

Images in Infectious Diseases

Multivesicular hydatid cyst of the kidney

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A 62-year-old female patient was referred to the hospital with fever, acute urinary retention, and hydatiduria associated with a 5-month left flank pain. Hematological data showed slight leukocytosis ($12,700 \text{ mm}^3$) and moderate eosinophilia (9%). Serological tests were positive for antibodies against *Echinococcus granulosus*. Computed tomography (CT) of the abdomen revealed multiple hydatid forms ranging from 0.5 to 2.0 cm in diameter, involving all renal segments (**Figure 1**). The patient had end-stage chronic renal failure and underwent radical nephrectomy. Hydatidosis of the kidney was massive with numerous large and small cysts, which was suggestive of multivesicular renal hydatid infection (**Figure 2a and b**).

A polymerase chain reaction (PCR) was performed using hydatid fluid. The specific primers MS1 and MS2 were used to amplify the mitochondrial NADH subunit I (*nad1*) gene¹. For amplification of the mitochondrial cytochrome c oxidase subunit 1 (*cox1*) gene, JB3 and JB4.5 primers were used². The pathological and molecular findings confirmed *E. granulosus* and G1 genotype (**Figure 3a and b**).

The patient was treated with albendazole 10 mg/kg/day in two divided doses for 3 weeks in order to ensure protective protoscolicidal doses during the surgical procedure³. Cystic hydatid disease is extremely rare, and the incidence of renal involvement is about 2% in all hydatidosis cases. In endemic areas, physicians must have good knowledge about the disease and must be aware of its clinical presentation and complications. Molecular methods such as PCR of hydatid fluid may be necessary for the differential species diagnosis.



FIGURE 1: Computed tomography showing multivesicular involvement in the left kidney.

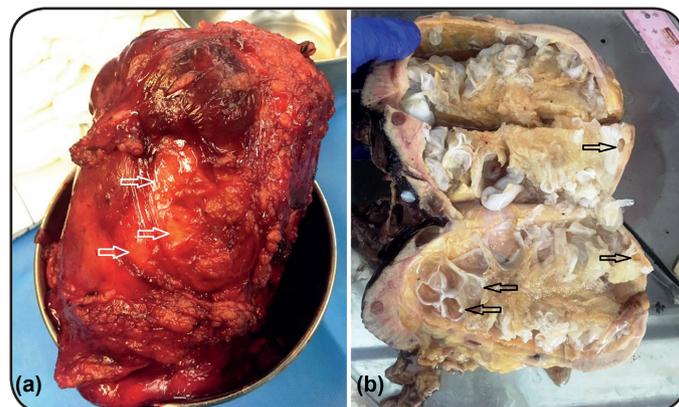


FIGURE 2: Posterior view of the resected left kidney (a) and multivesicular echinococcosis (arrows) in the cortex and medulla of the kidney (b).

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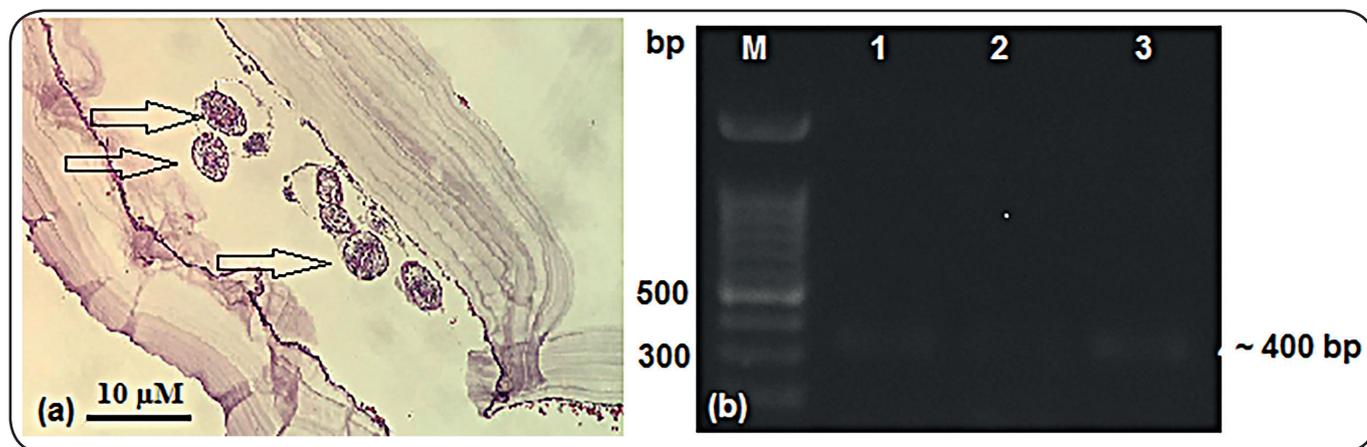


FIGURE 3: Cystic mass with protoscoleces (hematoxylin and eosin, $\times 400$) (a), analysis of PCR products; **Lane M:** molecular weight marker, **lane 1:** positive control (420 bp), **lane 2:** negative control, **lane 3:** *E. granulosus* isolated from the patient (420 bp) (b).

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