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Retroperitoneoscopic laparoscopic treatment of renal hydatid cyst in a child

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Abstract A 17-year-old girl with the diagnosis of right renal hydatid disease was treated by retroperitoneoscopic technique. No complications occurred at peroperative and postoperative periods. There were no clinical symptoms and radiologic pathologic causes to show recurrence at postoperative second year. This is the first case that is reported via retroperitoneoscopic laparoscopic approach at the treatment of renal hydatidosis in children. We prefer retroperitoneoscopic approach to avoid intraperitoneal contamination. Retroperitoneoscopic laparoscopic treatment can be an alternative treatment technique at renal hydatidosis therapy because of its advantages to conventional surgery, Although further reports of its long-term outcomes and additional experiences are necessary.

Hydatid disease is a parasitic infestation caused by *Echinococcus granulosus* that is endemic in Africa, Latin America, Mediterranean, and Turkey [1,2]. Hydatid cysts are mostly presented in the liver (70%) and lungs (25%). Renal involvement is uncommon (2%-4%) [3,4]. Another organ involvement with renal hydatidosis is reported 44% of these cases [2].

Laparoscopic renal hydatid cyst treatments were reported since 2006 [5]. Two renal hydatidosis case were reported in children who underwent transperitoneal laparoscopic surgery [6,7]. We prefer retroperitoneoscopic approach to avoid intraperitoneal contamination. This is the first case that is reported via retroperitoneoscopic laparoscopic approach at the treatment of renal hydatidosis in children.

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1. Case report

A 17-year-old girl applied with abdominal pain that has started 6 months ago. Any physical finding except suprapubic sensitivity was determined at physical examination. Abdominal ultrasonography demonstrated 2 multivesicular septated large cyst (50 and 28 mm) at the upper pole of the right kidney (Fig. 1A). There were no other cysts at the left kidney or another intraabdominal organ. Hydatid cyst was reported as prediagnosis, and serologic tests for *Echinococcus granulosus* were positive. Routine serum urine studies were unremarkable, and chest x-ray was normal. Static kidney scintigraphy demonstrated hydatid cyst at right kidney (Fig. 1B). Invasive radiology was not performed because of its multivesicular septated ultrasonographical appearance. She was treated with albendasole therapy for 3 weeks preoperatively.

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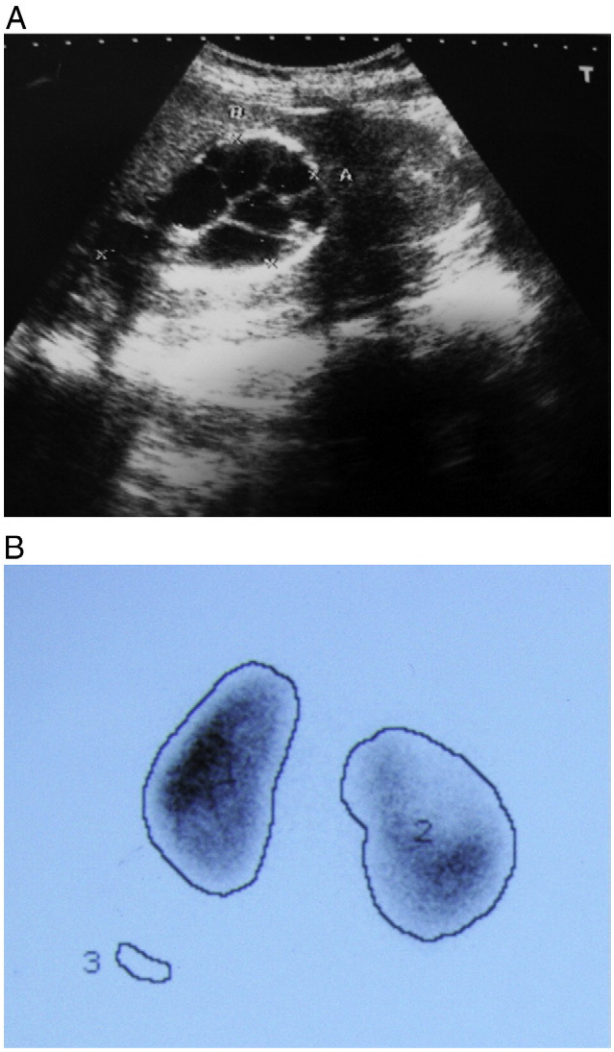

Fig. 1 (A) Image of renal cyst at ultrasonography. (B) Image of renal cyst at scintigraphy.

