

# Isolated Renal Hydatid Cyst Masquerading as Cystic Renal Cell Carcinoma: A Case Report

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## ABSTRACT

Incidentally detected renal cysts are always a diagnostic challenge especially when they present with equivocal features on imaging. Proper diagnosis is of paramount importance as it affects the treatment decisions. Septal and nodular enhancement on computed tomography (CT) is the strongest predictor of malignant process. A multilocular cystic lesion with heterogeneity on CT goes in favour of hydatid disease. Though the treatment in both these cases is surgical excision, a more careful study of image may ease the treatment planning process much more. We report a case in middle aged lady who presented with vague abdominal pain with loss of weight, who was found to have a cystic mass in the upper pole of the left kidney on imaging turned out to be hydatid cyst though the radiological features were in favour of cystic renal cell carcinoma.

**Keywords:** Cystic renal diseases, Hydatid cyst, Partial nephrectomy, Renal cell carcinoma

## CASE REPORT

A 48-year-old lady presented to our outpatient department with a vague pain in the abdomen weight loss since last six months. The lady appeared moderately built but poorly nourished without any other positive findings on clinical examination. Her blood and biochemical examination gave no clue to the diagnosis as there was only raised Erythrocyte Sedimentation Rate (ESR). Abdominal ultrasound detected a left upper pole mixed density lesion in the kidney [Table/Fig-1]. Contrast enhanced computed tomography (CECT) revealed a large cystic mass of 7 cm size with very faint septations in the upper pole of left kidney with some solid components with peripheral enhancement [Table/Fig-2,3]. As the cyst fell into Bosniak Type IIF [1], we placed the patient on antibiotics for 4 weeks but there was very little change in the character of the cyst.

With this investigation background, we suspected a cystic RCC and planned a trans abdominal approach. On entering the retroperitoneum we found a cystic mass in upper pole of the left kidney with no lymph nodes. The boundaries were defined, vessels were isolated and then renal capsule was opened at the point where the mass abutted with normal lower pole. Rest of the abdomen was isolated by sterile mops so that any inadvertent leakage doesn't lead to abdominal seedling. Upper pole nephrectomy was planned and dissection was carried out. The cyst opened at the lateral most part while taking the specimen out of the abdomen, when we found daughter cysts coming out to our surprise [Table/Fig-4]. There was

no communication of the cyst with pelvicalyceal system. The whole area was irrigated with hypertonic saline solution and the wound was closed over a drain. Histopathological examination of the specimen confirmed the diagnosis of hydatid cyst [Table/Fig-5,6]. Patient was placed on Tab Albendazole 400 mg twice a day for four weeks.

## DISCUSSION

Cystic renal masses are a diagnostic dilemma especially when they belong to Bosniak Type II and III, where as Type I and Type IV are diagnosable on computed tomography very easily [2]. Though the imaging provides the clue to the diagnosis, definitive diagnosis is possible only on histopathological examination in many cases.

In our case, the patient had only vague abdominal pain with loss of weight without any urinary symptoms. On evaluation she was found to have a Bosniak Type II F cystic lesion on CECT. The large sized lesion with few faint septations with some solid component and peripheral enhancement made us to think about malignancy.

CRCC is a very rare neoplasm that forms 3.1 to 6% of the conventional RCCs [3]. It is a very low grade neoplasm unlike conventional clear cell RCC and has an excellent outcome. When the patient has symptoms such as haematuria, the diagnosis is more easily compared to the case as ours where there were no symptoms. Treatment of CRCC is surgical excision and it has an excellent prognosis. A high degree of suspicion is necessary to diagnose such condition as imaging features that are suggestive



[Table/Fig-1]: Pre Operative USG film demonstrating space occupying lesion in the upper pole of left kidney

[Table/Fig-2]: Plain CT showing heterogenous cystic lesion in kidney with thin septae

[Table/Fig-3]: Post contrast CT showing cystic renal mass in upper pole of left kidney



**[Table/Fig-4]:** Excised cyst with daughter cysts **[Table/Fig-5]:** Photo micrograph showing lamellar membranes of the hydatid cyst (40x magnification, H & E stain)  
**[Table/Fig-6]:** Photo micrograph showing sclerotic glomerulus with part of pericyst (100x magnification, H & E stain)

of the condition are cystic mass with fine septations with peripheral enhancement [4].

Similarly primary isolated renal hydatid disease is also rare and amounts to only 2 to 4% of all the cases. The disease is common in sheep rearing population and the patient remains symptomless for a long time. The patient may present with hydatiduria occasionally, when the patient says he is passing grape skin like structures in urine, then the diagnosis is obvious. The only test with highest specificity for hydatid disease is counter immune electrophoresis against arch-5. Ultrasound may detect a multicystic masses in the kidney. CT characterizes the lesion more clearly with a spectrum of findings from unilocular cyst with or without wall calcification to multiloculated cystic mass with heterogeneity and daughter cysts and classical spoke wheel appearance. However the final diagnosis is always histopathological. The treatment in most of the cases is surgical excision with perioperative coverage of Albendazole 400 mg twice a day for two to four weeks [5,6].

Though we could remove the offending cystic lesion in the kidney without much spillage, which is the treatment in both the above mentioned conditions, it is always better to have a pre operative definitive diagnosis in hand so that appropriate surgery is planned well in advance. The best predictor of malignancy in an equivocal cystic lesion on CT is the septal and nodular enhancement [7]. The absence of such an enhancement goes in favour of benign cyst. The therapeutic decision making is much easier once the issue is settled on imaging.

## CONCLUSION

Differential diagnosis of an incidentally detected cystic renal mass is more complicated when it falls into Bosniak Type II and III cysts. A high index of suspicion and looking into the finer details of the imaging may help in the diagnosis. However the final diagnosis is only by histopathology which may bring out a surprise many a time.

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