

Mini Review

Fistulized Renal Hydatid Cyst

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Abstract

Hydatid disease remains an endemic parasitic disease. Renal localization of this disease is rare. Hydatiduria is pathognomonic of a fistulized hydatid cyst in the pelvicalyceal system of the kidney. Its diagnosis is based on an array of clinical, biological and radiological signs. Its treatment is basically surgical which is usually conservative in order to preserve optimal kidney function. Lately, laparoscopic surgery of this disease has evolved immensely and assures safety.

INTRODUCTION

Hydatid disease is a parasitic disease caused by the larval form of tapeworms of the *Ecchinococcus* type. It remains endemic and a real public health issue in north Africa, some countries in the Mediterranean region, New Zealand, Australia, Asia and America [1,2]. Renal involvement of this disease is rare [3]. Renal hydatid cyst can open into the excretory cavities causing specific diagnostic and therapeutic features [4]. We will study clinical signs, imaging results, and the therapeutic management of fistulized renal hydatid cyst in the urinary tract by reviewing the literature.

EPIDEMIOLOGY

Renal localization of hydatid cyst comes third after the hepatic and pulmonary involvement of this disease. It is estimated between 2 – 5% of all visceral localizations of this disease [5,6]. It is usually primitive, unique and unilateral [4]. Hydatid cyst of the kidney is mainly observed in young adults with ages between 30 and 50 years. Nevertheless, it is not exceptional in children [3]. There is no predominance of sex related to this disease. The left kidney appears to be relatively more affected. The poles of the kidney affected in 80% of cases.

DIAGNOSTIC

This disease evolves in a slow and insidious manner, The Most common clinical presentation is chronic flank pain or discomfort resulting from cystic pressure [8]. Other clinical manifestations are not specific apart from hydatiduria. This is caused by an opening of the hydatid cyst in the urinary tract [9,10]. It is observed in 28% of cases [6,11] and can even result hydronephrosis during migration of daughter cysts in the ureter.

Laboratory test brings certain finesse in the diagnosis of hydatid disease especially in difficult cases. It plays a major role in sero-epidemiological surveys and follow-ups after treatment [12].

Eosinophilia is neither constant nor specific, it is present in cases where the cyst opens up and it may only presume

the disease [12]. Diagnosis is heavily based on imaging when hydatiduria is not observed [6,11,13].

Ultrasound has an 80% reliability [3,14] it can detect cystic masses of the kidney and of another organs in the abdominal cavity [4]. Features suggestive of hydatid disease are fluid nature, mural calcifications, membrane separation and presence of daughter cysts [10]. The 5 stages for hepatic hydatid cysts defined in Gharbi classification also applies to renal hydatid cysts [10].

Ultrasound can be suggestive of the kystourinaire fistula when uretero hydronephrosis is objectified [4]. CT urography remains the reference test and is often requested after ultrasound [1,6]. CT scan is highly sensitive in detecting calcifications. It appreciates the content of cystic masses better by specifying its topography and comparing with adjacent organs. It also helps to objectify any communication between the cyst and the urinary tract which is detected during the excretory phase which must be requested routinely [3]. Intravenous urography images after the scanner has an interest when a secondary obstructive syndrome caused by migrating daughter cysts in the ureter is suspected. It can objectify a vascular tumor syndrome, distorting the contours of the kidney, or compressing and stretching the urinary tract. It may also help diagnose impaired kidneys after a silent complete destruction of parenchyma [4].

Magnetic resonance imaging is not a first instance imaging technique in hydatid diseases. It is justified only when other imaging techniques have not established a diagnosis [1,11] and also when in cases of contra indication in the use of iodine as a contrast material allergy, renal failure).

The combination of clinical history, imaging studies, serological and urine investigations yields a reliable pretreatment diagnosis in only 50% of cases and a presumptive diagnosis in 71% [15].

TREATMENT

The treatment of fistulized hydatid cyst is exclusively surgical

and must tend towards conservative surgery preserving the kidney tissue function [16,17]. Lumbotomy allows an extra peritoneal surgery of this disease preventing any risk the disease spreading in the peritoneal cavity [17]. It is highly recommended to sterilize the cyst by injecting scolicedal solution (hypertonic saline) in the cyst. The use of hydrogen peroxide is outlawed in fistulaized cysts because of the risk of urinary tract erosion and sclerosis. It can however be used to protect the operating field [4]. Resection of protruding dome remains the treatment of choice [6,18]. The treatment of the residual cavity depends on its ability to collapse and to fill without risk of suppuration. Its edges may be sutured up if possible. Drainage of the renal space is required in all cases [1]. Fistulas must be sought systematically and closed with absorbable sutures in two layers (cystic and parenchymal layers), or together in case of difficulty placing nephrostomy catheters has been described [11]. But in our experience [4], we believe that placing a double J stent is the best way to prevent postoperative fistulas ensuring efficient drainage of urine. This stent must be either placed preoperatively when the diagnosis of urinary fistula is suspected or during surgery [4].

Nephrectomy remains a treatment of choice for kidneys destroyed by hydatid disease. Treatment of the residual cavity is not essential. Systematic drainage of the urinary tract by a double J stent should be placed to protect the treatment of fistulas. However, when the diagnosis is made during surgery, it is best to practice surgical nephrostomy intraoperatively [4].

We have increasing publications concerning the renal hydatid disease treatment by laparoscopy in recent times [19,20]. A transperitoneal or retroperitoneal approach may be proposed, bearing in mind that transperitoneal approach allows more space to operate [21]. This surgical technique is safe and without additional risks to patients [20].

Finally, we must emphasize on clinical, immunological, radiological follow ups that may last for many years in order to detect early recurrence or secondary development of this disease in other sites.

Follow up of this disease includes a complete physical examination even in the absence symptoms, a hydatid serology test, a chest radiography and an abdominal and liver ultrasound, every three months in the first year and then every six month for two years, then once a year for ten years [22].

Other radiological examinations are justified by specific clinical signs, such as the realization of a CT urography when hydatiduria is present by example. We must advise preventive measures to the patient by explaining method of parasite infestation and ways to eradicate it [22,23].

CONCLUSION

Fistulized renal hydatid cyst should be considered in all cystic masses of the kidney, notably in a patient living in endemic area, associated with hydatiduria and / or dilatation of the urinary tract. Establishing a diagnosis before its treatment will prevent specific complications related Surgery, in particular dissemination and anaphylactic shock during surgery and urinary fistulas after surgery by placing a double J ureteral stent it is recommended conservative surgery when it is possible.

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