The patient was placed in the right lateral decubitus position. Three trocars (5, 5, and 10 mm) were used under the vision of a 30° telescope. Ten-millimeter trocar was placed in the subcostal posterior axillar midline. The retroperitoneal access was created with balloon dilatation. Then two 5-mm trocar were placed to midaxillar and anterior axillar midline with triangular principle. After the exploration, the adhesions between periton and cysts that have been formed with previous inflammations were dissected meticulously (Fig. 2A). Then the cysts were punctured and aspirated. Cystotomy was performed via hooc cautery, and germinal layer and vesicular cysts were aspirated subsequently without intraabdominal contamination (Fig. 2B). We extended cystotomy and provided unroofing of the cyst wall. All cyst wall, germinal layer, and vesicular cysts were aspirated without using an endobag (Fig. 2C). Consequently, cyst cavity was irrigated and aspirated with 3% sodium chloride, and a Hemovac drain was indwelled to residual cavity. No complications

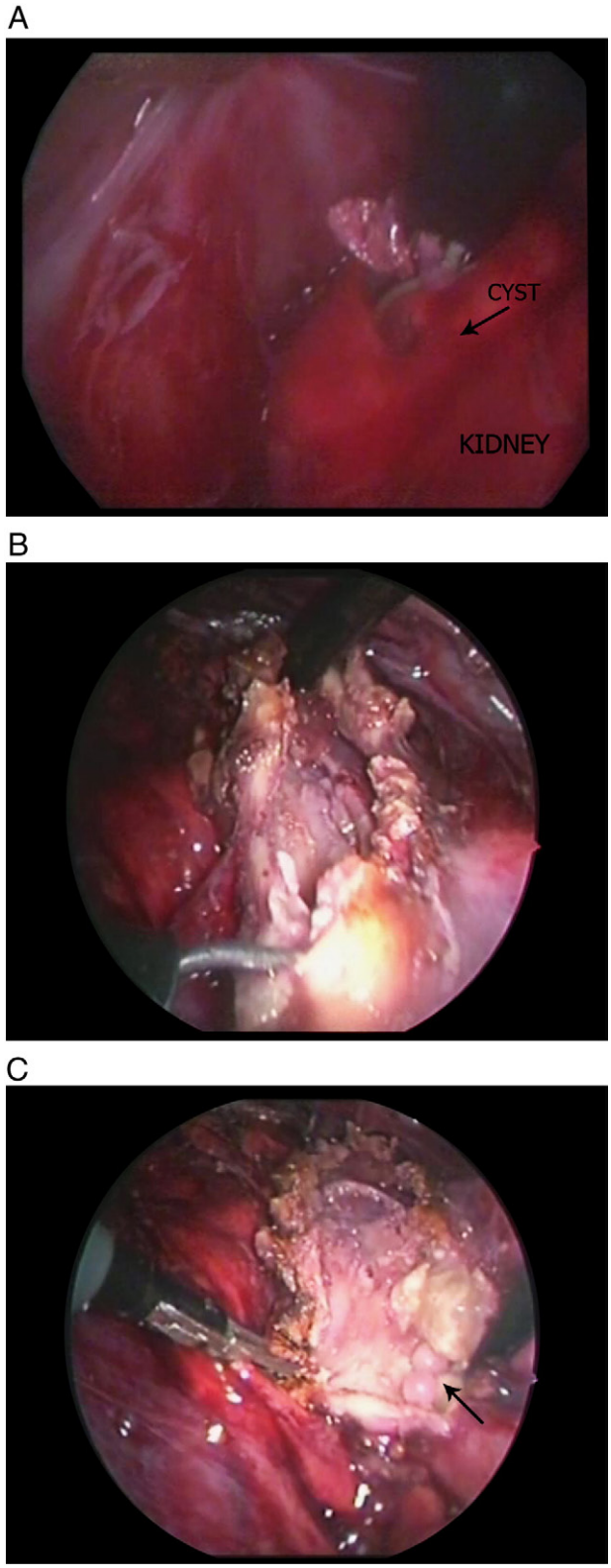

Fig. 2 (A) Cyst appeared after dissection. (B) Cystotomy performed via hooc cautery. (C) Germinal layer and vesicular cysts were aspirated.

occurred at peroperative and postoperative period. The drain was withdrawn at postoperative second day, and the patient was discharged on the third day. Oral albendazole therapy was continued 3 months after operation. No clinical symptoms and radiologic pathologic causes are seen to show recurrence at postoperative second year.

2. Discussion

Renal hydatid disease should be considered in children presenting with renal cyst. Oral albendasole therapy, percutaneous drainage, and conventional surgery can be performed at renal hydatid disease treatment [8,9]. Inadequate renal parenchyma and multiseptations limited the use of percutaneous drainage. Laparoscopic treatment was reported at hepatic hydatidosis therapy previously. Retroperitoneoscopic laparoscopic approach can be preferred to avoid seeding intraperitoneal cavity.

Retroperitoneoscopic laparoscopic treatment can be an alternative treatment technique at renal hydatidosis therapy because of its advantages to conventional surgery, although further reports of its long-term outcomes and additional experience are necessary.

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