Renal hydatid cyst presenting as an intrarenal-pelvic mass

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INTRODUCTION

Echinococcosis of the urinary tract is a rare condition and the kidneys are the most frequently affected organs. Renal hydatid cysts typically are unilateral and solitary and are found in the cortex of the kidney. Confirmed isolated pelvic hydatid cysts are extremely rare. To our knowledge, only two cases of isolated intra-renal-pelvic hydatid cysts have been reported so far. Both of these cases were operated with the preoperative diagnosis of renal calculi but were calcified intra-renal-pelvic hydatid cysts on pyelolithotomy and subsequent histopathological examination. We present a case of intra-renal-pelvic hydatid cyst masquerading as an intra-renal-pelvic mass.

CASE REPORT

A 55-year-old female presented with left flank pain, frequency, dysuria, and intermittent hydatiduria (passage of grape-like vesicles in the urine).

Ultrasonography (USG) revealed Grade IV hydronephrosis of the left kidney with ballooned out renal pelvis. An oval lesion of mixed echogenicity was arising from the renal pelvis and extending into the dilated inferior calyx of the left kidney [Figure 1a].

Contrast-enhanced computed tomography (CT) of the abdomen and pelvis showed left sided Grade IV hydronephrosis with a large complex intra-renal-pelvic cyst extending into the inferior calyx [Figure 1b].

T2 weighted Magnetic resonance (MR) imaging of the abdomen revealed a large cystic mass with a low signal intensity rim, a high-signal-intensity internal matrix which was arising from the left renal pelvis and was extending into the dilated inferior calyx of the kidney [Figure 2a and b]. T1-weighted images showed low signal intensity rim with no enhancement of the cyst on post-contrast study [Figure 2c]. On the basis of these findings, the mass was believed to be intra-renal-pelvic hydatid cyst.

The patient underwent open nephrectomy which revealed a grossly hydronephrotic kidney with papery thin cortex with a large hydatid cyst occupying the renal pelvis and the inferior calyx.

ABSTRACT

Intra-renal-pelvic hydatid cyst is a rare manifestation of renal hydatid disease, as most of the renal hydatid cysts are based in the renal cortex. We present and discuss the clinical and radiological findings of a 55-year-old woman who presented with left flank pain, frequency, dysuria, and hydatiduria. She was thoroughly investigated radiologically, and the diagnosis of intra-renal-pelvic hydatid cyst was confirmed surgically.

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DISCUSSION

Renal hydatid cysts typically are unilateral and solitary and are located in the cortex of the kidney. Confirmed isolated renal pelvic hydatid cysts are extremely rare. Isolated intra-renal-pelvic hydatid cyst possibly develops when a small renal parenchymal hydatid cyst communicates with the pelvicalyceal system and subsequently grows within the pelvicalyceal system.\[5\]

On USG, renal hydatid cysts have variable appearance presenting either as unilocular cysts, multiseptated cysts or calcified cysts.\[1,5\]

Typical CT findings of renal hydatid disease includes a unilocular cyst or a multilocular cyst with mixed internal attenuation or daughter cysts with lower attenuation than that of the maternal matrix or a calcified cyst.\[1,2,5\]

On T2-weighted MR images, hydatid cysts have a low signal intensity rim corresponding to the outer fibrous pericyst. They are hypointense on T1-weighted images and hyperintense on T2-weighted images corresponding to the fluid nature of these cysts. Collapsed membranes of the daughter cysts may appear as linear intra-cystic structures that have low signal intensity on all MR images, regardless of the pulse sequence used.\[1\]

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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