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Renal Hydatid Cyst: A Case Report

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Abstract : *Kidney hydatid cysts (KHC) represent a rare localization of human hydatidosis (1 to 4%) and are characterized by their clinical latency and often fortuitous discovery. Diagnosis is most often based on ultrasound. Computed tomography (CT) has a role to play in atypical forms, which pose the problem of differential diagnosis with complicated serous cysts and kidney cancer, but also in forms with retroperitoneal rupture or in the excretory cavities. [1] We report here a case of a 63-year-old patient, with no notable pathological history, who consulted for recurrent left low back pain with progressive increase in abdominal volume for 2 years, and in whom the CT scan revealed a type III renal hydatid cyst, measuring 190*180*275 mm. The patient underwent nephrectomy and the post-operative course was straightforward.*

Keywords: Kidney, Hydatid cyst, CT scan.

INTRODUCTION

Hydatidosis, a parasitosis caused by the development of the larval form of Echinococcus granulosus, occurs mainly in countries where sheep, the preferred intermediate host, are reared. Man is an accidental intermediate host. Kidney damage is rare, accounting for an estimated 2-4% of all cases. The two main sites of infection are the liver (50-75%) and the lungs (15-40%). Spleen and soft tissue involvement are more common than kidney involvement [2]. Diagnosis is based on ultrasound, although CT scans are useful in atypical forms. Treatment can range from resection of the protruding dome to nephrectomy for destroyed kidneys.

OBSERVATION

This 63-year-old patient, with no previous pathological history of note, presented with recurrent left low back pain, without any notion of hydaturia, with an increase in abdominal volume, which had been present for 2 years. On clinical examination, the patient was well, with a large, tender mass in the left flank. The rest of the examination was unremarkable.

Laboratory tests: HB: 15.3; WBC: 5570; Creat: 6.3; Urea: 0.59; NA: 135; K3.5; PT 100%; Cytobacteriologic examination of the urine was sterile, normal liver function tests.

Abdomino-pelvic CT scan: Presence of a voluminous intraperitoneal cystic formation in the left hypochondrium, apparently dependent on the left kidney, with a thin wall containing a few fine calcifications, multivesicular, pushing back the left anterior and posterolateral abdominal wall, the gall bladders and the colon opposite, the stomach, the spleen, the pancreas. the left diaphragm, the left and portal kidneys, measuring 190x180x275mm in diameter, classified as type III (Figure 1).

The patient underwent a left lumbotomy, exploration revealed a large extended cyst measuring approximately 30 cm, the operating fields around the kidney were soaked in hypertonic saline, then the stage of puncture with careful aspiration of the cyst contents was begun, approximately 5 kg of daughter vesicles were evacuated. (Figures 2,3,4)

The essential sterilisation of the parasite was achieved using hypertonic saline and dilute hydrogen peroxide. The renal parenchyma was completely laminated, hence the decision to perform a nephrectomy in addition to the pericystectomy. At the end of the operation, part of the cyst membrane remained due to its adhesion with the peritoneum. Immediately after the operation, the patient was started on Albendazole at a dose of 10mg/kg/day. The post-operative course was straightforward, and the patient was discharged with the redon at 3rd day. It was decided to leave the redon in place for 1 month.

