CASE REPORT

Primary hydatid cyst in the adrenal gland

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SUMMARY

An elderly man presented with a 2-year history of refractory hypertension. His medical history, physical examination and laboratory findings were unremarkable. On subsequent ultrasound study for the evaluation of renal artery stenosis, a large mass obliterating the adrenal gland containing internal cystic structures was identified. A CT study confirmed the diagnosis of primary adrenal gland hydatid cyst. Following surgical resection, the patient's hypertension resolved and medications to control blood pressure were discontinued.

BACKGROUND

Hydatid disease (HD) is an endemic infestation in many countries.¹ This parasitic disease is due to the larval stage of the tapeworm *Echinococcus granulosus*.² The most frequent sites of hydatid cysts are the liver (59–75%), followed by the lungs (27%), bones (14%), brain (12%) and kidneys (3%).^{3–4} Other organs, such as the heart, spleen, pancreas and muscles are very rarely affected.⁵ To the best of our knowledge, there are only a couple of reports of primary hydatid cysts in the adrenal gland.⁶ We report a case of primary adrenal gland hydatid cyst presenting with hypertension.

CASE PRESENTATION

An elderly man was referred to a tertiary medical centre with a 2-year history of hypertension (systolic 155–165 and diastolic 95–100 mm Hg). He had no significant medical history apart from starting new antihypertensive medications 2 months prior. He did not suffer from flank pain, nausea or vomiting, and he was afebrile. His physical examination was unremarkable. All routine laboratory findings, such as renin, aldosterone and 24 h urinary vanillylmandelic acid (VMA) and metanephrine levels, were within the normal limits. Colour Doppler ultrasonography of both renal arteries did not show renal artery stenosis but revealed a large mass containing an internal cystic component measuring

12.1×10.2 cm overlying the superior pole of his left kidney (figure 1A). A subsequent CT of his abdomen showed a large hypodense cystic mass measuring 13×11 cm, with daughter cysts within the lesion adjacent to the upper pole of the left kidney (figure 1B). A chest CT was unremarkable. Radiological findings were compatible with the diagnosis of giant adrenal hydatid cyst.

TREATMENT

The patient subsequently underwent open laparotomy for a left adrenalectomy. Cyst drainage or aspiration was not performed during the surgical procedure. A histopathology examination confirmed HD in the adrenal gland. Following surgical resection, treatment with albendazole (10 mg/kg/day) was initiated for 6 months. The postoperative course was unremarkable.

OUTCOME AND FOLLOW-UP

Four months after surgery, the patient's blood pressure significantly decreased to normal levels measuring 125/80 mm Hg; his antihypertensive medications were discontinued. At the next follow-up clinic visit, 10 months of postsurgery, the patient remained normotensive.

DISCUSSION

Most cases of hydatid cysts involve the liver (more than 60%).³ Diagnostic difficulties arise when HD occurs in unusual locations. Most hydatid cysts that arise within the adrenal gland are part of a disseminated disease; a primary adrenal hydatid cyst is extremely rare.⁷ The clinical presentation of abdominal HD is non-specific, and abdominal pain is the most common presenting symptom.⁸ Most adrenal hydatid cysts are incidentally found during abdominal imaging for other abdominal pathologies.⁷ Arterial hypertension associated with adrenal HD is a rare presentation and may arise from external compression of the renal parenchyma, a state known as Page kidney.^{2 7 9–11}

Figure 1 (A) Ultrasound image showing a large multicystic mass overlying the upper pole of the left kidney. (B) CT image showing a large solid mass superior to the upper pole of the left kidney with cystic components.

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Ultrasonography and CT scans are the best radiological modalities for diagnosing HD, with the diagnostic sensitivity ranging from 93% to 98% for ultrasonography and approximately 97% for CT.² Hydatid cysts are classified into five subtypes based on ultrasonographic appearance¹²: type I is a well-defined, anechoic lesion; type II demonstrates separation of the membrane characterised as the 'water lily' sign; type III contains septa and intraluminal daughter cysts; type IV is a non-specific solid mass; and type V is a solid mass with a calcified capsule. Our case was classified as a type III hydatid cyst.

The treatment of choice is pericystectomy of the hydatid cyst, or, if this is not possible, total excision of the adrenal gland.⁷ In cases where the adrenal gland hydatid cyst is associated with arterial hypertension, surgical removal of the hydatid cyst may normalise the hypertension.

Learning points

- ▶ Hydatid cysts are rarely observed in the adrenal gland.
- ▶ Hydatid cysts of the adrenal gland may present with refractory hypertension.
- ▶ Surgical resection of the adrenal gland hydatid cyst may lead to normalisation of hypertension.

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Competing interests None.

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