Isolated Renal Hydatid Cyst

Diagnosis and Management

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INTRODUCTION

Hydatid cyst involving the urinary tract is relatively uncommon.[1,2] The cyst growing in the kidney is slow and usually asymptomatic lasting for 5 to 10 years.[1] This disease is endemic in parts of the Middle East, South America, Australia, New Zealand, and Alaska.[3]

We report a case of isolated renal hydatid disease presenting with right flank pain and a sensation of fullness in the abdomen. Successful treatment was accomplished with a kidney-sparing pericystectomy.

CASE REPORT

A 30-year-old man presented with right flank pain and a bloated feeling in his abdomen for the past 4 years. Physical examination revealed a smooth, non-tender, mobile mass in the right upper abdomen. The patient's medical history was unremarkable. He was living in an urban area and working as a shopkeeper. Laboratory tests revealed eosinophilia, an erythrocyte sedimentation rate of 50 mm/hr, normal serum level of creatinine, and no abnormalities on microscopic examination urinalysis. Chest radiography was unremarkable.

Ultrasonography of the right kidney depicted renal enlargement and contour deformity due to a multi-loculated cystic lesion with an echogenic center measuring 4 cm in diameter (Figure 1). Thin septum was found in some cysts. Intravenous pyelography showed mass effects on the right kidney. Computed tomography (CT) scan revealed the presence of a multicystic lesion with thick and thin internal septations. No cystic or solid lesions were found in the liver, spleen, and left kidney.

Multiple internal septa and daughter cysts with lower density than the maternal matrix were highly suggestive of hydatid cyst (Figure 2). Therefore, hemagglutination inhibition serology and latex

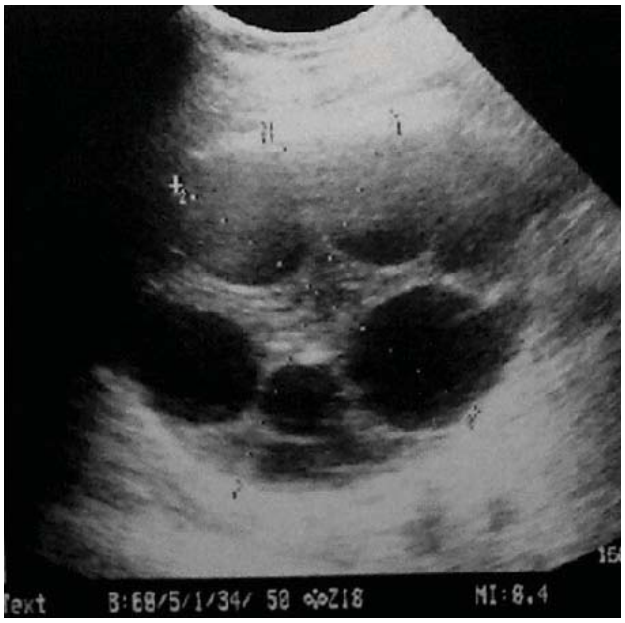

Figure 1. Longitudinal ultrasonography demonstrates a multicystic lesion in the upper pole of the right kidney. Calipers indicate approximate size of the lesion.

