

## Case Report

# A complex renal mass: always a malignancy?

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### ABSTRACT

A complex renal mass arousing suspicion of malignancy warrants exploration. Echinococcal etiology without any other organ involvement is a rarity. Experience with such a singular case managed laparoscopically is presented and discussed.

**Keywords:** Isolated renal hydatid cyst, Renal cell carcinoma, Laparoscopic partial nephrectomy

### INTRODUCTION

An isolated symptomatic renal complex cystic mass is usually of neoplastic origin, but not always. Infection may be the unlikely culprit. Rarely, only in about 2%-3% cases, echinococcal etiology has been associated.<sup>1</sup> We hereby present an unsuspected case of this infection, masquerading as neoplasm, which was managed laparoscopically at our center.

### CASE REPORT

A 43 years old male presented with 2 months history of painless haematuria, with no attendant lump, graveluria, loss of appetite, or weight loss. Clinical examination did not reveal any abnormality. Abdominopelvic computed tomography with intravenous contrast revealed a well-defined, thick-walled, non-enhancing, solid-cystic lesion measuring 42×45×76 mm in the right perinephric location, displacing the right kidney medially and extending till segment VI of liver superiorly without infiltration of hepatic parenchyma (Figure 1). Urine analysis, renal and liver function tests, and hydatid serology (Immunoglobulin G and M) were within normal limits.

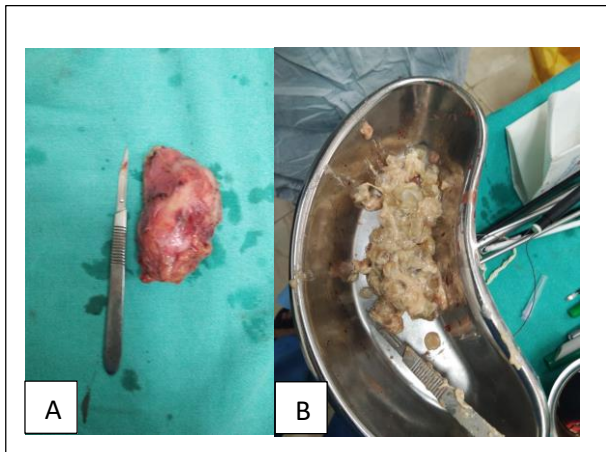
He underwent a laparoscopic transperitoneal nephron-sparing cystectomy. Intra-operatively, an 8 x 8cm cyst

originating from the superior pole of the right kidney with a calcified wall was excised without any spillage. On opening the excised specimen, numerous daughter cysts within the mass were seen (Figure 2a, 2b).



**Figure 1: CECT abdomen and pelvis showing well-defined, thick walled, non-enhancing, solid-cystic lesion measuring 42×45×76 mm in the right perinephric location (yellow arrow).**

Histopathological examination of the mass showed microscopic features of laminated ectocyst and an inner germinal layer endocyst comprising of daughter cysts and brood capsule with scolices along with the presence of necrotic material, consistent with Echinococcal etiology.



**Figure 2: (A) Excised specimen with intact cyst wall.  
(B) Cut open section of cyst showing multiple daughter cysts.**

Postoperatively the patient was treated with Tab Albendazole 400 mg BD for four weeks and he is recurrence-free on follow-up for the last three years.

## DISCUSSION

An isolated symptomatic complex cystic mass arising from the kidney is usually of neoplastic origin unless proven otherwise. Isolated hydatid cyst of the kidney is extremely rare, seen in 2%-3% of cases, and to date, only a few such cases have been reported in the literature.<sup>1</sup> This is because larvae that invade the gastrointestinal tract must first escape sequestration in the liver and lungs to gain access to the systemic circulation and thence to the kidney. Most such patients are asymptomatic without affecting renal function, until the lesion progresses, leading to mass effect with symptoms of dull flank pain, hematuria, and a palpable mass.

Contrast-enhanced computed tomography is pivotal, demonstrating a hypo or hyperdense walled-off mass (cyst wall sign) that does not enhance with contrast medium with peripheral calcifications, unlike the malignancy. As happened in our case, immunological tests for hydatid have a lower sensitivity.<sup>2</sup>

Though various modalities for the treatment of renal hydatid cyst including medical treatment and percutaneous intervention like PAIR (Puncture, Aspiration, Injection, Re-aspiration) do exist, a surgical cure remains the gold standard.<sup>3</sup> Prophylactic oral Albendazole is prescribed, lest per-operative inadvertent spillage. We did not follow this practice, as hydatid

etiology was not suspected. We treated him with the anthelmintic for four weeks post-surgery.

Nephron-sparing surgeries, as in our case, are possible in 75% of the cases as total nephrectomy is reserved only for cases in which the cysts invade the entire kidney.<sup>4</sup> With the advent of laparoscopic surgery, both the transperitoneal and retroperitoneal approaches have been reported.<sup>5</sup> The latter is preferred, to avoid peritoneal seeding if rupture occurs.<sup>6</sup> In our case, as the mass was calcified and RCC was a consideration, the transperitoneal approach was undertaken.

## CONCLUSION

Hydatid disease is a rare cause of isolated complex renal mass, masquerading malignancy. Laparoscopic partial or total nephrectomy without spillage gives a recurrence-free outcome.

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