatment is endoscopic excision if the lipoma is small, solitary and pediculated. For large, sessile and multiple lipomas, surgical excision should be preferred due to the risk of bleeding and perforation ⁹.

Conclusion

DLs are rare benign tumors. They are usually asymptomatic and found incidentally, but can cause

symptoms such as abdominal pain and GI bleeding. CT and MRI are highly accurate diagnostic means, and should be performed for treatment planning.

Conflict of interest

There is no conflict of interest

References

1. Mayo CW, Pagtalunan RJ, Brown DJ. Lipoma of the alimentary tract. *Surgery* 1963;53: 598-603.
2. Aydın HN, Bertin P, Singh K, Arregui M. Safe techniques for endoscopic resection of gastrointestinal lipomas. *Surg Laparosc Endosc Percutan Tech* 2011; 21: 218-22.
3. Yaman I, Derici H, Paksoy S. Symptomatic duodenal lipoma with endoscopic snare polypectomy. *Ulus Cerrahi Derg* 2014; 30: 103-5.
4. Pei MW, Hu MR, Chen WB, Qin C. Diagnosis and Treatment of Duodenal Lipoma: A Systematic Review and a Case Report. *J Clin Diagn Res* 2017; 11: PE01-PE05.
5. 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. *L Clin Diagn Res* 2016; 10: PE01-4.
6. Kovac JD, Dunjic MK, Bjelovic M, Lilic G, Milenkovic R, Micev M et al. Magnetic resonance imaging features of multiple duodenal lipomas: a rare cause of intestinal obstruction. *Jpn J Radiol* 2012; 30: 676-9.
7. Chen HT, Xu GQ, Wang LJ, Chen YP, Li YM. Sonographic features of duodenal lipomas in eight clinicopathologically diagnosed patients. *World J Gastroenterol* 2011; 17: 2855-9.
8. Pei M, Hu M, Chen W, Qin C. Multiple Duodenal Lipomas as a Rare Cause of Upper Gastrointestinal Obstruction: Case Report and Literature Review. *Gastroenterology Res* 2017; 10: 149-52.
9. Kadaba R, Bowers KA, Wijesuriya N, Preston SL, Bray GB, Kocher HM. An unusual cause of gastrointestinal bleeding: duodenal lipoma. *Case Rep Gastroenterol* 2011; 5: 183-8.