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Retro-Bladder Hydatid Cyst: About 4 Cases

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Abstract

Hydatid disease is endemic in Morocco where it poses a real public health problem. It spares no organ. The retrobladder hydatid cyst is an exceptional localization and constitutes 0.1 to 0.5% of all visceral localizations.

The objective of this study is the analysis of the etiopathogenic, epidemiological, clinical, biological, radiological, and therapeutic characteristics of the retro-bladder localization of hydatidosis.

This is a review of four cases operated on in the Urology Department at CHU HASSAN II in Fez from 2002 - 2017 (age 15) admitted for a retrovesical hydatid cyst (KHRV). There are 4 male patients aged between 45 and 74 years old (mean 55.33 years), from rural areas with positive hydatid contagion.

The clinical expression was represented by the voiding disorders, lumbar pains, and complications of the thrombophlebitis genus and renal insufficiency.

Ultrasonography is the main para-clinical examination that allows the diagnosis to be made. MRI was performed in a single patient who had retained obstructive renal failure despite urinary drainage.

The treatment of retro-bladder hydatid cyst was surgical in all cases with recurrence for the last case. Medical treatment has been used in all patients in combination with surgical treatment. The results were satisfactory overall, including the case of recidivism. Retro-bladder hydatid cyst is a rare localization of hydatid disease.

His diagnosis is evoked in endemic countries with micturition disorders or complications related to the compression of neighboring organs and confirmed by medical imaging.

The treatment is essentially surgical and consists of a total cysto-pericystectomy. Prevention remains the best treatment in endemic areas.

Keywords: *Hydatid Cyst; Hydatidose; Ureterohydronéphrose; Hydurature; Echinococcus granulosus; Taenia*

Introduction

Hydatidosis is a disease due to the development in the human body of the larval form of a dog taenia: *Echinococcus granulosus* [1,2] this is the case of Morocco, where repeated dog-male contacts, the importance of pastoral farming explain the frequency of this parasitosis [1,2]. Hepatic and pulmonary localizations are the most frequent [1,3]. Hydatic cysts with a retro-bladder localization are among these rare and misleading cases [3,4]. Diagnosis based on radiological and serological examinations is sometimes difficult [1,3,4]. We report a series of 4 cases of retro-bladder hydatid cyst that seemed interesting to us.

Material and Method

This is a review of four cases operated on in the Urology Department at CHU HASSAN II in Fez from 2002-2017 (age 15) admitted for a retrovesical hydatid cyst (KHRV).

All patients underwent pelvic echo and abdominal CT scan except for the one with acute renal failure.

Result

During our work, we collected 4 patients with retrobladder hydatid cyst (KHRV), three of whom were of rural origin and one of urban origin.

Contact with the dogs was found in 2 patients our 4 patients. Patient 3 had a liver-operated hydatid cyst (KHF) ATCD and patient 4 had been operated on for KHRV within 9 months of recurrence.

The clinical symptomatology revealing retro-bladder hydatid disease is dominated by urinary disorders (pollakiuria and dysuria) and lumbar pain. A thromboembolic complication (swelling of the left lower limb) is found in a case resolved by a curative dose anticoagulant treatment (patient 2). At the digital rectal examination, a large bulging retro-vesical mass unchanged after bladder catheterization was found in all patients.

We found an alteration of renal function in patient 1 for whom MRI was indicated in whom percutaneous nephrectomy was performed after failure of drainage by double ureteral catheters J. The hydatid serology was positive for all patients. Ultrasound was performed in all patients.

In terms of ultrasound type, according to the classification of GHARBI, type III is found in 2 patients, and type IV is found in 2 patients. CT was performed in 3 patients, which made it possible to specify relationships with neighboring structures and to look for other secondary locations.

One case of obstructive renal failure treated by the surgical technique of choice was a total cysto-pericystectomy (KPK) with all possible protective measures (fields soaked with hydrogen peroxide) to avoid possible secondary dissemination, and in the last case of recurrence, given the importance of adhesions to neighboring organs making it impossible to do a total KPK, the intervention was limited to the resection of the protruding dome.

On the other hand for the KHF, we realized a total KPK with simple point on bilio-cystic fistula.

A medical treatment based on albendazole was initiated for all our patients postoperatively including the last case of recurrence of which albendazole was not administered after the first surgery because the patient was lost sight of.

The postoperative outcome was favorable in all patients reviewed in consultation with a decline ranging from 3 to 6 months; no recurrence was reported, they were all clinically asymptomatic and their control ultrasound was always normal.

Patients	Age	Contact dog	Origin	Clinical	Serology	Ultrasound Gharbi score	CT/MRI	Surgical technique	Followed
1	74	+	Rural	Micturition disorder/ Bilateral low back pain	+	4	KHRV type 4 *	KPK total	No recidivism
2	45	+	Rural	Micturition disorder/ swelling left I M	+	3	KHRV type 3	KPK total	No recidivism
3	47	-	Urban	Micturition disorder/ Left lomalgia	+	3	KHRV type 3 + KHF	KPK total	No recidivism
4	56	-	Rural	Micturition disorder	+	4	KHRV type 4	Resection protruding dome	No recidivism

Table 1: *Clinical observation summary.*

*Abbreviations: M: Male; KHRV: Retrovesical Hydatid Cyst; KHF: Hydatid Cyst of the Liver; KPK: Cysto-pericystectomy; *: MRI.*

Discussion

Hydatidosis is an endemic disease in the Maghreb countries and especially Morocco. The hydatid cyst can be located anywhere in the body as soon as both liver and lung filters are exceeded.

