

Renal Hydatid Cyst

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Abstract

Renal hydatid cysts are a rare manifestation of echinococcosis, especially in pediatric cases. Diagnosis can be challenging, and delayed diagnosis may lead to larger cysts, increasing the risk of complications and the potential need for nephrectomy. Here, we present a case of a renal hydatid cyst in a pediatric patient, emphasizing the rarity of such cases in this age group. We discuss the diagnostic approach, highlighting the importance of early recognition and treatment to avoid the need for nephrectomy and to improve patient outcomes.

Keywords: renal hydatid cyst, pediatric, nephrectomy

1. Introduction

Renal hydatid cyst, caused by the larval stage of *Echinococcus granulosus*, is a rare but important condition. It primarily affects the liver and lungs but can also involve the kidneys.

Diagnosis can be challenging due to nonspecific symptoms and imaging findings, and serological tests may not always be reliable. Surgical removal of the cyst is the mainstay of treatment, but the approach depends on various factors. Minimally invasive techniques may be considered in some cases. Despite advancements in imaging and surgery, managing renal hydatid cysts remains challenging, especially in endemic areas. A multidisciplinary approach is essential for optimal management

2. Clinical Observation

We report the case of a 6-year-old patient who has had a progressively increasing right lumbar swelling since the age of two, evolving in a context of afebrility and preservation of general condition. Due to the appearance of discomfort and pain on palpation, the family consulted for management. Clinical examination revealed a large palpable mass, approximately 8 cm in diameter, fixed in relation to the superficial and deep planes, without other associated symptoms such as hematuria or urinary burning. Blood tests, including negative hydatid serology, were normal. A CT scan (figure 1) showed a huge right renal cystic mass without a separation line, involving the entire kidney. The diagnosis of a hydatid cyst was made, and the decision was made to operate on the patient. Intraoperative exploration revealed a large mass, 11 cm in size (figures 2 and 3), without a separation line, highly adherent, including the right ureter, with a protruding dome resembling a hydatid cyst, necessitating a right nephrectomy. An anatomopathological study confirmed the diagnosis of a hydatid cyst (figure 4).

3. Discussion:

The renal hydatid cyst ranks third in frequency after the liver and lung, representing approximately 2.5% of all hydatid locations. It is often unilateral, predominantly single, but can sometimes be multiple or even bilateral.[1]

The renal hydatid cyst, with its slow progression, can remain asymptomatic for years, as in the case of our patient. It is most often revealed by an abdominal mass syndrome, sometimes associated with general and/or urinary symptoms such as lumbar pain, dysuria, and hematuria. The pathognomonic sign of hydatiduria, indicating the opening of the cyst into the excretory pathways.[2] Renal involvement can be discovered during the assessment of known hydatidosis. [1]In our case, our patient had a negative hydatid serology.

In cases of large renal hydatid cysts, there can be noticeable signs of compression on neighboring organs. For instance, a superior polar cyst may lead to respiratory symptoms such as dyspnea due to its size and position. Digestive symptoms can also occur, including abdominal bloating, dyspepsia, and in some cases, constipation, particularly if the cyst is exerting pressure on the adjacent gastrointestinal tract. These symptoms can vary depending on the size and location of the cyst, highlighting the importance of timely diagnosis and management of renal hydatid cysts. [1,3]

The CT scan remains the preferred examination, often prescribed initially or in case of diagnostic doubt, especially for types IV and V on ultrasound. It allows for the characterization of the tumor syndrome, specifies its location and relationships, and provides an estimate of the remaining healthy renal parenchyma for possible conservative surgery [4, 5, 6]

Immunological tests should aid in the preoperative diagnosis, with the most commonly used tests being immunoelectrophoresis, indirect immunofluorescence, and ELISA. They are positive in 70 to 80% of cases. As for blood eosinophilia, present in more than 50% of cases, it has little value due to its inconsistency and nonspecificity. In our case, we had a negative hydatid serology. [1–7,6]

The treatment protocol necessitates a crucial step, namely cystectomy, involving the removal of the hydatid membrane and any daughter vesicles. Partial nephrectomy, seldom employed due to its complexities and associated risks, should be reserved for exceptional circumstances. Regrettably, total nephrectomy is sometimes necessary in cases where the kidney is nearly completely destroyed, as was the case with our patient. [8–9].

4. Conclusion:

In conclusion, renal hydatid cysts, although rare, present unique diagnostic and management challenges. Despite advancements in imaging and serological tests, diagnosis can be difficult and often requires a multidisciplinary approach. Surgical intervention, particularly cystectomy, remains the mainstay of treatment, with nephrectomy reserved for severe cases. Early detection and prompt management are crucial to prevent complications and ensure optimal outcomes.

