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GI IMAGE

Symptomatic Pancreatic Lipoma

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Clinical Data

An otherwise healthy 41-year-old female was referred to surgical oncology clinic after approximately 1 year of progressive epigastric pain, early satiety, and diarrhea. There was no history of weight loss, jaundice, or pancreatitis. A computed tomography (CT) scan demonstrated a 4.7 cm × 4.2 cm mass (averaging − 95 Hounsfield units (HU), consistent with the density of fat tissue) in the head of the pancreas, suggestive of a lipoma (Fig. 1). There was mild heterogeneity but no enhancing or myxoid components to suggest a high-grade liposarcoma. Serum CA 19-9 level was normal. Given the duration of symptoms and the size of the lesion, pancreaticoduodenectomy was recommended. At exploration, a soft fullness was palpable in the head of the pancreas. There was no vascular invasion or pathologic lymphadenopathy. The operation proceeded uneventfully. Final pathology revealed a well-circumscribed, 4.8-cm unencapsulated fatty lesion infiltrating the head of the pancreas. The mass was benign, consisting of mature adipose tissue (Fig. 2), with negative margins and 24 benign lymph nodes. On follow-up examination, postoperative recovery was unremarkable and all prior symptoms had resolved.

Discussion

Intrapancreatic lipoma is a rare finding with an incidental rate of 0.012% on cross-sectional imaging and less than 50 cases previously reported in the English literature.[1] The majority are less than 5 cm in size and located most commonly in the head of the pancreas. When evaluating a lipomatous lesion of the pancreas, it is important to distinguish between fatty infiltration (also known as lipomatosis), lipoma, and liposarcoma. This differentiation can be challenging on routine imaging and frozen section analysis. Lipomas may be identified on CT imaging by the presence of a homogenous, hypodense (− 80 to − 120 HU), well-circumscribed, lobulated mass. Distinguishing a pancreatic lipoma from an atypical lipomatous tumor or well-differentiated liposarcoma, however, may be difficult. Heterogeneity, contrast enhancement, or internal calcifications should raise suspicion for a liposarcoma and warrants further investigation. Primary liposarcomas of the pancreas are similarly exceedingly rare with less than ten cases reported in the literature to date.[2]

Jaundice is often mentioned as a worrisome prognostic factor but has never actually been clearly documented in the case of an intrapancreatic lipoma. In the absence of symptoms or if radiographic uncertainty exists, short-interval imaging to assess for potential growth or change in internal architecture or size may be appropriate. Endoscopic ultrasound (EUS) surveillance should be considered with caution as it is difficult to differentiate between lipoma and well-differentiated liposarcoma on EUS-fine needle aspiration.[1] On pathologic analysis (Fig. 2), lipomas can be distinguished from liposarcomas based on the absence of lipoblasts or nuclear atypia. If pathologic uncertainty exists, immunohistochemistry for *MDM2* amplification can be performed.

The vast majority (> 95%) of intrapancreatic lipomas are asymptomatic, and surgery should be considered in the presence of symptoms, as in the case presented, or when malignancy is suspected.[1, 3] This case represents one of very few symptomatic intrapancreatic lipomas with

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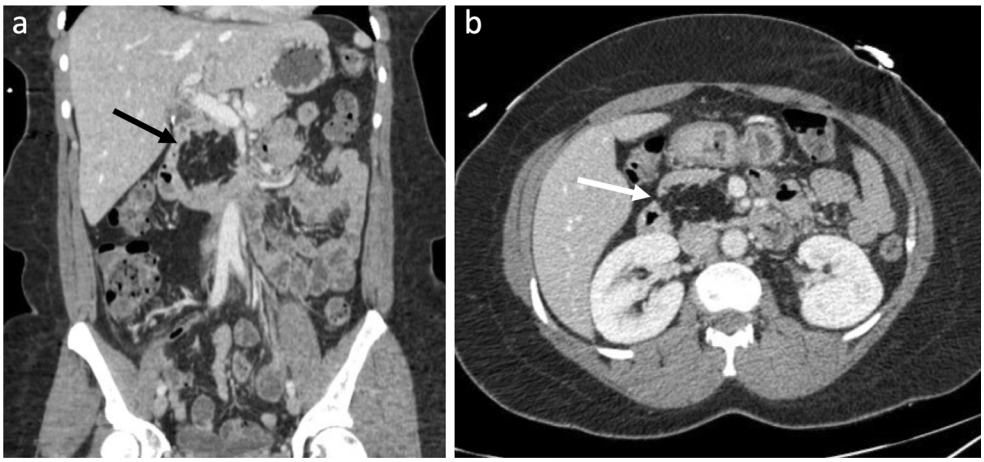

Fig. 1 Coronal (**a**) and axial (**b**) images demonstrating a pancreatic mass (arrows) with enhancement similar to subcutaneous fat, without invasion into surrounding structure, and with mild heterogeneity in the mass

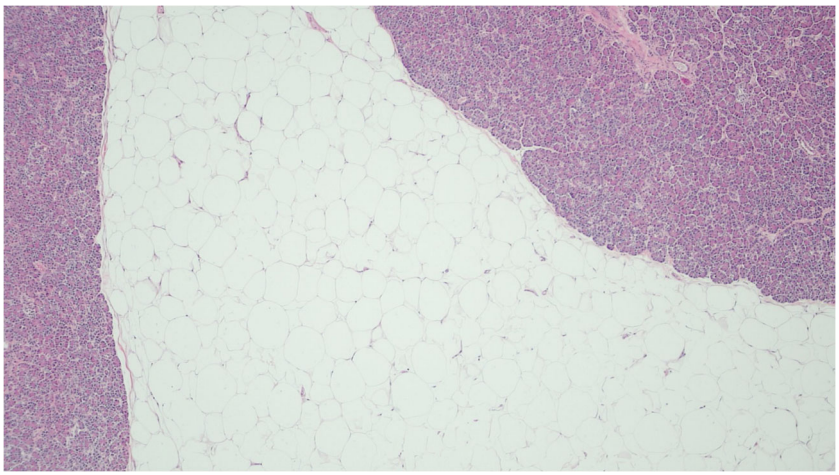

Fig. 2 Pancreas tissue and entirely bland, unencapsulated adipose tissue consisting of mature adipocytes consistent with intrapancreatic lipoma. There is no lipoblastic differentiation or nuclear atypia to suggest liposarcoma. The background pancreas shows no abnormality

documented resection. As these lesions are becoming more frequently recognized, it is important to identify the classic radiographic appearance, as demonstrated here.

Contributions Conception and design: PVD and ESG
Provision of study materials: all authors
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Final approval: all authors

Compliance with Ethical Standards

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

References

1. Butler JR, Fohtung TM, Sandrasegaran K, et al. The natural history of pancreatic lipoma: Does it need observation. *Pancreatology*. 2016;16(1):95–98.
2. Machado MCC, Fonseca GM, de Meirelles LR, Zacchi FFS, Bezerra ROF. Primary liposarcoma of the pancreas: A review illustrated by findings from a recent case. *Pancreatology*. 2016;16(5):715–718.
3. Raut CP, Fernandez-del Castillo C. Giant lipoma of the pancreas: case report and review of lipomatous lesions of the pancreas. Pancreas 2003;26:97–9.