Inflammation and infection

Unilocular huge renal hydatid cyst mimicking simple cyst: A rare case report

Saad Alqasem a,c,b, Sarah Alqurmalah b, Bandar Alsahn c, Adel Ahmed d, Maher Moazin c, Abdullah Alfakhri c

a College of Medicine, Prince Sattam Bin Abdulaziz University, AlKharij, Saudi Arabia
b College of Medicine, Majmaah University, Majmaah, Saudi Arabia
c Urology Department, King Fahad Medical City, Riyadh, Saudi Arabia
d Urology Department, King Salman Hospital, Riyadh, Saudi Arabia

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ABSTRACT

Hydatid cyst is commonly involve the liver and lung, but involvement of the kidney is very rare. We present a case of a young female presented to our institute with right abdominal mass, diagnosed as query liver hydatid cyst with right renal simple cyst. Unfortunately, during deroofing of the simple renal cyst, there was a spillage and for this reason, the cyst could remain dormant for 5–10 years before reaching the pathologic size to cause pressure symptoms.

Case report

A 21 years old Saudi young female, without any past chronic medical illness, referred to our institute as a case of right palpable abdominal mass for evaluation. Detailed history revealed that she has a dull pain in right upper quadrant area for five months. The pain has worsened in the last month. However, she had a history of eating raw sheep liver.

Physical examination revealed a mobile, palpable mass in the right upper quadrant which was dull and moved during respiration. Her vital signs were normal.

Laboratory investigations were within normal limits including renal and liver function tests, Tumor markers: CA 19-9, CEA was unre markable, Echinococcus antibody (IHA) was significant.

CT scan of abdomen and pelvis revealed an irregular slightly thick-walled cystic liver mass in segment 4B measuring 6 × 7.5 × 6.7cm demonstrating no obvious internal septation, calcification of soft tissues component could represent hydatid cyst. There was a large thick wall exophytic right renal cystic lesion measuring 8.2 × 7.1 × 10.5cm. Further characterization by MRI showed large lobulated liver lesion seen...
in segment 4b demonstrated mild smooth wall enhancement, no internal septation. Also, large renal mass with no internal septations or soft tissue component was noted, keeping with simple renal cyst (Fig. 1). The patient diagnosed with a query liver hydatid cyst at segment 4b with right renal simple cyst by general surgery physicians and has been taken for deroofing of the liver cyst. Intraoperative, the surgeon had a difficulty to expose the liver cyst because the renal cyst was covering the area, so they called urology team to do deroofing of the simple renal cyst. Unfortunately, during deroofing of the simple renal cyst, there was a spillage inside the abdomen, this can be a serious concern because it can cause complications such as inflammation, or in rare cases, chemical peritonitis. Hydatid cyst was suspected and the abdomen washed with 3 L of hypertonic saline. After that, hydatid cyst in the liver demarcated, excised, and the parenchyma transfixed, that secured the hemostasis. The patient admitted postoperatively in the intensive care units due to severe hypernatremia post washing with hypertonic saline but she recovered after that. Samples were sent to histopathology and revealed hydatid cyst in the liver and kidney (Fig. 2). The patient completed the course of albendazole, and she is in regular follow up with general surgery and urology.

Discussion

Hydatid cyst disease, is a zoonotic infection caused by genus called Echinococcus. Human is being infected via oral-faecal route in addition to transmittance of the parasitic egg mainly due to eating contaminated greens and meals infected by dog faeces with the parasite egg. When the embryonic membrane of the larvae turns, firstly through intestinal wall penetration, larva enters the abdominal area, and enters into the lymphatic system or portal vein and thereby reaches the organs. The host and parasites interact with each other in mechanism that still vague and not understood yet.

Hydatid cyst disease is prevalent amongst different regions of the world such as North Africa and Middle East, Australia, and South America where sheep grazing is common. Clinically symptoms of renal hydatid cyst differ according to the cyst’s size, location, and extension. Patients may be asymptomatic or represent as hematuria, abdominal mass or low back pain. In this case, the patient presented with dull pain and palpable mass with swelling in right upper quadrant for five months, after she ate a raw sheep liver. In terms of the natural history of untreated hydatid cysts of the liver and kidney. They may, however, remain dormant for several years before
they start to become visible, palpable, and symptomatic.

Clinical history, laboratory, immunology, and medical imaging are necessary for the diagnosis of the hydatid cyst. Contrast-enhanced CT has an accuracy of 98% to show the finding daughter cysts, regarding this patient CT abdomen shows a simple renal cyst.

Surgical elimination of the cyst is considered as the first-line therapy on every occasion where there is involvement of the renal parenchyma.

Conclusion

Hydatid cyst mainly infects the intestinal wall and through the bloodstream reaches the lungs and liver where it leads to the creation of cysts. The primary host source of the embryo of Hydatid cyst is the dogs while other animals are the secondary host. Humans are also the accidental host if raw meat containing the parasite embryo is consumed.

Hydatid disease should be considered in the differential diagnosis of all cystic masses, especially in the endemic areas. Surgical excision is the ideal treatment.

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