

# Profile of a duodenal submucosal lipoma, unique by its rarity and clinical features: a case report

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## Abstract

Lipomas of the gastrointestinal tract are a rare condition, occurring during the fifth to seventh decades of life, found mainly in women. They are small and asymptomatic lesions and are usually incidentally detected. We evaluated a case of 42-year-old man presenting with an episode of melena and found to have a large duodenal mass on endoscopy, requiring surgical excision. Histopathological diagnosis revealed submucosal lipoma.

**KEY WORDS:** Duodenum, large, submucosal, lipoma

## Introduction

Lipomas are rare gastrointestinal benign tumors having an incidence of 4%.<sup>[1]</sup> The colon is the most common tumor site (64%), followed by the duodenum (4%).<sup>[1]</sup> They commonly occur during the fifth to seventh decade of life, mostly in women, and are usually small, asymptomatic, and detected incidentally.<sup>[2-4]</sup> We, hereby, present the case of large duodenal lipoma in a male patient aged 42 years, with features of melena.

## Case Report

A 42-year-old man turned up at the surgical outdoor with single episode of melena associated with fatigue, weight loss, and generalized weakness. Hematological tests revealed iron deficiency anemia; stool for occult blood test was positive. Endoscopy revealed a polypoid pedunculated lesion (9 cm) at D1–D2 junction with stalk attached to ampulla [Figure 1].

At D2, the ampulla was swollen with ulceration and oozing of blood. Computed tomography (CT) scan of upper abdomen showed an expansile, well-defined, thin-walled, homogeneous, fat-density SOL with thin internal septa in the second part of duodenum causing luminal filling defect, measuring 84 × 36 × 32 mm [Figure 2]. Endoscopic polypectomy was done, and gross features revealed well-defined homogeneous yellowish lesion measuring 7.5 cm × 4cm × 3.2cm [Figure 3]. Histopathology examination confirmed the diagnosis of submucosal lipoma [Figure 4]. Postoperative recovery was uneventful.

## Discussion

Duodenal lipoma is a relatively uncommon benign tumor of upper gastrointestinal tract. A study by Mayo et al. in 1963 showed that of 4,000 cases of benign gastrointestinal tumors, 164 (4%) were lipomas. The most common site was colon (64%), followed by duodenum (4%), stomach (3%), and esophagus (2%). In the duodenum, lipomas occur mostly in the second part, often in the submucosal plane, but can also be subserosal, sessile, or pedunculated.<sup>[1]</sup>

Duodenal lipomas are commonly seen between fifth and seventh decade of life, mostly in women, usually as small, asymptomatic lesion, detected incidentally.<sup>[2-4]</sup> They are smooth, mobile, and painless masses, although rarely can be large, intramuscular, or poorly circumscribed.<sup>[2,4]</sup>

Histologically, lipomas are benign soft tissue tumors composed of mature adipocytes circumscribed by fibrous capsule.

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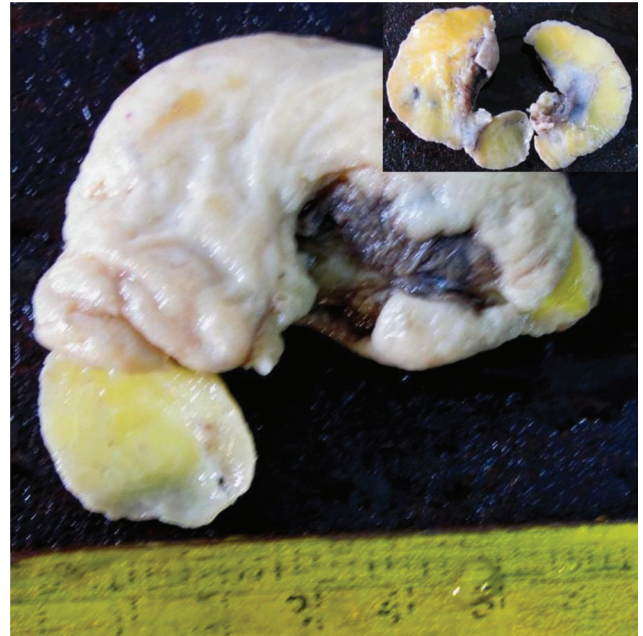
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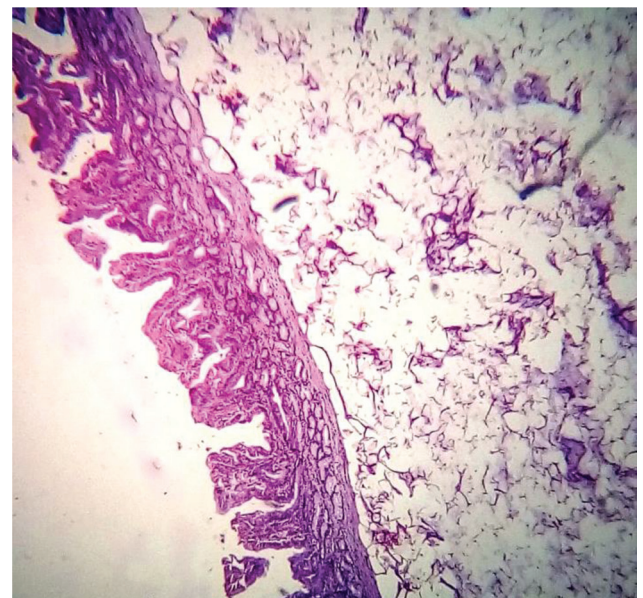
**Figure 1:** Endoscopic appearance of the lipoma arising from duodenum (D1).



**Figure 3:** Macroscopy of the resected lesion (inset, cut section).



**Figure 2:** CT scan: submucosal filling defect at D1 level.



**Figure 4:** Photomicrograph of submucosal lipoma (H&E, ×100).

Even though the etiology remains unknown, studies suggest that lipomas might be related to an embryological sequester of adipocytes or even be owing to the natural process of aging.<sup>[2,5]</sup> Symptoms depend on size and location of the tumor. Lesions less than 2 cm are usually asymptomatic. In patients with larger lesions, the most common symptoms are hemorrhage, abdominal pain, pyloric obstruction, and dyspepsia.

Additional symptoms may include diarrhea, constipation, and intussusceptions.<sup>[2,4]</sup>

New imaging techniques such as conventional endoscopy and endoscopic sonography have become important tools for the investigation of lipomas. Conventional endoscopy reveals smooth, oval or round, yellowish, solitary, protruding masses covered by mucosa and may present as ulcerated areas.<sup>[2,4,6,7]</sup>

The best noninvasive investigation for large gastrointestinal lipomas is abdominal CT scan. Imaging findings include well-delineated homogeneous mass with density between 70 and 120 Hounsfield units.<sup>[4,5]</sup>

Smaller incidental lipomas do not warrant treatment, as there is no report of malignant transformation. Lesions less than 6 cm or with endoluminal or extraluminal protrusion should undergo laparoscopic resection. Surgical excision is only indicated to alleviate symptomatology and to rule out life-threatening risks of malignancy.<sup>[6,7]</sup>

## Conclusion

Our case of submucosal duodenal lipoma is unique on account of its large size, occurrence in male sex, rarity of location, and presentation at young age. To conclude, it can be said that possibility of benign lesion such as lipoma should always be kept in mind while dealing with the cases of intestinal SOL, and it may continue to pose challenge to both surgeons and surgical pathologists masquerading as malignancy.

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