

Huge Renal Hydatid Cyst- an Unusual Presentation: A Case Report

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Keywords: abdomen; case reports; hydatid cyst; kidney; mass; nephrectomy.

Isolated renal hydatid cyst is a rare entity accounting for only 2-4% of cases. A 60-year-old male presented to our clinic complaining of pain in right flank.

He had a history of eating raw sheep liver. Imaging revealed an expansive cystic mass measuring approximately 300×180 mm in the right side of abdomen. The patient was treated by open surgery in combination with perioperative chemotherapy with albendazol. In this case, we reported an unusual presentation of hydatid cyst disease. Physicians should be aware of its clinical presentations and complications.

INTRODUCTION

Hydatid cyst disease, also known as Echinococcosis, is a zoonotic infection caused by the genus *Echinococcus*.⁽¹⁾ It is a public health problem around the world. Humans are an accidental intermediate host.⁽²⁾ The most commonly affected organ is liver (75%), followed by lung (15%) and other organs (10%) such as kidney.⁽³⁾ Although hydatid cyst disease can be present in all parts of the body, isolated renal involvement is a rare condition, comprising only 2-4% of all cases.⁽⁴⁾ Renal hydatid cysts usually remain symptomless for years.⁽⁵⁾ We hereby report a rare case of huge renal hydatid cyst disease. To our knowledge, this case is the largest renal hydatid cyst reported to date.

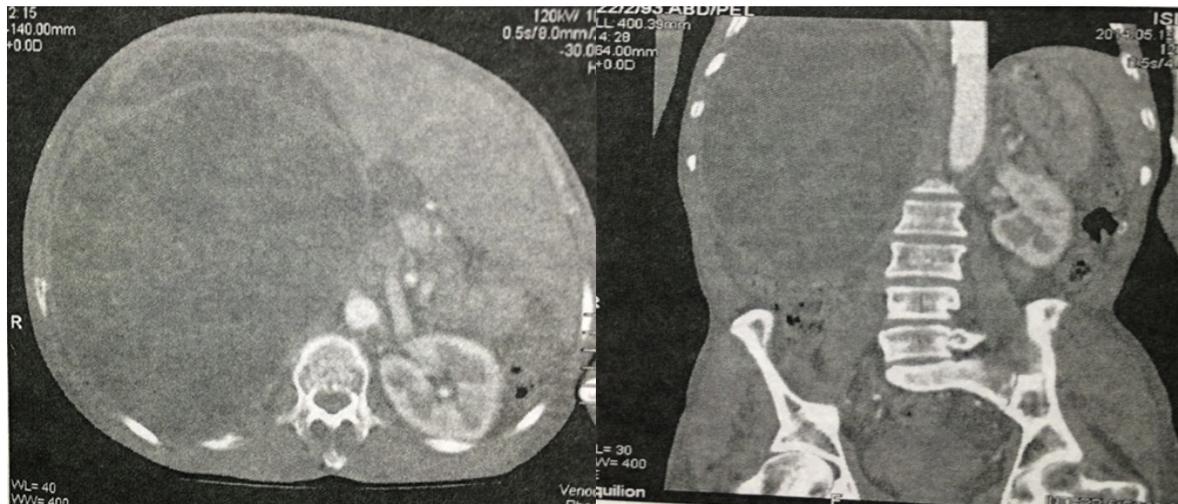


Figure 1. CT scan shows an expansive cystic mass measuring approximately 300*180 mm with thick septations in the right side of abdomen with peripheral enhancement. There was not invasion to the adjacent organs.

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Received October 2016 & Accepted January 2017



Figure 2. Surgical specimen revealed multiple daughter cysts.

CASE REPORT

A 60-year-old male, living in an urban area in south of Iran, presented to our clinic complaining of dull pain and palpable mass in his right flank for the last one year. The pain was worse than a month ago. The patient noted nocturia, incontinency and 4 kg weight loss over the past two months. He had no history of urinary tract infection, hematuria, fever, nausea and vomiting. His medical and drug history was unremarkable, however he had a history of eating raw sheep liver. Physical examination revealed guarding, tenderness and a mobile mass in the right upper quadrant of abdomen. His vital signs were normal. Laboratory tests revealed a mild leukocytosis (12400/ μ l) but, there was no eosinophilia. In addition, serum level of creatinine was normal and urine analysis had sterile pyuria. Liver function tests, were within normal limits. Immunological examination revealed elevated hydatid antibody titers (Antibody level = 2.5—negative up to 1).

Chest X Ray showed increased heart size and homogeneous opacity in the lower zone of right lung. Ultrasonography of the abdomen revealed increased size of right and left liver lobes with cysts in various sizes. In addition, right kidney was not assessable. It was suggestive of liver hydatid cyst and abdominal CT scan was indicated. CT scan of abdomen and pelvis revealed an expansive cystic mass measuring approximately 300 \times 180 mm with thick septations in the right side of abdomen with peripheral enhancement. There was not invasion to the adjacent organs (**Figure 1**).

