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Excisional treatment of renal hydatid cyst mimicking renal tumor with diode laser technique: A case report

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Summary

Purpose
Cystic echinococcosis, which is one of the most important helminthic infestations, is a serious life-threatening health problem in developing countries. Hydatid cyst of the kidney is a rare condition in children that can be treated with medical therapy or surgical treatment in some resistant cases. Here, we present a case of renal hydatid cyst that was treated with laparoscopic excision with diode laser.

Patients and methods
A 15-year-old female patient was admitted with abdominal pain. Abdominal ultrasonography revealed a 32 × 23 × 19-mm solid mass with cystic component at lower pole of right kidney. An indirect hemagglutination (IHA) test for echinococcosis granulosus was positive at a 1:320 titer. Other laboratory tests were within normal limits. The patient received albendazole therapy for 3 months. The follow-up magnetic resonance imaging showed a solitary lesion with exophytic extensions that contained large separations. No contrast enhancement could be detected after gadolinium injection. As no regression could be detected radiologically, surgical treatment was planned. Laparoscopic renal lower pole mass cyst excision with diode laser was performed (Figure). The patient was hospitalized for 1 day without any blood transfusion. Histopathological examination was consistent with hydatid cyst of the kidney.

Conclusion
Diagnosis of hydatid cyst of the kidney is generally made incidentally and can be misdiagnosed as a primary kidney tumor. Radiological studies may be insufficient for accurate diagnosis. In our case, laparoscopic excision of cyst and histopathological examination confirmed the diagnosis of cyst hydatid. At the postoperative second month the ultrasonography of kidneys were normal. For patients from endemic areas, hydatid cyst should always be included in the differential diagnosis. Laparoscopic excision of renal hydatid cysts with diode laser is a feasible and safe technique for resistant cases.

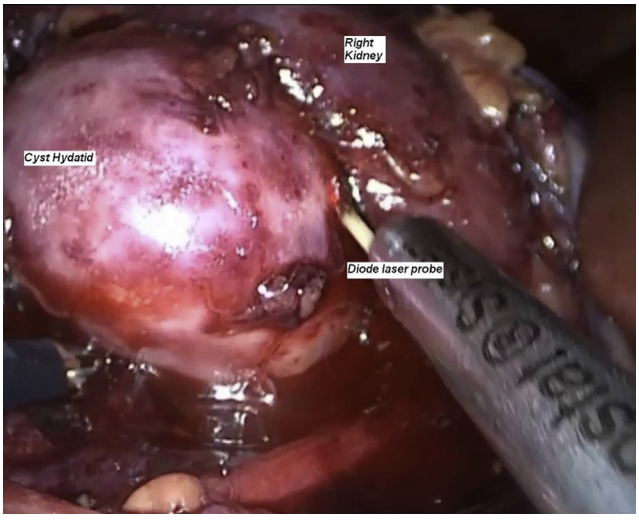

Figure Dissection of cyst from renal tissue using diode laser.

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Introduction

Cystic echinococcosis is one of the most significant helminthic infestations in developing countries because of its serious life-threatening nature. It is endemic in parts of Africa, Latin America, and southeast Turkey [1,2].

Although hydatid cysts may develop in any organ, mostly the infestation presents with liver, pulmonary and peritoneal involvement. The kidneys are a relatively uncommon location for hydatid cysts, with an incidence of 4%. Moreover, the development of renal hydatid cysts is very rare in children, with an incidence of 2—4% [3].

Most cases are asymptomatic, with incidental detection of echinococcal infestation being common while evaluating another disease. Symptoms are usually caused by mass effect of the enlarging cyst in a confined space [4].

As hydatid cyst of the kidney is a rare condition in children, it can be misdiagnosed as a primary kidney tumor. Generally, medical therapy is sufficient, but resistant cases may require surgical treatment. Here, we present a pediatric case with resistant renal hydatid cyst that was surgically excised using a diode laser.

