

# Laparoscopic Management of Renal Hydatid Cyst

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## ABSTRACT

I submit herewith, a case report of a 55-year-old male farmer, who developed a large left renal lower pole hydatid cyst. He was successfully treated laparoscopically in April 2007, via the transperitoneal access. There were no intraoperative complications and over a 2.5 years follow-up period. He was essentially asymptomatic and disease free. To the best of my knowledge, this is only the fourth reported case of laparoscopic treatment of renal hydatid cyst.

**Keywords:** Renal hydatid, Laparoscopically transperitoneal.

**How to cite this article:** Joshi AS. Laparoscopic Management of Renal Hydatid Cyst. World J Lap Surg 2012;5(3):150-152.

**Source of support:** Nil

**Conflict of interest:** None declared

## INTRODUCTION

Hydatid disease is endemic in cattle and sheep-raising regions of the world. The treatment of hydatid cysts is principally surgical. With advances in laparoscopic techniques and equipment, hydatid disease has become manageable by the same.

## CASE REPORT

A 55-year-old farmer presented to our hospital in March 2007 with left-sided abdominal pain and lump in left side of abdomen. Ultrasonography (USG) and computed tomographic (CT) scan of the abdomen revealed a large hydatid cyst, 15 cm in diameter, arising from the lower pole of left kidney (Figs 1 and 2). He was given albendazole 600 mg OD for 2 weeks preoperatively. The surgery was performed under general anesthesia, with the patient in supine position with a left side elevation of 15°. After

establishing pneumoperitoneum with the closed method, using Veress' needle and CO<sub>2</sub> insufflation, the trocars were inserted. Two 10 mm and two 5 mm trocars were used. Dissection was commenced (Fig. 3) by reflecting the descending colon medially after incising the lateral peritoneal fold so as to enter the retroperitoneal space. The cyst wall was well demarcated. The cyst was then surrounded from all sides by hypertonic saline-soaked gauze pieces to avoid contamination of the peritoneal cavity in the event of spillage of the contents of the cyst. The second 10 mm trocar was then introduced under laparoscopic vision directly into the cyst (Fig. 4). No spillage occurred at the trocar entry site during or after the entry. A 10 mm suction cannula was then inserted into the cyst and the contents were sucked out (Fig. 5). Hypertonic saline was then instilled into the cyst through the second channel on the suction cannula, was kept *in situ* for 10 minutes and was then sucked out. Then the laparoscope was passed into the cyst to directly visualize and confirm complete evacuation (Fig. 6). After this the scope was reinserted through the subumbilical 10 mm trocar and the intracystic 10 mm trocar was withdrawn out of the cyst. A cystotomy was then performed to gain access into the cyst after which the endocyst was removed in toto and placed in endo bag. The remnant ectocyst was deroofed (Fig. 7) at multiple places where it was bare, taking care not to injure the descending mesocolon. These chunks of ectocyst were all extracted with the endocyst using the endobag. After confirming hemostasis at the edges, the resulting cavity was packed with greater omentum held in position with 4-5 silk stitches. A 28 Fr tube drain was passed through the lateral trocar site

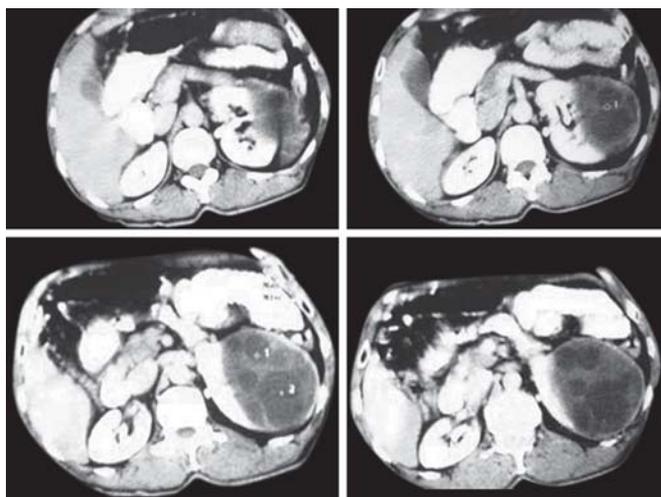


Fig. 1: CT image of LT renal hydatid 1



Fig. 2: CT image of LT renal hydatid 2



**Fig. 3:** Cyst seen through descending mesocolon



**Fig. 6:** Intracystic view



**Fig. 4:** Sharp 10 mm trocar entry into cyst



**Fig. 7:** Deroofing of ectocyst



**Fig. 5:** Sucked out scolices and hydatid sand

and left *in situ* in the left paracolic gutter. The procedure lasted for 120 minutes. There were no complications, the drain was removed on postoperative day 3 and the patient was discharged on the fourth postoperative day. Albendazole was continued for 6 weeks postoperatively.

## DISCUSSION

Isolated kidney involvement in echinococcosis is extremely rare (2-3% of cases).<sup>2</sup> There are no diagnostic clinical signs and symptoms except cystic rupture into the collecting system, which leads to acute renal colic and hydatiduria.<sup>3,4</sup> Diagnosis is made on radiological imaging. Surgery is the treatment of choice in renal hydatid cyst. Removal of hydatid cyst is possible in most cases (75%). Nephrectomy (25% of cases) must be reserved for destroyed kidney. Maximum care should be taken during the surgery to avoid spillage of contents. During kidney-sparing surgery a scolicial solution should be used before opening the cyst to kill the daughter cysts and therefore prevent further spread or anaphylactic reaction.<sup>1,5</sup> I conclude that it is safely possible to laparoscopically manage this rare entity without compromising on the basic principles of operative treatment of hydatid cyst, namely controlled evacuation of cyst contents, instillation of appropriate scolicial agent for optimum contact time, meticulous prevention of spillage of cyst contents and removal of germinal membrane of the cyst.

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