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Case Report

Giant omental lipoma in an elderly female patient

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Introduction

A lipoma is a benign non-invasive encapsulated mesenchymal tumour that resembles normal fat. It is ubiquitous and the commonest tumour to affect soft tissues. Although a lipoma may arise in any tissue containing fat, omental lipoma is extremely rare.¹ Here we present a case of a giant omental lipoma in a 56-year-old female patient that was successfully resected.

Case report

A 56-year-old post-menopausal female patient presented with progressive abdominal distension and orthopnoea of 2

months' duration. There was no history of anorexia, weight loss, palpitations, haematemesis, engorged superficial veins, swelling of feet or other constitutional symptoms. No other comorbid conditions were present. Physical examination revealed a large soft, mobile, non-tender mass occupying almost the entire abdomen.

All haematological and biochemical parameters were normal. Ultrasonography (USG) revealed a large heterogeneously hyperechoic solid abdominopelvic mass displacing the bowel loops posterolaterally. The patient subsequently underwent abdominal contrast-enhanced computerised tomography (CT) that revealed an encapsulated ovoid fat density mass of –107 Hounsfield Units (HU) occupying the entire central abdomen and pelvis. It measured 17.0 cm × 32.0 cm × 29.0 cm in size. The mass had some non-enhancing septa within. No calcific or cystic foci were present. The mesenteric vessels and small bowel loops were displaced postero-laterally to the left upper quadrant by the mass (Fig. 1). No compression or displacement of the retroperitoneal structures was noted. The mass was supplied by the right gastro-epiploic vessels entering the mass dorsally. There was no infiltration of the surrounding viscera and no signs of gastrointestinal or genitourinary tract obstruction.

The mass was localised to the greater omentum based on its close relation to the gastrocolic ligament and blood supply from the gastro-epiploic vessels. Based on these findings, an impression of greater omental lipoma was made.

The patient subsequently underwent a midline laparotomy. A large soft encapsulated greater omental mass (weighing 6.9 kg) with engorged surface vessels was excised completely (Fig. 2). There was no ascites, lymphadenopathy or infiltration

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Fig. 1 – Sagittal reformation of CT abdomen reveals a well encapsulated fatty mass (thin white arrows) extending from D10 to S5 vertebral levels and located in the gastrocolic ligament, anterior to the stomach (white asterisk) and transverse colon (1a). Axial CECT image reveals scattered non-enhancing hazy strands within the mass (thin white arrows) as well as engorged vessels located dorsally (thick white arrow). The bowel loops and mesenteric vessels are displaced postero-laterally on the left side (white hatch) (1b).

of the surrounding organs. Post-operative recovery was uneventful.

Macroscopically, the mass was soft, yellow and encapsulated by a glistening translucent membrane with engorged surface vessels. The cut sections revealed homogenous yellow fatty contents. On microscopy, mature adipocytes without any atypia or malignant degeneration were observed, consistent with a lipoma (Fig. 2).

Discussion

Primary tumours of the greater omentum are very rare. The various primary tumours of the omentum reflect its predominant fatty, connective tissue and vascular components like leiomyosarcoma, fibrosarcoma, hemangiopericytoma, liposarcoma, leiomyoma, lipoma, fibroma and mesothelioma.²

Fig. 2 – Intra-operative photograph shows a well-encapsulated mass arising from greater omentum with engorged surface vessels (2a). Gross specimen of the mass shows it to be encapsulated by a glistening membrane with prominent surface vessels (2b). Cut section reveals homogenous fatty yellow contents confirming presence of macroscopic fat (2c). Histopathology shows the tumour to be composed of sheets of mature adipocytes with no nuclear atypia (hematoxylin and eosin, original object magnification $\times 10$) (2d).

Although a lipoma is the most common mesenchymal tumour, only about 20 cases of omental lipoma have been reported.

