

Unusual Cause of Dysuria: A Large Primitive Retrovesical Hydatid Cyst

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To cite this article:

Richepin Tidahy, Oussama Benabdelhak, Ali Khayat, Mustapha Ahsaini, Soufiane Mellas, Jalal Eddine El Ammari, Mohammed Fadl Tazi, Mohammed Jamal El Fassi, Moulay Hassan Farih. Unusual Cause of Dysuria: A Large Primitive Retrovesical Hydatid Cyst. *International Journal of Clinical Urology*. Vol. 5, No. 2, 2021, pp. 70-73. doi: 10.11648/j.ijcu.20210502.13

Received: July 21, 2021; Accepted: August 5, 2021; Published: August 23, 2021

Abstract: Hydatidosis is endemic in Morocco. Pulmonary and hepatic localisations are the most frequent. The primary retrovesical location is exceptional. It is considered an “aberrant” or “ectopic” location and represents less than 1% of all cases of hydatid disease. Its diagnosis is sometimes difficult, requiring radiological and serological examinations. The aim of this case report is to present a specific management of a primitive retrovesical hydatid cyst and to compare it with the review of literature. We report an exceptional case of a large primary retrovesical hydatid cyst in a 45-year-old patient with no significant pathological history, of rural origin with a notion of contact with stray dogs. Symptoms are of late onset and represented essentially by voiding disorders associated with episodes of constipation and a feeling of heaviness. Abdominal and pelvic Ultrasound and CT scan identified a rounded, multivesicular retrovesical cystic mass. Because of the existence of intimate adhesions with neighboring organs, we opted for treatment with a partial cysto-pericystectomy. The post-operative follow up was without incident with a good long term evolution. There was no local recurrence and the patient did not complain of any urinary disorder. In order to reduce the incidence of hydatid disease in endemic countries, the best treatment remains primary prevention.

Keywords: Hydatidosis, Parasitosis, Retroperitoneum, Bladder, Surgery

1. Introduction

Hydatidosis or echinococcosis is an anthroponosis that is widespread throughout the world. It is caused by the development in humans of larvae of cestodes of the genus *Echinococcus granulosus*. Morocco, a traditional breeding country, is among the countries most infested by this parasitosis. In addition, pulmonary and hepatic localisations are the most frequent [1]. The primary retrovesical location of the hydatid cyst is exceptional, it represents less than 1% of hydatid locations [2]. It is considered to be an ectopic location defined by the development of the parasite in the sub and retrovesical fat.

The clinical signs are of late onset and mainly represented by urinary disorders.

Diagnosis based on radiological and serological

examinations is sometimes difficult. We report an exceptional case of a large primary retrovesical hydatid cyst revealed by dysuria.

2. Patient and Observation

This is a 45-year-old patient, with no particular pathological history, of rural origin with a notion of contact with stray dogs.

The onset of his symptoms dates back to 1 month prior to his admission by dysuria associated with episodes of constipation with the appearance of suprapubic pelvic pain of a gravity type radiating to both sides, all evolving in a context of apyrexia and the absence of constitutional symptoms.

Clinical examination revealed a median abdominopelvic mass reaching the umbilicus, slightly mobilisable, of firm

consistency, well defined and tender. Palpation of the lumbar fossae revealed a right lumbar tenderness without lumbar contact. The digital rectal examination found a bulge that was renitent and tender at the level of the anterior wall of the rectum 3 cm from the anal margin.

Abdominal and pelvic ultrasound revealed a multivesicular retrovesical anechoic cystic mass 'in a honeycomb', without intra or exocystic adenoids, measuring 10 cm long axis (Figure 1), compatible with a hydatid cyst stage 3 according to Gharbi.



Figure 1. Urinary Bladder ultrasound: a multivesicular retrovesical cystic mass.

Abdominal and Pelvic CT Scan with and without Contrast showed a multivesicular retrovesical cystic mass measuring approximately 10x10 cm (Figure 2, Figure 3), pushing the bladder forward responsible for a huge bladder, and the rectum posteriorly, without other associated intra-abdominal location. The chest x-ray was without abnormalities. Kidney function was normal.