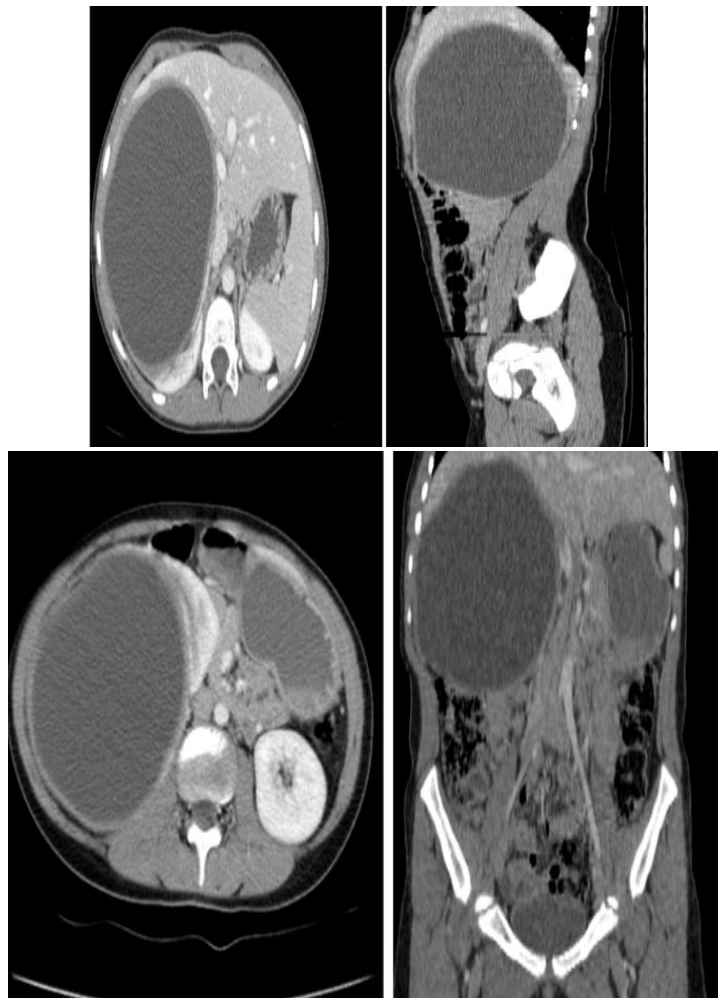


Figure 1 : CT SCAN radiology service of chu hassan II fes

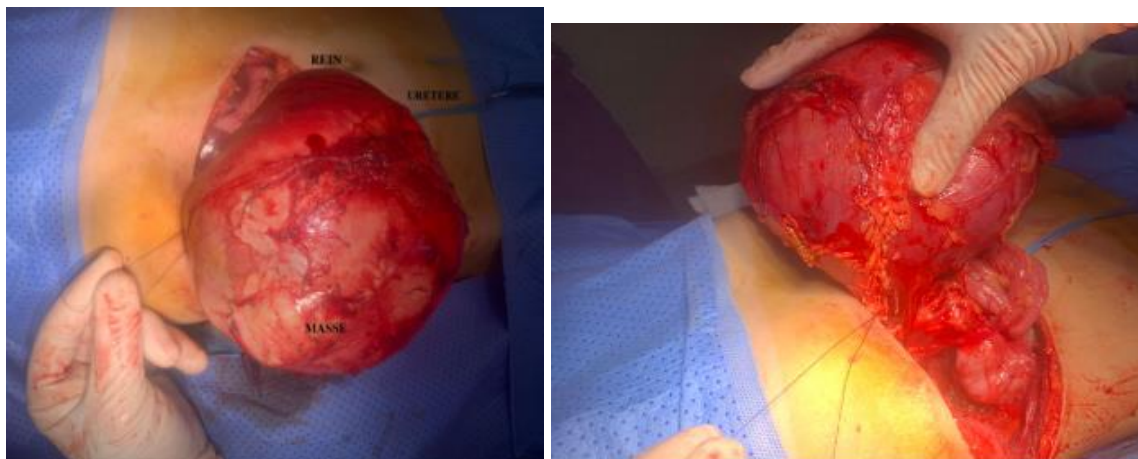


Figure 2 and 3 : Per op (central operating room of the pediatric visceral surgery)



figure 4 : Anapath (anapath service of chu hassan II Fes)

5. References

1. Abi F, Elfares F, Kaiz P, Bouzidi A. Les kystes hydatiques du rein. *J Chir* 1989;126(5):307–12.
2. A.Amrani Renal hydatid cyst in children: 6 case reports *Annales d’urologie* 37 (2003) 8–12 accepté le 30 avril 2001
3. Afsar H, Yagci F, Ayabasti N. Hydatid disease of the kidney. *Br J Urol* 1994;73:17–22.
4. Severino A, Volio DA, Griancarlo, Canossi, Franco A, Nococi P. Hydatid disease: MR imaging study. *Radiology* 1990;175(3):701–6.
5. Gharbi H, Hassine MW, Brauner MW, Dupuk K. Ultrasound examination of the hydatid liver. *Radiology* 1981;139:459–63.
6. Goel MC, Agrawal MR, Misra A. Percutaneous drainage of renal hydatid cyst: early results and follow-up. *Br J Urol* 1995;75:724–8.
7. Angulo JC, Sanchez-Chap Ado M, Diego A, Escaribano J, Tamayo JC, Martin L. Renal echinococcosis: clinical study of 34 cases. *J Urology* 1997;157(3):787–94.
8. Iraqi E.H.S., Imani F., Dana A., Moreau F., *Kystes hydatiques des reins*, *Encycl Med Chir* (Elsevier, Paris), *Radiodiagnostic V* 34-280 A-20 (1981) 5 p.
9. Saied H, Paley D, Dupre A. Les kystes hydatiques chez l’enfant. *Chirurgie* 1974;100:294–304