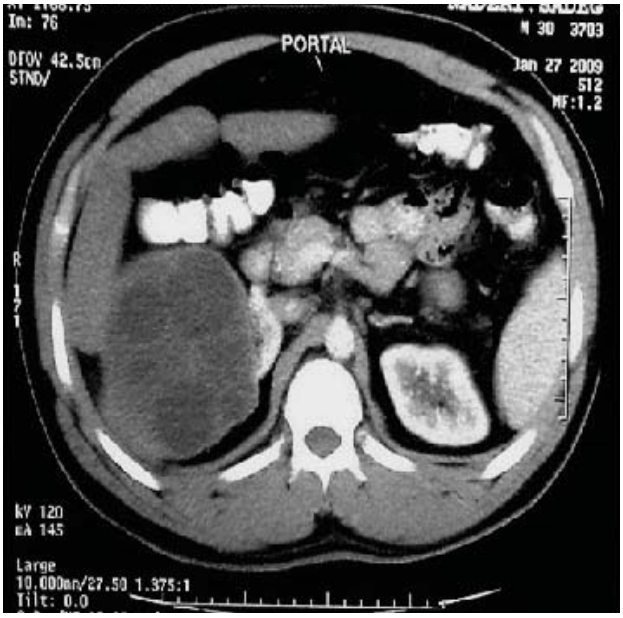

Figure 2. Computed tomography after intravenous bolus of contrast medium showing a multicystic lesion in the upper pole of the right kidney. Mass does not show contrast enhancement of the wall. Rosette structural pattern with presence of peripheral daughter cyst is seen with fluid density lower than that of parental matrix.

agglutination were performed, which had positive results.

The patient was candidate for surgery. Kidney-sparing pericystectomy was performed, and the cyst was removed. The surgical specimen was occupied with considerable numbers of daughter cysts (Figure 3).

The postoperative period was uneventful, and the patient was prescribed albendazole 400 mg twice daily for 4 weeks to prevent metastatic cyst formation. Pathologically, a multilocular hydatid cyst with invaginated scolices in the cystic specimen was reported. The patient's follow-up with abdominopelvic CT scan and chest radiography was normal in period of 2 years.

DISCUSSION

Diagnosis of renal hydatid disease is difficult even in endemic areas. Imaging studies are suggestive, but usually inconclusive, especially in a complicated cyst that mimics renal tumor or ureteropelvic junction obstruction appearance.[1,4,5] Intravenous urography may demonstrate pyelocaliceal dilatation or compression with some calcifications in the kidney's area.[6] Ultrasonography has been used to demonstrate multicystic or multiloculated masses.

Advanced radiologic techniques, such as CT and magnetic resonance imaging, play an important role in the diagnosis.[6,7] Computed tomography shows a spectrum of findings from unilocular cyst, which may have thick calcified wall, to a multiloculated cystic mass with heterogeneous density and daughter cysts.[8] There is no specific laboratory finding for renal hydatid disease. In 20% to 50% of cases, moderate eo-

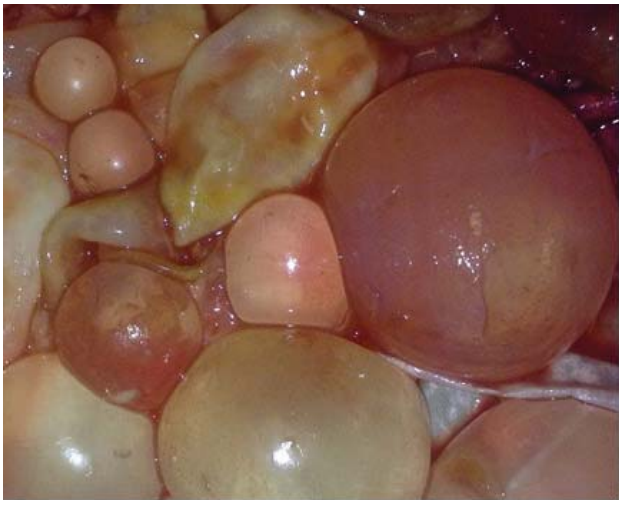

Figure 3. Surgical specimen exhibited multiple daughter cysts.

sinophilia is present.[4] The Casoni and Weinberg tests have been abolished in some centers due to their little efficacy.[9] Serologic and hemagglutination tests have low reliability, but their positivity confirms the presence of active disease. A highly specific test (79%) for hydatid disease is counter-immunoelectrophoresis against arch-5.[10]

In general, surgery is the best treatment for renal hydatid cyst, and if it is possible, kidney-sparing protocol is the logical option, but nephrectomy must be reserved for non-functioning kidneys.[1,6]

CONFLICT OF INTEREST

None declared.

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