The most common visceral locations are the liver (60%) and the lung (30%) [1]. The hydatid localization at the level of the urogenital tract is dominated by renal involvement, which comes third from visceral localizations with 2 - 5% [2]. Retro-bladder localization is rare, as evidenced by the small number of publications and the brevity of the series (Table 2). It represents only 0.1 to 0.5% in Moroccan series, and less than 1% in European series, and 0.5 to 2% of Tunisian series [3].

Series	School year (year)	Number total of the KHRV	KHRV primitive (Number)	KHRV secondary (Number)	KHRV primitive (Frequency)
EL Harrech (Rabat)	17	8	6	2	75%
En-nouali (Rabat)	0	7	4	3	57%
Khouaja (Tunisia)	13	8	4	4	50%
Benabdellah (Tunisia)	16	4	1	3	25%
Our series (Fez)	15	4	2	1	77%

Table 2: *Retro-vesical localization of KH according to the series.*

In our series, the four cases were collected over a period of 15 years, which demonstrates the exceptional nature of retro-vesical echinococcosis.

This localization can be primitive [4] following a hematogenous dissemination of embryos and their development in the retro-bladder space, which was the case of two patients of our series. The other pathway of dissemination is represented by a cracking of abdominal hydatid cysts and secondary migration of embryos into the Douglas pouch [2], this was the case of our third patient. Another exceptional route that may explain the retro-bladder localization of the hydatid cyst is the lymphatic route borrowed from Retzius venous system and Schmiedel's anastomoses, which may justify recurrence for the latter case [5]. The age of our patients ranges from 45 to 74 years, with a mean age of 55.3 years. In the series of Ennouali, the average age is 43 years with extremes ranging from 15 to 59 years [6]. However, it should be noted that a few cases of these localizations have been observed in children from 3 years and under 10 years [7]. The predominance of rural origin has been reported by the majority of authors. This is the case for our study where we have 75% cases from rural areas.

The voiding disorders are explained by the disturbance of the bladder dynamics due to the development of a retro or supra-bladder mass [3]. This is the reason for consultation reported in most publications. For Benabdellah, three in four patients with micturition disorders, while for Khouaja, dysuria was present in seven out of eight patients. As for the series of El Harrech, there were 6 cases having urinary disorders including two with acute retention of urine [3]. Similarly in our study, all our patients had presented with micturition disorders.

Hydurature is the pathognomonic sign of the opening of the hydatid cyst in the urinary tract, but it remains exceptional and rare. This is the case in the Benabdellah and El Harrech studies [1,8]. Low back pain secondary to obstructive ureteric compression and rarely reported in the literature [9]. Reported in two of our patients, also in two patients of Benabdellah [9].

The clinical examination revealed a hypogastric mass unchanged after bladder catheterization, found in five patients in the Khouaja series, and two patients in that of El Harrech [1,3].

The rectal examination often perceives a renitent mass in front of the rectum. This sign has been positive for all our patients. The same results were noted by El Harrech [3].

Ultrasonography is the examination of choice for the positive diagnosis, it allows to stratify the hydatid cyst according to GHARBI, to determine the exact seat of the mass and specifies another localization especially hepatic and also allows the monitoring of recurrence postoperatively.

The CT scanner better assesses the topography of the cyst, allows a finer analysis of the wall and the cystic contents, it allows to detect the small cyst, cystic localization of the other territories and their calcifications, allows the differential diagnosis in case of suspicion of ovarian tumor (cyst type II and III) [10].

Classification of KH according to Gharbi

- Type I: Vesicular united cyst
- Type II: Total or partial detachment of membranes
- Type III: Multi vesicular cyst
- Type IV: Focal lesions solid (pseudo tumoral)
- Type V: Calcified cyst.

The hydatid serology is the examination that allows to highlight the specific antibodies that are intended to assert the hydatic nature of the cyst and must be based on two complementary techniques, one qualitative, the other quantitative. It reinforces the positive diagnosis of the disease and has a high sensitivity (95% for the ELISA technique). The treatment of KHRV is based on surgery which consists of a total cysto-pericystectomy with the use of fields soaked with oxygenated water preoperatively.

Conclusion

Retrobladder hydatid cyst is a rare localization of hydatid disease. His diagnosis is evoked in endemic countries with mental disorders or complications related to compression of neighboring organs and confirmed by medical imaging including (Ultrasound and CT). The treatment is essentially surgical and often consists of a total cysto-pericystectomy. Prevention remains the best treatment in endemic areas.

Conflict of Interest

The authors declare no conflict of interest

Authors' Contribution

All authors contributed to the writing and reading of this work.

Ethical Approval

This is work was done in the department of urology of C.H.U Hassan II Fez. All the necessary protocols were followed, in accordance with the rules of the Ethics Committee of the aforementioned hospital and that of the Faculty of Medicine of Fez, after which an authorization was obtained for publication. Written consent has been obtained from the patient for the publication of this case report and accompanying images. A copy of the written consent is available for review by the editor of this journal.

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