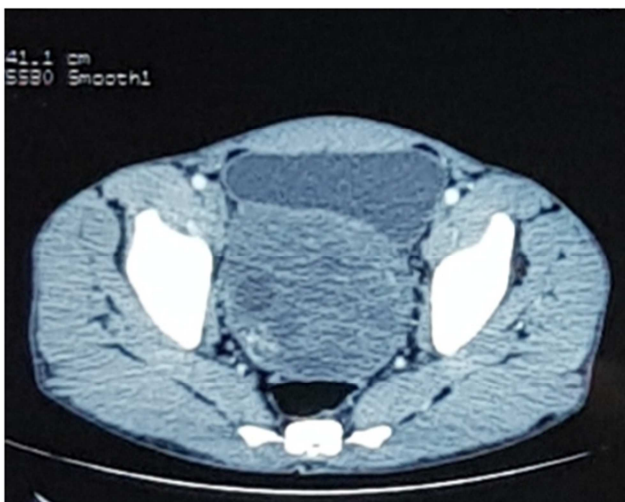


Figure 2. CT scan in axial section showing a multivesicular retrovesical cystic mass measuring approximately 10x10 cm.



Figure 3. Coronal CT scan showing a multivesicular retrovesical cystic mass measuring approximately 10x10 cm.

The patient received albendazole-based treatment at a dose of 10 mg / kg / day in two divided doses, started 5 days before the surgery and then continued for 3 months.

Surgical exploration revealed a large retrovesical cyst protruding from the Pouch of Douglas, adhering to neighboring organs. An injection of a scolicedal solution (10% NaCl) for 10 minutes was performed and then protection of the operating field by surgical towels soaked in the solution to avoid possible secondary dissemination.

Given the multiple adhesions of the cyst and the risk of damage to neighboring organs, we opted for resection of the protruding dome.

The opening confirmed its hydatid nature by the issue of proligerous membrane with a few daughter vesicles (Figure 4, Figure 5).

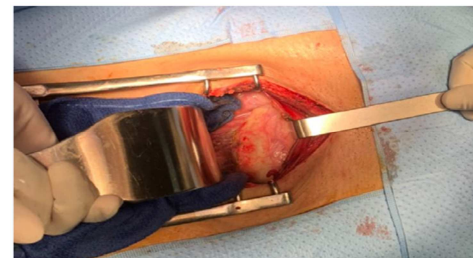


Figure 4. Operative view of the retrovesical hydatid cyst.

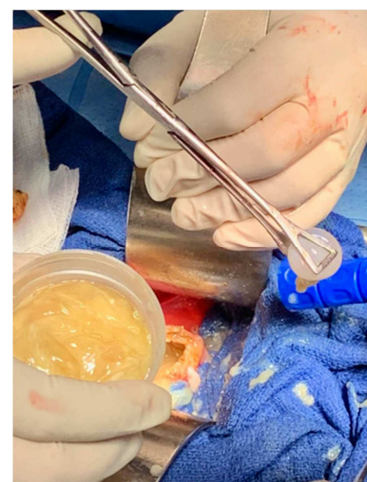


Figure 5. Operative view: from membranes with a few daughter vesicles after resection of the protruding dome.

After emptying the contents of the cyst and washing with scolicidal solution, a wide drainage of the residual cavity by a Redon drain was put in place. We kept the drain until Day 6 postoperatively to watch for any suppuration of the residual cavity.

The post-operative follow up was without incident with a good long-term evolution and without local recurrence. The patient did not complain of any urinary disorder.

3. Discussion

Echinococcosis is relatively common in North African countries. Hydatid disease can be localised in all tissues. It affects in 90% of cases the liver and lung.

Hydatid localisation of the urogenital system is dominated by renal localisation which comes in 3rd place from visceral localisations with 2 to 5% frequency [3]. The retrovesical localisation is rare and represents only 0.1 to 0.5% [4]. This localisation can be primitive following hematogenous dissemination of the embryos and their development in the retrovesical space [4], which was the case with our patient in which no intra-abdominal localisation was noted. The other route of dissemination is represented by a rupturing of abdominal hydatid cysts and secondary migration of embryos into the Pouch of Douglas which continue to develop; secondary endothelialisation excludes them from the peritoneal cavity; thus, the intraperitoneal cyst becomes extraperitoneal and appears to be part of pelvic cell tissue [5, 6]. Another exceptional pathway that may explain the retrovesical route of hydatid cyst is the lymphatic route through the veins of Reitzus and Shmiedel's anastomosis [7].

This condition progresses slowly and silently and clinical signs do not appear until at a late stage of the disease. This could be explained by the slow evolution of hydatids less subject to the inflammatory and mechanical stresses encountered in solid organs [9].