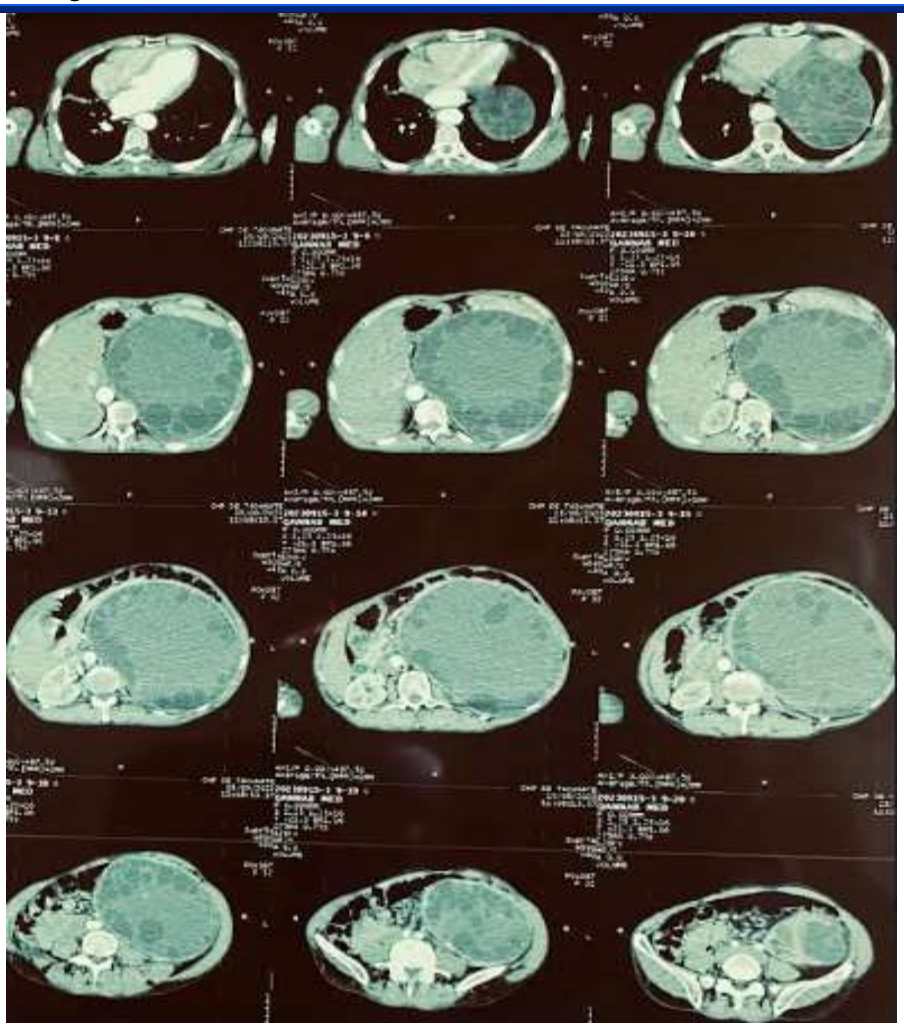

Figure 1: Axial CT image showing a left renal hydatid cyst.

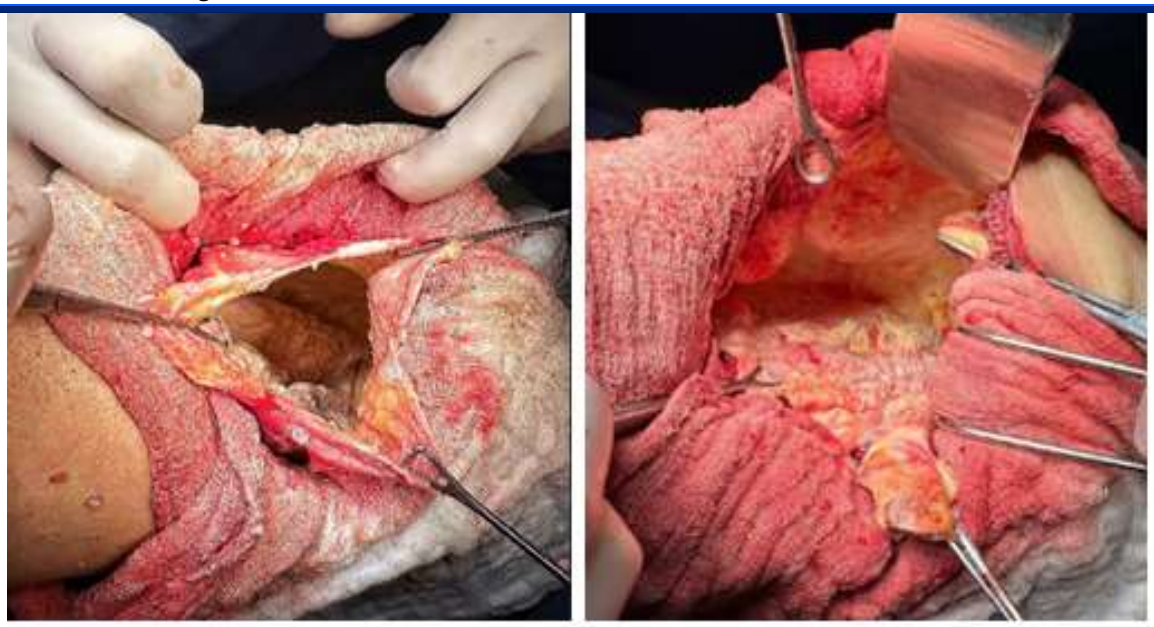

Figure 2: Pictures after incision, cyst aspiration.

Figure 3: Pictures showing the evacuation of daughter vesicles pathognomic of renal hydatid cysts.

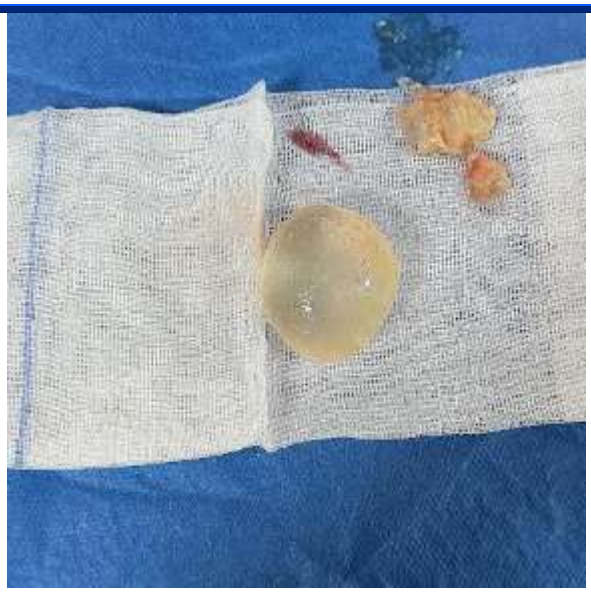

Figure 4: Aspect of a daughter vesicle of a renal hydatid cyst.

