Infected and ruptured retroperitoneal teratoma

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DESCRIPTION

We present images of an infected and ruptured retroperitoneal teratoma in an 8-month-old baby girl, who presented with a 2-week history of low-grade intermittent fever and failure to thrive. On arrival at the hospital, she was lethargic, febrile and mildly dehydrated. The abdomen was distended with a palpable mass occupying the central abdomen and the left lumbar region.

The white cell count and C reactive protein were elevated with measurement of 20.9 mg/dL and 6.27 mg/dL, respectively, indicating an underlying infection. Both tumour markers, α -fetoprotein (7.56 ng/mL) and β -human chorionic gonadotropin (<1.2 mIU/mL), were within normal limits. A sonographic study of the abdomen showed multiple intra-abdominal collections. The subsequent urgent abdominal CT revealed a relatively large left

retroperitoneal cystic lesion with fatty and calcified components within (figure 1). The anterior wall of the lesion was disrupted and irregularly associated with multiple intraperitoneal collections. The overall appearances were compatible with a ruptured retroperitoneal teratoma.

The patient underwent an emergency laparotomy with excision of the ruptured retroperitoneal tumour and drainage of the interloop intraperitoneal collections (figure 2). The final histopathological result confirmed that the mass was a benign mature teratoma.

Retroperitoneal mature teratoma is a rare subgroup of teratoma. Tumour rupture and infection are known but rare complications of this tumour, which may result in significant morbidity if left untreated. Imaging plays an important role in the diagnosis of a mature retroperitoneal teratoma.

Figure 1 Images of contrast-enhanced CT of the abdomen on (A) axial and (B) coronal planes, which demonstrate the retroperitoneal teratoma in the left upper abdomen. The tumour contains fat (curved arrow) and calcification (thin arrow). The disrupted and irregular outline at the anterior aspect of the tumour indicate the site of rupture (thick arrow). The left kidney is displaced inferiorly by the mass (asterisk).

Figure 2 Images of (A) intraoperative finding of a ruptured interloop intraperitoneal collection during initial mobilisation yielding dark brownish fluid (arrow), which was subsequently drained and (B) specimen of the underlying retroperitoneal mature teratoma, containing fluid, hair, cartilaginous structures and sebaceous fluid within.

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Ultrasound is a low-risk modality, which is useful in paediatric population. However, the pitfalls of ultrasound are not capable of readily identifying calcifications, lack of anatomic resolution

Learning points

- ▶ Retroperitoneal teratoma is a rare entity and may present with complications of infection and rupture of the tumour.
- ▶ Pure benign mature teratomas should not demonstrate elevated serum tumour markers of α -fetoprotein or β -human chorionic gonadotropin.
- ▶ Cross-sectional imaging plays an important role in preoperative diagnosis and surgical planning.
- ▶ The characteristic combination of fat, calcification and cysts suggest a mature cystic teratoma as the most appropriate preoperative diagnosis. Occasionally, teeth may be identified within the tumour through imaging, which is a pathognomonic finding.
- ▶ Teratomas are normally well encapsulated and non-invasive to the surrounding tissues. A wall disruption with surrounding fluid or collections is suggestive of a tumour rupture.

and operator dependent.¹ CT scan usually reveals complex appearance of the mature teratoma with internal debris, fat attenuation and distinct calcification. In addition, CT scan may depict the precise location of the tumour and the anatomic associations with the surrounding structures, which are important information for surgical planning.² The disadvantages of CT are the risk of radiation, risk of intravenous contrast administration and relatively longer patient preparation.

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