



Double retroperitoneal hydatid localization: About a case report

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ABSTRACT

The hydatid cyst is a parasitic pathology which is endemic in Tunisia and presents a public health problem. Hydatid cysts located in the retroperitoneum, especially around or in the kidney, are rare and only represent 5% of visceral locations. The kidney is the most commonly affected organ of the urinary tract. The psoas muscle is an uncommon location and not less than 70 cases have been cited. We report the Case of an unusual presentation of a right kidney hydatid cyst associated with a psoas muscle location. To our knowledge, this association of double retroperitoneal location has not been reported in the literature.

1. Introduction

Hydatidosis is a zoonosis secondary to the development of the larval of *Echinococcus granulosus* in humans. The hydatid cyst is endemic in Tunisia and presents a public health problem with an incidence of 12.6/100,000 inhabitants.¹ The liver and lung represent the most frequent locations. Hydatid cysts located in the retroperitoneum, especially around or in the kidney, are rare and only represent 5% of visceral locations. The kidney is the most commonly affected organ of the urinary tract, although this involvement is rare.² The hydatid cyst rarely affects the striated musculature. A frequency of muscle involvement of around 3% has been reported in the literature and no less than 70 cases of hydatid cysts of the psoas have been mentioned in scientific reviews.³ We report an uncommon Case of a hydatid cyst of the right kidney associated with a retroperitoneal location dependent on the psoas muscle. To our knowledge, this association has not been reported in the literature.

2. Case report

A 49-year-old woman presented to our urological surgery unit complaining of the presence of pain in the right flank associated with hydaturia. The patient also reports the notion of few episodes of vomiting from last 5 days, anorexia, asthenia and weight loss. In her medical history we can cite well-balanced diabetes mellitus, hypertension and chronic back pain. She denied any context or family history of malignancy. The patient had no medical history of hydatid vomiting or close contact with stray dogs or other animals. Clinical examination shows a large mass filling the right lumbar fossa, firm, tender and palpable by

bimanual palpation of the kidney. Laboratory test showed a normal renal function. An ultrasound of the urinary tract showed a right kidney increased in size, site of a voluminous upper medullary and polar formation, polylobed, heterogeneous with its own echogenic wall. Another oblong heterogeneous formation of 13 cm along the right psoas was found (Fig. 1). Intravenous urography showed a right renal mass syndrome with repression and stretching of the middle and lower calyceal group (Fig. 2). The ultrasound data was confirmed by contrast enhanced computed tomography scan of the upper abdomen. Computed tomography revealed a hypodense multicystic mass at the level of the right renal superior pole with thick calcified walls. These radiological data characterize hydatid disease. Another cystic lesion of the same nature in contact with the lower pole of the right kidney was found (Fig. 3). The chest x-ray was normal. The hydatid serology was negative. The patient was managed by open surgery: lumbotomy. The first step in treatment was sterilization of the cyst with hypertonic serum for 10 minutes, followed by emptying of the contents of the cyst. Generally, we carry out a sterilization of the cyst by the intracystic injection of a scolical solution. Our patient had a resection of the protruding dome of the renal cyst and a pericystectomy for the cyst of the right psoas were performed. Total pericystectomy is often difficult to perform, given the risk of bleeding. The operative team was forced to perform this type of intervention for the psoas cyst since the cyst wall had a thickened and calcified intraoperative appearance. No incidents were reported during the postoperative period. The patient was discharged from the hospital on day 4 after a favorable clinical outcome. The anatomopathological study concluded in a hydatid cyst of the kidney and psoas. The patient is regularly monitored in the outpatient department, he was in good

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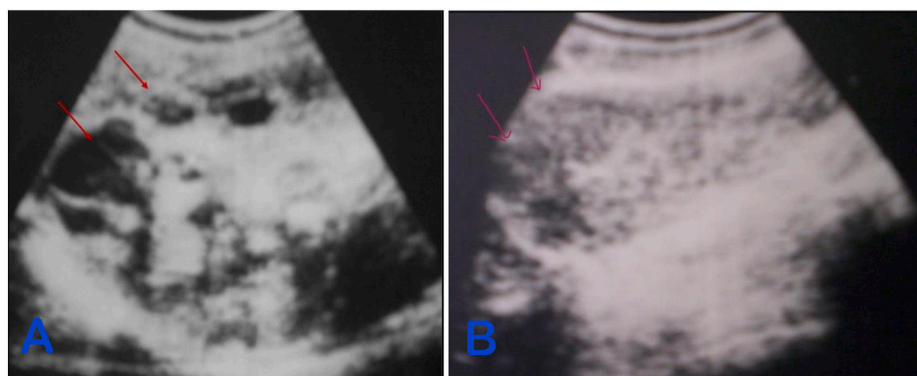


Fig. 1. Ultrasound of the urinary tract: Heterogeneous echogenic formation of the upper pole of the right kidney (A). Heterogeneous formation along the right psoas (B).



