



## Primary hydatid cyst of kidney

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### ABSTRACT

Primary involvement of kidney is rare in cases of hydatid disease. The causative agent is Echinococcus granulosus, a dog tape worm. Human functions as a dead end intermediate host. Liver and Lungs are the most common sites of involvement in case of echinococcosis. We present a case of primary left renal hydatid cyst in a 40 year old female patient admitted with left lumbar pain radiating to back and dysuria. Ultrasonography revealed it as a multiloculated cystic mass and left nephroureterectomy was done after a provisional diagnosis of renal hydatid cyst was done. Multiple translucent daughter cysts were found preoperatively a final diagnosis of primary hydatid cyst of kidney was made after histopathological examination. Open surgery is the treatment of choice with an excellent result and the patient is doing well postoperatively.

### INTRODUCTION

Involvement of the Kidney in echinococcosis is a rare clinical scenario, with liver and lungs being more commonly involved. Kidney is affected in about 2-3% of cases [1,2] with isolated involvement of kidney being even rarer. Patient may be asymptomatic or present with symptoms of lumbar region pain, hematuria, dysuria and hydatiduria. We report a rare case of primary left renal hydatid cyst.

### Case History

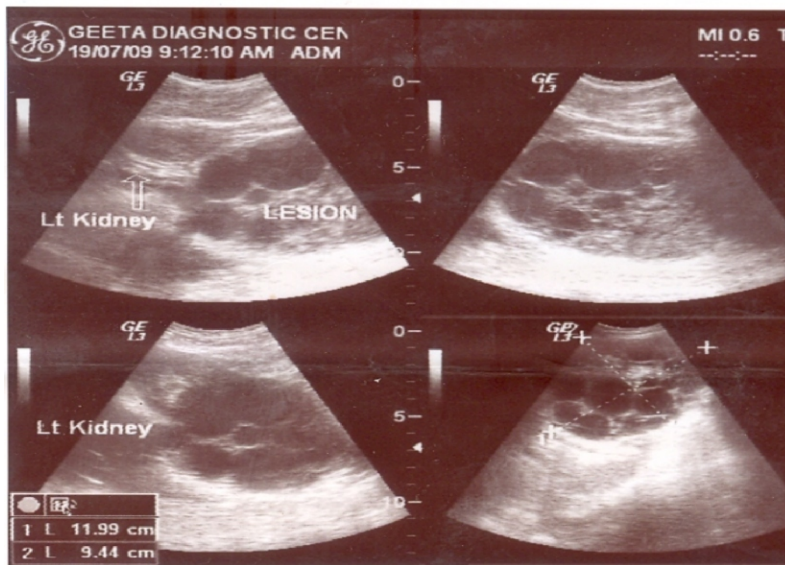
A 40 year old female presented with left lumbar pain and dysuria. Abdominal examination revealed an ill defined palpable lump over the left lumbar region. Her routine blood investigations were normal. The abdominal ultrasonography revealed complex multiloculated cystic lesion arising from/abutting lower pole of left kidney. (Fig 1) Liver was normal. Per operatively left kidney was found as a bag of cysts with multiple daughter cysts. Left nephroureterectomy was done as the left kidney was mostly destroyed by the cyst and due to heavy bleeding. Outside the abdomen, multiple daughter cysts were released from the enlarged and cystic kidney. They were pale yellowish

in colour, translucent and small in size. (Fig 2,3) During surgery, the liver was normal in appearance, and no other hydatid cysts were seen in abdomen.

The histopathological study of the cyst showed the outer pericyst, composed of modified host cells forming a dense, fibrous protective zone, the middle laminated membrane which is acellular and allows the passage of nutrients, and inner germinal layer of hydatid cyst where the scolices are produced.

### DISCUSSION

Echinococcosis is a world wide zoonosis produced by the larval stage of Echinococcus tape worm, E. granulosus in this case. The adult worm lives in the proximal small bowel of the definitive host, attached by hooklets to mucosa. Eggs are released into hosts intestine and excreted in faeces. Humans may become intermediate hosts through contact with a definitive host [usually a domestic dog] or ingestion of contaminated water or vegetables. The ovum loses its protective layer as it is digested in the duodenum. Once the parasitic embryo passes through the intestinal wall to reach the portal venous system or the lymphatic system, the liver acts as the first line of defense and is



**Fig 1 :** Showing multiloculated cystic lesion arising from lower pole of left kidney



**Fig 2 :** Cystic kidney with multiple daughter cysts.



**Fig 3 :** Cpale yellow transulecent daughter cysts after operation.

therefore the most frequently involved organ. In humans, Hydatid disease involves liver in 75% cases and lungs in 15% cases [3]. Secondary involvement due to hematogenous dissemination may be seen in almost any anatomic location [4]. Kidney involvement is very rare. Primary renal involvement is even more rare (only 2-3% cases) [1,2] even in areas where hydatid disease is endemic. It is not clear how the hydatid embryo reaches kidney in case of primary hydatid disease but it has been postulated that it must pass through the portal system into liver and retroperitoneal lymphatics [4].

The hydatid cyst of kidney is considered closed if all three layers of the cyst i.e. pericyst, ectocyst and endocyst are intact. When the cyst is no longer protected by the third layer or pericyst, it is called an open or communicating cyst. Cystic rupture causes hydatiduria, though seen in only 10-20% cases of renal hydatidosis and is usually microscopic [5].

General surgery is the treatment of choice in renal hydatid cyst. Kidney sparing surgery is possible in 75% cases. Nephrectomy [25% cases] must be reserved for destroyed kidneys. [6]

## CONCLUSION

Hydatid cyst is a common infectious cystic lesion. But its occurrence in kidney is extremely rare and is usually misdiagnosed as renal cell carcinoma putting the surgeons in diagnostic confusion. We have

reported such a case in detail including ultrasound and operative findings.

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