Mature cystic teratoma in the falciform ligament of the liver

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A 38-year-old woman presented with severe epigastric pain radiating to the back. She had a similar episode six months before that lasted for a week and was treated elsewhere as pancreatitis. She was afebrile. Liver function tests and serum levels of amylase and lipase were normal. Physical examination showed tenderness and a palpable mass in the epigastrium. The computed tomography (CT) scan demonstrated a lobulated, nonenhancing soft tissue density lesion in the intersegmental fissure [Figure 1]. Inferiorly the lesion extended along the hepatoduodenal ligament. The lesion did not reveal calcifications or areas with fat density. There was no evidence of ascites, lymphadenopathy or metastases. At surgery, a 4-cm-diameter cyst containing sebaceous material was excised from within the folds of the falciform ligament. The vascular supply to the tumour appeared to arise from a pedicle in the base of the falciform ligament. There was no peritoneal inflammation. Histopathology of the lesion revealed a mature cystic teratoma with congested cyst wall and infarcted contents [Figure 2]. Her postoperative course was uneventful.

Discussion

Pathologic conditions of the falciform ligament leading to surgical intervention are exceedingly rare.[1] We document a case of mature cystic teratoma in the falciform ligament. We believe this is the second reported case of a mature cystic teratoma arising from the falciform ligament; the first being from Japan in 1976.[2]

Cystic lesions of the falciform ligament have been classified by Brown[1] as being either primary or secondary. Primary cysts stem from congenital developmental aberrations. Secondary cysts include infectious causes (echinococcal cyst and abscess), traumatic origins (bile extravasation and liquefaction of a hematoma) and neoplasms with cystic degeneration. Unusual lesions that have been described in the falciform ligament include lipoma, lymphangioma, paraganglioma, leiomyosarcoma, solitary fibrous tumor, low-grade fibromyxoid sarcoma, and endodermal sinus (yolk sac) tumor.[3] Lipomatous appendage, gangrene of the falciform ligament and internal hernias through a congenital window in the falciform ligament have also been described.[4,5]

![Figure 1: Axial CT scan shows lobulated soft tissue density lesion (black arrow) in the intersegmental fissure](image1.png)

![Figure 2: Photomicrograph shows congested cyst wall with ulcerated lining and infarcted contents comprising of keratinous material and hair shafts. (Haematoxylin and Eosin, original magnification 100x)](image2.png)
Cystic teratomas are congenital tumors that contain derivatives of all three germ layers. They are thought to arise from pluripotential embryonal cells. The characteristic constellation of findings are the presence of a fat-containing mass with a dependent element whose CT numbers are greater than normal fat (mixture of fat, hair, debris and fluid) and calcification (teeth and/or abortive bone) in a solid prominence (Rokitansky protuberance, dermoid plug). Areas of solid tissue density are frequently present in cystic teratomas and may represent gelatinous, proteinaceous fluid or connective tissue.

Occasionally, as seen in the above case, there may be no calcium or fat and diagnosis can be difficult on CT.[6]

Modern cross-sectional imaging modalities can identify a lesion in the falciform ligament area and help differentiate solid from cystic lesions with variable certainty. In the differential, a long list of lesions must be considered and histopathological evaluation is usually required for definitive diagnosis. The treatment for most falciform ligament lesions is surgical excision. Diagnostic laparoscopy can aid in anatomical localization, biopsy and surgical planning. It also offers the advantage of therapeutic possibilities like resection in cases with segmental fatty tissue necrosis or twisted lipomatous appendage of the falciform ligament.[3,4]

References