Symptoms are dominated by voiding disorders [3, 8, 9]. They are often associated with digestive signs and symptoms such as constipation or acute hemorrhoidal crisis [8]. The onset of hydaturia is a pathognomonic sign and a sign of rupturing of the cyst in the bladder [10].

The positive diagnosis of hydatid cyst is mainly based on ultrasound, especially to determine the location of the cyst, its vascular relationships and the existence of other locations. In addition, it makes it possible to distinguish 5 types according to the Gharbi classification [11] (Figure 6).

Our patient's cystic image is classified as type III.

The CT Urogram finds its indication because of the limits of the ultrasound and makes it possible to specify the topography of the cyst, especially to appreciate the impact of this mass on the upper urinary tract [9]. Fistulisation of the cyst in the bladder may show up on the cystogram as clouding of the cystic cavity.

Biologically, hydatid serology has an average sensitivity in extrahepatic locations of about 30 to 70% [12, 13], but can aid in the diagnosis in case of doubt. Hypereosinophilia is thought to be suggestive of hydatidosis in 33 to 53% of cases [14].

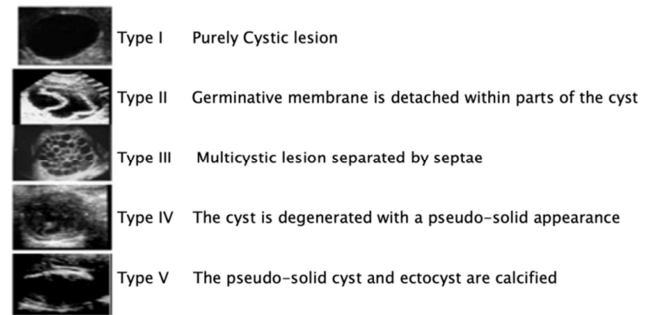


Figure 6. GHARBI Hydatid Cyst Classification.

The treatment of hydatid cyst is surgical. The approach should be extraperitoneal [9], minimising the risk of hydatid dissemination and secondary suppurations as well as postoperative occlusions [15]. However, in the event of diagnostic doubt or if there are other associated intraperitoneal locations, the intraperitoneal route should be recommended, allowing treatment of intra and extraperitoneal cysts in a single intervention. The laparoscopic approach has not been described for this particular localisation of hydatid pathology; however, some authors have tried this approach for retrovesical cysts of seminal origin with good results in terms of efficacy and morbidity [16, 17]. We therefore believe that it can be applied to retrovesical hydatid cysts provided that the principles of open surgery are respected in order to avoid any metastatic dissemination.

The treatment consists of an injection of a scolicidal solution (hypertonic saline or hydrogen peroxide) for 10 min, then emptying the contents of the cyst after protection of the operating field by surgical towels soaked with the solution.

The technique of choice is total cysto-pericystectomy when possible, otherwise it will be partial, resecting as much as possible of the pericyst and sparing plaques in contact with dangerous areas such as the ureters, vessels or the digestive tract. This was the case with our patient.

Drainage of the residual cavity does not protect against a superimposed infection [18].

Follow-up is necessary in order to detect a possible recurrence as early as possible.

Surgical treatment should take into account the patient's desire for fertility. Sperm storage should be planned if the cyst becomes intimate with the seminal vesicles and surgical excision promises to be difficult.

With regard to medical treatment, experience has been gained from studies of hydatid cyst of the liver using anti-helminth agents such as benzimidazole derivatives. According to these studies, preoperative albendazole treatment decreases the viability of the cyst, but the duration of treatment remains controversial [19]. Erzurumlu et al. started treatment 5 to 20 days before surgery and continued 3 to 7 months afterwards on a monthly cycle schedule.

Our patient started treatment with albendazole 5 days before surgery.

4. Conclusion

The retrovesical localisation of hydatid cyst is rare but not exceptional in highly endemic countries such as Morocco. It is thought to be due to a double etiopathogenic mechanism: hematogenous dissemination or secondary grafting in the Pouch of Douglas by rupturing of an intra-abdominal cyst. The clinical signs are dominated by voiding disorders. Ultrasound, associated with a CT scan depending on the case, makes it possible to make the diagnosis in the majority of cases. Hydatid serology can help in the diagnosis in case of doubt. The treatment is surgical consisting of a total cysto-pericystectomy in the best case, this can be partial in the event of attachment to dangerous areas. The best treatment remains primary prevention in order to reduce the incidence of hydatid disease in our country.

Conflicts of Interest

The authors declare no conflict of interest.

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