Case presentation

A 15-year-old female patient was admitted with abdominal pain. An abdominal ultrasonography (USG) revealed a 32 × 23 × 19-mm solid mass with cystic component at the lower pole of the right kidney. An IHA test for echinococcosis granulosus was positive at a 1:320 titer. Other laboratory tests were within normal limits. The patient received albendazole therapy for 3 months. The follow-up magnetic resonance imaging (MRI) showed a solitary lesion with exophytic extensions that contained large separations (Fig. 1). No contrast enhancement could be detected after gadolinium injection. As no regression was detected radiologically, an initial diagnosis was made of renal tumor and surgical treatment was planned. At the beginning of the surgery, a double j catheter was inserted into the right ureter endoscopically. The patient was positioned laterally with lumbar flexion. A 10-mm trocar was inserted from the umbilicus by open Hasson technique and pneumoperitoneum was performed. Two 5-mm trocars were inserted under the vision of a 30° telescope. Laparoscopic excision was performed using a transperitoneal approach. The hepatic flexura of the colon was dissected and medialized. The hilus of the right kidney was dissected and the pelvi-ureteric junction, artery, and vein of the kidney were exposed. Vascular tissue was prepared for any emergent condition that required occlusion, but vessels were not clamped. The hydatid cyst was found at the lower pole of the right kidney and dissected from surrounding tissues (Fig. 2). A diode laser was used for dissection and this was effective on hemostasis and reduced the procedural time (Fig. 3). Moreover, the diode laser was also used for dissecting the cyst border and was effective at cutting the tissue. Cyst was removed from the lower pole of the kidney without contamination with cyst content. The Jackson Pratt (JP) drain was inserted from the port side and lay on the dissection area. No urine or significant blood from the JP drain was observed postoperatively. The defect of the resection bed was checked for bleeding and any extravasation of urine. There was no damage to the collecting system and the cyst was independent from it. Tissue glue (Tisseel Lyo, Baxter Healthcare, Norfolk, UK) was applied to the resection bed. The cyst was taken out from the abdomen by endobag. Tissue glue was applied to the surface of the dissection bed (Fig. 4). The patient was hospitalized for 1 day. After an uneventful postoperative period she was discharged. Histopathological examination was consistent with hydatid cyst of kidney and thus confirmed the diagnosis (Fig. 5). At 2 months postoperatively, the USG imaging of kidneys was normal (Fig. 6).

Discussion

Extra renal hydatid disease with renal involvement is more common than isolated renal disease [1]. Renal hydatid

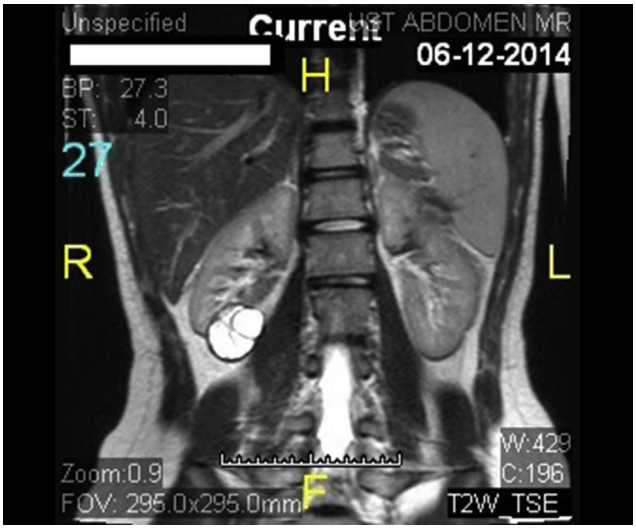

Figure 1 MRI showing a solitary lesion with exophytic extensions containing large septations.

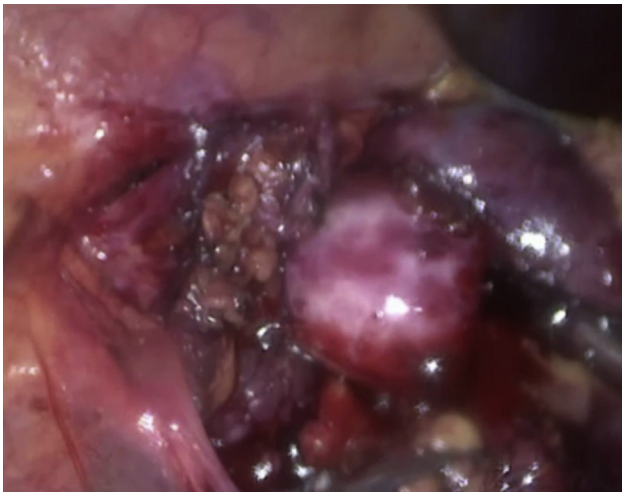

Figure 2 Liberalization of renal mass from the surrounding healthy tissue.