Case Report

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Isolated cystic renal echinococcosis: a rare case report

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ABSTRACT

Hydatid cyst of the kidney is one of the rare condition caused by the larval stage of *Echinococcus granulosus*. The incidence of renal involvement is about 2% of all hydatid disease in humans and isolated renal involvement is extremely rare. Hydatid disease is frequent in endemic regions and sheep farming areas. Here, a case of 21 year old female with isolated primary hydatid cyst of the kidney is presented, that was evaluated clinically and investigated by x-ray, abdominal ultrasonography, intravenous urography and finally confirmed by histopathology. No complications occurred at peroperative and postoperative periods. The patients were given 3 cycles of Albendazole (10 mg/kg in two divided doses), each for a period of four weeks followed by a 2 week's rest. The patients are under strict follow-up and no recurrence has been documented yet.

Keywords: Hydatid disease, Nephrectomy, Pyonephrosis

INTRODUCTION

Renal echinococcosis is a rare acquired disease of the kidney. The larval stages of *Echinococcus granulosus*, are responsible for cystic echinococcosis or hydatid disease.¹

Humans and other mammals like sheep, dogs, rodents are all affected with this parasite.² Dogs are definitive host and humans become infected because of contaminated food, soil and animal hair.³ The kidneys are involved in less than 2% of all human hydatidosis, isolated renal involvement is even rarer.⁴

In this paper we present a case of isolated renal hydatid cyst with different presentation of pyonephrosis in a young female.

CASE REPORT

A 21 year old female belonging to rural area came to OPD with complaints of pain in right flank associated

with fever and dysuria on and off for past 6 months. Physical examination was unremarkable. Patient was investigated for the same. She was diagnosed as pyonephrosis. Patient underwent PCN which had pus discharge from it. Patient was not relieved of symptoms so came to our hospital. USG abdomen was done which suggested enlarged left kidney of size 18.5 cm with moderate hydronephrosis with heterogenous hypoechoic areas within. DTPA scan was done which showed non functioning left kidney. Following that patient was planned and taken up for nephrectomy. All blood investigations were within normal limit. Urine routine and microscopic examination had raised WBC count. Patient was taken for laparoscopic nephrectomy.

Laparoscopic procedure was converted to open as bowel was adhered near the hilum and no planes were available. Total nephrectomy was done. On opening the specimen multiple cystic tissues were present in Figure 1 and 2.



Figure 1: Cut section of kidney showing multiple cystic tissue.



Figure 2: Multiple cystic tissue seen on cut section of kidney.

Specimen was sent for histopathology, which confirmed hydatid cyst of kidney with end stage renal disease as given in Figure 3.

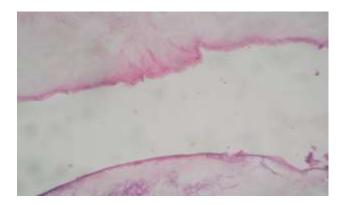


Figure 3: H & E staining, 40X laminated cyst wall of hydatid cyst.

Ultrasound of whole abdomen and x-ray chest were performed to rule out hydatid cyst in other organs. No other organ showed features of hydatid cyst. Hence diagnosis of isolated renal hydatid cyst was made. Serological test was also done and it was strongly positive and further documented the confirmation of hydatid cyst. No recurrence has been documented in one year follow up.

DISCUSSION

Hydatidosis is cyclo-zoonotic infection caused by parasite *Echinococcus granulosus* also called flat worm. This parasite is commonly found in sheep raising countries like India, Turkey and Middle East.¹

Humans and other mammals like sheep, dogs and rodents are all affected with this parasite.² Dogs are definitive host and humans become infected because of contaminated food, soil and animal hair.³

Liver is most commonly affected organ followed by lungs and kidneys. Renal involvement accounts for 2-3%. But isolated renal involvement is extremely rare.⁴ Renal involvement occurs when the larva passes through the pulmonary circulation reaches the kidneys without getting filtered in liver.⁵

In renal hydatidosis patients continue to be asymptomatic for years. The usual presentation includes flank pain, fever, intermittent hematuria, lump palpable in loin. One of the rare presentation is hydatiduria, occurring in 5-10% of cases. In our case there was no history of hydatiduria.

Laboratory investigations are nonspecific for renal hydatidosis. Eosinophilia can be seen in around 25-50% of cases. Casoni test that was used previously has now been abolished because of fewer efficacies. Serological tests are used when there is doubt in diagnosis. Immunoelectrophoresis against arch-5 is highly selective. Highly selective.

Radiological test are important in making diagnosis. CT scan is more informative and accurate than ultrasonography. It detects the lesion and demonstration of membranes can be made which confirms the diagnosis. MRI is an alternative to CT scan which can detects solitary or multiple cystic lesion surrounded by thin hypointense rim. 12

Oral Albendazole as medical treatment is given in the dose of 10 mg/kg/day for 28 days followed by 2 weeks interval. Three cycle of this scheme is followed. ¹³ But medical treatment is unreliable with success rate of 40%. Radiological procedure percutaneous aspiration injection reaspiration followed by percutaneous drainage has success rate of 70%. ¹⁴

Surgery is mainstay for treatment. Various surgical options are available ranging from renal sparing surgery to total nephrectomy. ¹⁰ Total nephrectomy is indicated in non-functional kidney, as in our case. ¹⁵ Laparoscopic repair is another alternative, but the major risk associated with this approach is chances of spillage. ¹⁶ Postoperative course of Albendazole should also be given to reduce the chances of recurrence. ¹ In our patient, there is no recurrence seen in one year follow-up.

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