Depending on its size, an omental lipoma may remain asymptomatic or present with abdominal fullness, distension, anorexia or pain. When large, it may be palpable as a soft mobile abdominal lump.³ While the majority of omental lipomas have been described in children, it is usually the adults who present with features of acute abdomen.^{4,5} Large omental lipomas may undergo torsion and present as an acute emergency.⁶ A review of literature reveals the present case as the largest ever reported omental lipoma in an adult.^{7–9} There is only one report of a larger omental lipoma weighing 12.3 kg in a 13-year-old child.⁸

Radiological investigations including USG and particularly CT are essential for characterising the fatty nature of the mass, intra-abdominal localisation and detection of infiltration into surrounding organs. On USG, omental lipomas appear as well-defined homogeneously echogenic masses. Calcifications or septa are present in about 11% of cases.² However, when they are very large determining the exact location and extent becomes impossible with USG. CT provides definitive characterisation of fat content by determining attenuation values (–80 to –120 HU) and helps in localising the lesion within the omentum as opposed to the retroperitoneum or mesentery.¹⁰ In elderly patients, features suggesting malignant transformation have to be looked for, like – enhancing soft tissue components or septa, irregular infiltrative margins or involvement of surrounding viscera, ascites and lymphadenopathy.¹⁰ Magnetic resonance imaging (MRI) too due to its excellent tissue characterisation, can exquisitely demonstrate the nature of the lesion, with lipomas appearing identical to subcutaneous fat on all pulse sequences and any fibrous septa within exhibiting low signal intensity on T1- and T2-weighted images. The fatty nature of the tissue can be confirmed on chemical shift imaging and frequency selective fat suppression techniques.¹⁰ Imaging can also help detect complications like torsion of the tumour about its vascular pedicle.

The definitive management for omental lipoma is surgery. Resection is seldom technically demanding, irrespective of size, owing to its encapsulated nature with lack of infiltration into surrounding organs. The rate of recurrence after excision

is <5%.³ Laparoscopic surgery is ideal for such benign well-circumscribed lesions due to advantages like shorter hospitalisation, faster recovery and good cosmesis.⁵

In conclusion, we have presented the largest ever-reported giant omental lipoma in an adult. Omental lipoma, although a very rare diagnosis, has to be considered in the differential diagnosis of a fatty intra-abdominal mass. Imaging aids in correctly localising and characterising the tumour.

Conflicts of interest

The authors have none to declare.

REFERENCES

1. Ishida H, Ishida J. Primary tumours of the greater omentum. *Eur Radiol.* 1998;8:1598–1601.
2. Barauskas V, Malcius D, Jazdauskienė V. Lipoma of the greater omentum in a child. *Medicina (Kaunas).* 2004;40:860–863.
3. Hamidi H, Rasouly N, Khpalkwak H, et al. Childhood giant omental and mesenteric lipoma. *Radiol Case Rep.* 2016;11:41–44.
4. Tan WJ, Chan WH. Giant omental lipoma. *Singapore Med J.* 2012;53:e131–e132.
5. Kinjo Y, Adachi Y, Seki K, Tsubono M. Laparoscopic resection for torsion of an omental lipoma presenting as an acute abdomen in a 5-year-old girl. *J Surg Case Rep.* 2014;7(3).
6. Beattie GC, Irwin ST. Torsion of an omental lipoma presenting as an emergency. *Int J Clin Pract Suppl.* 2005;147:130–131.
7. Srinivasan KG, Gaikwad A, Ritesh K, Ushanandini KP. Giant omental and mesenteric lipoma in an infant. *Afr J Paediatr Surg.* 2009;6:68–69.
8. Abubakar AM, Mayun AA, Pindiga UH, Chinda JY, Adamu SA. Giant omental lipoma in a 13-year-old adolescent girl. *J Pediatr Surg.* 2009;44:2230–2232.
9. Chaudhary V, Narula MK, Anand R, Gupta I, Kaur G, Kalra K. Giant omental lipoma in a child. *Iran J Radiol.* 2011;8:167–169.
10. Pereira JM, Sirlin CB, Pinto PS, Casola G. CT and MR imaging of extrahepatic fatty masses of the abdomen and pelvis: techniques, diagnosis, differential diagnosis, and pitfalls. *Radiographics.* 2005;25:69–85.