Although liver cyst was reported in primary abdominal ultrasonography, but in chest and abdominal CT scan as well as after surgical exploration, only an isolated hydatid cyst of right kidney was established. No cystic or solid lesions were found in spleen, and left kidney. Oral treatment with albendazole was started. Finally, he was candidate for surgery. After preperation and drape, under general anesthesia in supine position, the abdomen was opened by right Kocher's incision. There was a cystic mass measuring 30 \times 18 cm in size which spread from diaphragm to pelvis and pushed abdominal organs to left side of body.

Initially, the hypertonic saline (20% sodium chloride

solution) was injected into the cyst and surrounding tissues were protected using gauze soaked in hypertonic saline. There was adhesion between the cyst and liver, aorta, IVC, ascending colon and diaphragm. Adhesions were removed gently. The right kidney parenchyma was completely destroyed, which ultimately nephrectomy and cyst removal was performed. Drain was placed. The abdominal wall was repaired. We continued albendazole for 4 months. After 6-month follow-up period, the patient was asymptomatic and doing well. Recurrence did not occur.

DISCUSSION

Hydatid cyst disease, also known as hydatosis or Echinococcosis, is a zoonotic and parasitic disease caused by the larval stage of *Echinococcus granulosus*.^(6,7) This infection may involve liver, lung and other organs.⁽⁷⁾ Renal involvement is a rare condition.⁽⁸⁾ The endemic areas include parts of the Middle East, Australia, South America, New Zealand, and Alaska.⁽⁹⁾ Our case was a presentation of isolated renal hydatid cyst- a rare condition.

Isolated renal hydatid cyst disease may reside symptomless for a long time. Clinical presentations include fever, malaise, flank pain, palpable mass, hematuria and hydatiduria.⁽¹⁰⁾ Although hydatiduria (passing grape skin like structures in urine) is a pathognomonic sign, it has been seen only in 5%-25% of renal hydatid cyst disease.^(10,11) In our case, the patient had dull pain and palpable mass in right flank with loss of weight and urinary symptoms such as nocturia and incontinency. However, there was no evidence of hydatiduria.

Ultrasonography, magnetic resonance image (MRI) and computed tomography (CT) scan are important means of diagnosis. Contrast enhanced CT has an accuracy of 98% to reveal the daughter cysts. CT scan usually demonstrates a tumor with a well-defined wall as well as daughter cysts within the mother cyst.⁽¹²⁾

Imaging studies are helpful but usually inadequate for separation of a hydatid cyst from a renal tumor or complicated cyst.⁽¹³⁾ There is no specific laboratory test for renal hydatid cyst disease. However, eosinophilia is present in 20% to 50% of cases⁽⁹⁾ and may occur in oth-

er parasitic diseases.⁽⁶⁾

In general, surgery is the treatment of choice for renal hydatid cyst⁽¹⁴⁾ and it should be based on the size of cyst, location, number, renal function and surgical methods.⁽¹⁵⁾

Kidney sparing is possible in 75% of cases. However, nephrectomy is performed only if the kidney is damaged by the cyst or non-functioning kidneys.^(9,16) Both open and laparoscopic methods have been described in the literature. The cyst may rupture during laparoscopy. Extreme care should be taken to prevent leakage during the surgery. Pre and postoperative administration of albendazole is recommended to sterilize the cyst, decrease the chance of anaphylaxis occurrence.⁽¹⁴⁾ To the best of our knowledge, this case is the largest renal hydatid cyst disease reported to date. Previously, open surgery, laparoscopy technique and combination of these methods have been used for treatment of renal hydatid cyst disease. In our case, the size of lesion was large, thus the surgeon decided to perform open surgery. In the present case, the huge cyst had destroyed the renal parenchyma, and because of its size, open nephrectomy was indicated and performed (**Figure 2**). No complications occurred. The patient was discharged with good condition. On macroscopic examination, received specimen in formalin consisted of an opened cyst. The cyst wall was gray-brown & firm, measuring 0.2-0.5 cm in thickness. There were also multiple separated cysts, measuring 1-3 cm in dimensions. The cysts walls were white with gelatinous consistency, measuring 0.1 cm in thickness and they contained clear watery fluid.

CONCLUSIONS

In this case, we reported an unusual presentation of hydatid cyst disease. Our patient was a case of isolated huge renal hydatid cyst- a rare condition. This case report emphasizes that the diagnosis of renal hydatid cyst disease needs high degree of suspicion and physicians must be aware of its clinical presentations and complications.

ACKNOWLEDGEMENT

The authors also thank Shahid Rahnemoun hospital staffs.

CONFLICT ON INTEREST

The authors report no conflict on interest.

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