Fig. 2. Intravenous urography: Right medio-renal mass syndrome.

physical and mental health, his renal function was normal. After a three-year follow-up, no hydatid recurrence was reported.

3. Discussion

Hydatidosis has a worldwide distribution and represents a serious health problem in endemic regions such as Mediterranean countries. It is a zoonosis caused by the development of the human larva of the taenia *Echinococcus granulosus*. The first filter for larvae is the liver. The second site of filtration is the lung, which is involved in 15% of the cases.⁴ Primary hydatid cysts develop in the retroperitoneal tissue, without apparent connection, remain an exceptional entity. Soft tissue involvement is not classic. It is reported in 0.5–4.7% of cases and mainly affects the musculature of the neck and lower limbs. This is due to the degree of vascularization of the tissues and to the muscular contractions which would prevent the development of the larva. The pathogenesis of renal *Echinococcus* is speculative. It is not known how the hydatid embryo can primarily affect the kidneys, but it is assumed that it passes through the portal system and the retroperitoneal lymphatic system without lodging there. Cyst rupture can occur in the retroperitoneal space and thus be grafted onto any retroperitoneal organ. Concerning our patient, we can assume a retroperitoneal haematic transplant of the larvae since no episode of rupture of the renal hydatid cyst in the extraperitoneum has been reported.

The diagnosis of hydatid cyst of the psoas muscle is often difficult. Clinical examination may show an abdominal mass. Some cysts can be revealed by complications. Hydatidosis serologies are less commonly performed due to their low reliability and are often negative if the cyst is intact, calcified or sterile.⁵ Imaging is essential for diagnosis and pre-treatment assessment. Ultrasound is a harmless first-line examination. In deep locations such as the psoas, the interest of a computed tomography study is necessary. Treatment is usually surgical. For most authors, medical treatment alone is insufficient, and its efficacy remains

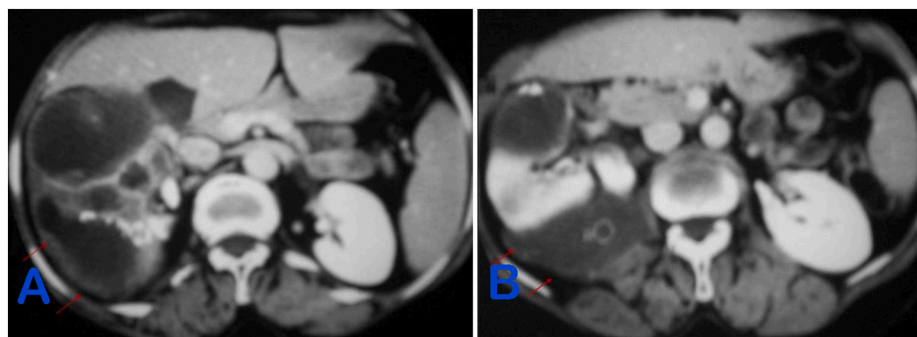


Fig. 3. Computed tomography: Right renal calcified multicystic mass (A) Cystic mass of the right psoas (B).

controversial. It is indicated in inoperable patients or those with multiple cysts. In our Case, it was not considered necessary to use medical treatment postoperatively as the cysts were completely removed.

Given the absence of a cleavage plane and the presence of fibro-inflammatory adhesions with the neighbouring organs, resection of the protruding dome remains the preferred surgical method. Total pericystectomy is the treatment of choice for thickened and calcified cyst walls.

4. Conclusion

In hydatid endemic countries, all locations of hydatid cyst are possible. Retroperitoneal localization is rare and the diagnosis can be confirmed by ultrasound and computed tomography. Treatment is surgical.

Authors contributions

R. Mejri: participated in the writing of the manuscript.
K.Chaker: participated in the writing of the manuscript.

M.Bibi: participated in the writing of the manuscript.

S. Ben Rhouma: participated in the writing of the manuscript and its correction.

Y. Nouira: participated in the writing of the manuscript and its correction.

Declaration of competing interest

The authors declare that there are no conflicts of interest regarding the publication of this article.

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