ORIGINAL RESEARCH PAPER

General Surgery

HYDATID CYST OF RIGHT KIDNEY IN A 14 YEAR OLD FEMALE: A CASE REPORT

KEY WORDS: Right kidney; Renal cortical cyst; Hydatid cyst

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ABSTRACT

Hydatid disease of the kidney is rare and constitutes only 2 to 4% of all cases of hydatid. Its occurrence in youngder age group is even more rare. It ranks third after liver and lung. In the urinary tract, kidneys are generally affected, usually together with multiple organ involvement. An isolated renal hydatid cyst of the kidney without other organ involvement is very rare. We hereby present a case of pure hydatid cyst of the right kidney in a14 year old girl.

Introduction:
Renal hydatid infection is extremely rare manifestation of hydatid disease. Renal hydatid infection is seen in less than 5% of patients with hydatid disease[1]. Infection is caused by a parasitic zoonosis with the Echinococcus tape worm. The kidneys are the most commonly affected urinary organs, but bladder, prostate, seminal vesicles and testis can also be involved [2]. The surgical approach remains the treatment of choice; particularly using laparoscopy and the resection should be mostly conservative[3].

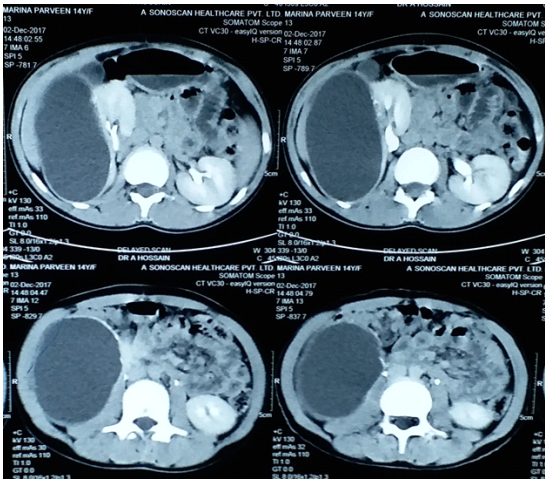
Case report:
A 14 year old girl came to our OPD with history of pain and heaviness in right lower abdomen for last 2 months. There was no history suggestive of urinary tract infection.

On clinical examination we found a bimanually palpable and ballotable 9 x 7 cm mass extending from right hypochondrium to right lumbar region. The mass was firm in consistency.

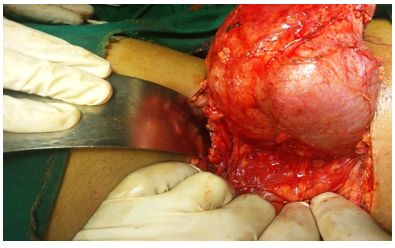
Her blood parameters including that of renal function were within normal limit.

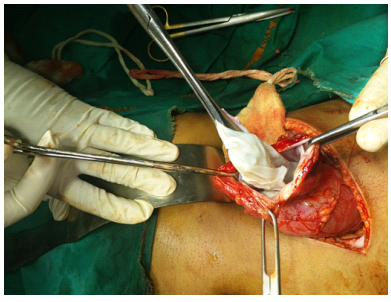
We then did a CECT whole abdomen and it revealed right kidney is enlarged in size. An about 10cm x 7cm cystic lesion with thick, smooth enhancing wall located exophytically at infero lateral aspect of right kidney was found.

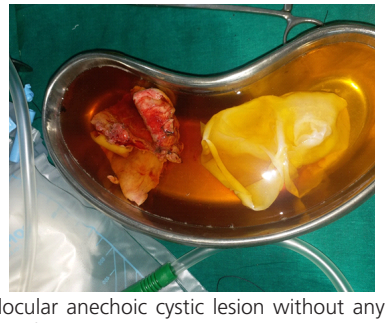
The differential diagnosis were:
- Partially duplex kidney with grossly dilated lower moiety calyces
- Renal cortical cystic SOL



After proper preoperative evaluation we did exploratory laparotomy and found it to be a case of hydatid cyst of right kidney originating from upper pole.







It was an unilocular anechoic cystic lesion without any internal echoes and septations.

We do pericystectomy and after 7 days discharge the patient.

Discussion:
Renal hydatidosis is an insidious disease, and patients often present with nonspecific clinical signs or symptoms. Presenting complaints are dull flank pain, hematuria, palpable flank mass, hypertension, and renal colic. Almost half of our patients (46.2%) complained of flank pain. The only pathognomonic sign of the disease is hydatid gelatinous material (grape skins, daughter cysts) in the urine, caused by the rupture of the cyst into the collecting system.[5,6]

The only abnormality in the routine blood examination of patients with hydatid disease that has diagnostic implications is eosinophilia, which is reported in 40% to 50% of cases.[4,,5] Eosinophilia was detected in 5 (38.5%) of our patients. The Casoni

intradermal skin test (86% true positive rate) and hemagglutination with positive titers in 80% of the patients are other valuable diagnostic methods.[5]

Renal involvement occurs in 3% of cases [7,10,11,12]. It usually remains asymptomatic for many years. The most common signs and symptoms are flank mass, pain, and dysuria [8, 10]. Cysts are frequently solitary and located in the cortex, and they may reach 10 cm before any clinical symptoms are noted [10]. At excretory urography, uncomplicated cysts may create a bulge in the outline of the kidney and appear as a rounded mass that elongates the infundibula and calices. In up to 18% of cases, the cyst may rupture into the collecting system, leading to acute renal colic and hydatiduria. Several round filling defects may be seen in the excretory system due to daughter cysts [9]. Ringlike calcification of the cyst wall may suggest a diagnosis of hydatid cyst [10]. The US and CT features of renal hydatid cysts are similar to those of cysts in other locations. Although safe translumbar puncture of the cyst for diagnostic sampling has been reported,[13] cyst puncture should be avoided, because of the risk of allergic reactions, including anaphylactic shock and possible dissemination.

Typical CT findings of renal hydatid disease include a unilocular cyst (type 1), a multilocular cyst (type 2) with mixed internal attenuation and daughter cysts with lower attenuation than that of the maternal matrix, and a completely calcified cyst (type 3) [14,15,16]. In type 1 and type 2 cysts, the cyst wall may be thick or calcified, and both the wall and internal septa often enhance after contrast material is administered [14].

Treatment of a renal hydatid cyst is essentially surgical. Kidney sparing surgeries such as cystectomy and pericystectomy are carried out whenever possible. Nephrectomy is the treatment of choice for renal hydatid cysts but it should be reserved for destroyed kidneys (25%) [17]

The technique of percutaneous injection, aspiration, and re-aspiration has been described as a safe and effective treatment modality for a renal hydatid [18]. Cysts do not completely disappear with this technique but it can be useful for high-risk patients with symptomatic hydatid cysts [19].

Conclusion:

Treatment for patients with renal hydatid disease should be individualized. Surgical modalities may be considered for selected cases, particularly for patients with nonfunctioning kidneys. Close postoperative follow-up is strongly recommended, especially for patients who live in areas where Echinococcus is endemic, to watch for reinfestation.

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