DISCUSSION

KHC is rare, occurring in the region of 1 to 4% of visceral hydatid disease. It is usually unilateral, with no predominance of one side over the other. It is characterised by its clinical latency and slow evolution, which explains its large volume at the time of diagnosis and its sometimes serious repercussions, leading to destruction of the kidney [3,4]. In our patient, at the time of diagnosis, the cyst was on the left side and measured approximately 27cm.

The mode of onset varied according to the site, size and stage of development. It is dominated by a painful syndrome (35 to 80% of cases), a palpable mass (40 to 75% of cases), as in the case of our patient who consulted for low back pain and an increase in abdominal volume.

Hydaturia, with macroscopic evidence of "grape skin" vesicles in the urine, is pathognomonic of communication of the cyst with the urinary tract [5, 6], but is only found in 10 to 25% of cases [9, 10]. Our patient had no hydaturia. Other signs include micturition problems, haematuria and arterial hypertension (due to compression of the renal pedicle).

Biological tests may show hyper eosinophilia in 20-50% of cases. This is not specific for echinococcosis and is most often seen in cases of cyst fissuring [7]. Sero-immunological reactions are positive in only 60% of cases [8].

The imaging features of renal hydatidosis vary according to the stage of the disease. Some are typical of KHC on the basis of AUSP and ultrasound data, supported by serology, particularly in countries where hydatid disease is endemic. Others are more complex and can lead to confusion with other pathologies, particularly tumours. [1]

Urinary tree without preparation (UWP) reveals calcifications of the renal area in 15 to 60% of cases, which are suggestive but not specific, as they are noted in 2% of serous cysts and 10 to 15% of malignant tumours of the kidney[11].

Ultrasound, the examination of choice, has a reliability of around 80% even in cases where the cyst has ruptured into the urinary tract. [12]

Ultrasound allows the cyst to be classified into 5 types, according to the GHARBI classification.

Types II and III are characteristic of hydatid cysts. Type I is also suggestive of a simple serous cyst. It predominates in children. Type IV poses problems of differential diagnosis with abscesses and cancers of the kidney. Type V poses the problem of a calcified renal mass.

CT remains the reference radiographic examination, complementing ultrasound without really describing any characteristic aspects. It confirms the cystic nature of the lesion associated with multiple intracystic septa suggestive of daughter vesicles, whose density is reduced compared with the mother cyst (0 to 10 HU versus 15 to 40 HU). It best defines the site of the cyst and its extension, and its relationship with the excretory tract. In our patient, the CT scan revealed a voluminous cystic formation of the left kidney, with a thin wall containing a few fine calcifications, multivesicular, pushing back the left anterior and posterolateral abdominal wall, the gall coves and the colon opposite, the stomach, the spleen, the pancreas, the left diaphragm, the left kidney, measuring 190x180x275mm in diameter, classified type III.

KHC is mainly treated surgically. PAIR (puncture aspiration injection re-aspiration) is an alternative to surgery and anti-parasitic treatment. It is intended for type I, II and III cysts. It is contraindicated in cases of calcified cysts or ruptured cysts in the excretory cavities.

There are several surgical modalities:

Partial pericystectomy or resection of the protruding dome:

For simple, non-calcified cysts. Treatment of the residual cavity after evacuation of the cyst is still the subject of much debate [13]. For many teams, resection of the protruding dome remains the surgical method of choice, as it is quick and easy to perform, with fewer post-operative complications [14].

Total pericystectomy :

Indicated in cases of cysts with a thickened or calcified wall.

Total nephrectomy :

In the presence of a destroyed kidney.

Our patient underwent total nephrectomy in view of the destruction of the renal parenchyma.

CONCLUSION

Renal hydatidosis is a rare disease in France, occurring mainly in sheep-breeding countries. Nonetheless, any cystic mass in the kidney must be suspected, and a rigorous radiological and serological work-up must be carried out, including UWP, ultrasound, CT. This rigorous approach makes it possible to establish a presumptive diagnosis, a precise pre-operative morphological assessment, and to look for other associated localisations, which will make it possible to perform conservative surgery such as partial or total pericystectomy, thus avoiding unnecessary nephrectomy.

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