

# Primary Hydatid Cyst of the Kidney in a 10 Year Old Boy

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## INTRODUCTION

**K**idney involvement in echinococcosis is extremely rare, accounting for only 2-3% of all cases. Primary involvement of the kidney with sparing the liver and lungs is even more rare.<sup>(1)</sup> We report a rare case of primary renal hydatid disease presenting with suprapubic and left loin pain. In this case, the disease mimicked renal tumor. Successful treatment was accomplished using radical nephrectomy.

## CASE REPORT

A 10 year old boy, living in a rural environment, presented to our hospital with chief complaint of dull pain in left loin and lower abdomen for the last month. The patient had no history of urinary tract infection, hematuria or hydatiduria. His medical history was unremarkable, however he had a history of being in contact with livestock and sheepdogs. On physical examination, there was only mild tenderness in suprapubic and left loin areas, and no mass was palpable in the abdomen. His body temperature and the rest of systemic examination were normal.

Urine analysis and serum blood chemistry were normal. The chest x-ray was normal (Fig 1). The ultrasound revealed a multiseptate cystic mass measuring 50 × 52 mm in diameter in the lower pole of the left kidney (Fig 2). Other abdominal organs were normal. Computed tomography (CT) scanning confirmed ultrasonographic findings and the mass was consistent with Bosniak class IV cysts (Fig 3).



Figure 1. Chest x-ray.



Figure 2. The ultrasound showing a multiseptate cystic mass.

A provisional diagnosis of a malignant cystic mass was made and anterior subcostal transperitoneal approach for radical nephrectomy was elected. The patient didn't receive preoperative Albendazole. The mass had extensive adhesions to the left colonic mesentery, which might be a characteristic sign for hydatid disease. The kidney was re-

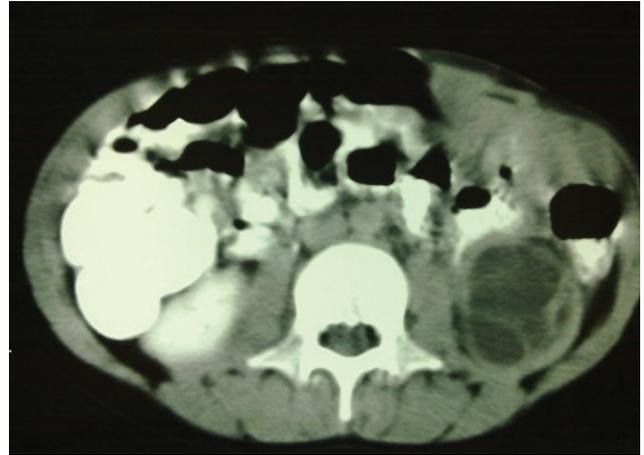


Figure 3. CT scan showing a Bosniak class IV cystic mass in the left kidney.

moved intact without rupture. Gross pathologic examination showed a cystic structure in the lower pole of the kidney with parenchymal destruction, which was surrounded by a thin rim of renal cortex (Fig 4).

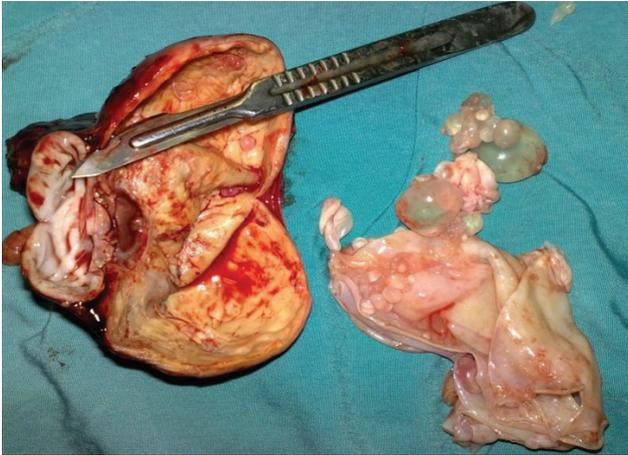
The histopathological examination revealed a hydatid cyst with three layers. Adjacent renal tissue showed severe infiltration of eosinophils and lymphocytes.

Because of complete specimen removal without spillage, after the surgery the patient was not given Albendazole, and he was referred to infectious disease clinic.

## DISCUSSION

According to the age of the patient and findings of abdominal CT scan, preoperative differential diagnoses were multilocular cyst, cystic renal cell carcinoma, cystic Wilms' tumor and hydatid cyst.

Hydatidosis, caused by *Echinococcus* spp. (*E. granulosus* and *E. multilocularis* in Iran) is one of the most important zoonotic diseases. Ingesting embryonated eggs through material contaminated infects humans; the larvae reach systemic circulation and transport to the liver, lungs and other organs. The asymptomatic period is too long and the disease might be diagnosed even after 20-25 years post infection.<sup>(2)</sup> The most common symptoms are palpable mass, flank pain, hematuria, malaise, and fever. Hydatiduria is a pathognomonic sign. Its origin is a grape-like material in the urine resulting from the rupture of the cysts into the collecting system.



**Figure 4.** Gross pathologic examination of the left renal mass.

It has been reported in 5% to 25% of all renal hydatidosis cases. In a study of 11 patients with renal Hydatidosis 7 (63.6%) had flank pain, 1 (9.1%) had post ejaculation pain, and 3 (27.3%) were asymptomatic.<sup>(3)</sup>

Primary hydatidosis of the kidney is very rare, even in endemic areas such as Iran. Diagnosis of the hydatid cyst is made on the basis of serologic tests and/or imaging studies. The possibility of a striking clinical resemblance between a hydatid cyst and malignant disease of the kidney has been emphasized in the English literature. We also indicated this important point in our patient.

In conclusion, the most important factor in the diagnosis of hydatid disease is the high index of suspicion about its possibility. Primary hydatidosis of the kidney should always be considered in the differential diagnosis of any cystic renal mass in the pediatric groups, even in the absence of accompanying involvement of liver or other visceral organs.<sup>(4)</sup>

## CONFLICT OF INTEREST

None declared.

## REFERENCES

1. Mongha R, Narayan S, Kundu AK. Primary hydatid cyst of the kidney and ureter hydatiduria; a case report. *Indian J Urol.* 2008;24:116-7.
2. Rokni MB. Echinococcosis / Hydatidosis in Iran. *Iranian J Parasitol.* 2009;4:1-16.
3. Zargar-Shoshtari M, Shadpour P, Robat-Moradi N, Moslemi M. Hydatid cyst of urinary tract: 11 cases at a single center. *Urol J.* 2007;4:41-5.
4. Hallaji F, Varedi P, Mahmoodi S, Noroozi SG, Mostafavi H, Mostafavi SR, Jouibari KM. Hydatid disease: a cause of renal cystic masses in children. *Pediatr Nephrol.* 2009 Jun;24:1251-2.