Case Report

Retrovesical hydatid cyst presenting with urinary retention and left kidney atrophy

Rami Nasr, George A. Saad, Mohammed Shahait, Nazih Khater

Department of Surgery, American University of Beirut Medical Center, Beirut, Lebanon

Abstract

Hydatid disease of the urinary tract is uncommon, accounting for only 2-3% of cases. There are very few reported cases in the literature of pelvic hydatid cysts causing obstructive uropathy and renal failure. We report a case of pelvic hydatid cyst in a patient presenting with urinary retention and secondary complete atrophy of one kidney. The patient was treated with surgical excision of this large retrovesical cyst, along with a simple left nephroureterectomy, with rapid improvement of symptoms. Hydatid disease should be taken into consideration in the differential diagnosis of a cystic mass in any anatomic localization, especially in patients from endemic areas.

Key Words: Hydatid disease, kidney atrophy, pelvic, retrovesical, urinary retention

Address for correspondence:
Dr. Nazih Khater, Division of Urology, Department of Surgery, American University of Beirut Medical Center, Beirut, Lebanon.
E-mail: nazih.khater@aub.edu.lb, dr_nazih@hotmail.com

Received: 23.04.2012, **Accepted:** 21.07.2012

INTRODUCTION

Hydatid disease is endemic in parts of Africa, Australia, South America, Asia, Southern Europe, and the Middle East.[1] Hydatid disease of the urinary tract is uncommon, accounting for only 2-3%, and may cause considerable diagnostic difficulty for the clinician.[2,3] Likewise, pelvic hydatid cyst is also a rare entity, representing less than 2% of all genitourinary hydatid diseases. The vast majority of abdominal and pelvic cysts are considered to be secondary to prior hepatic localization following spontaneous rupture or surgical inoculation, but primary pelvic cysts can occur. There are very few reported cases in the literature of pelvic hydatid cysts causing obstructive uropathy and renal failure.[4,5] We report a case of pelvic hydatid cyst in a patient presenting with urinary retention and secondary complete kidney atrophy.

Access this article online	
Quick Response Code:	Website: www.urologyannals.com
	DOI: 10.4103/0974-7796.127013

CASE REPORT

We report the case of a 43 year-old male patient who presented to the clinic for left flank pain and progressive severe obstructive urinary symptoms for 6 months. His past medical history includes multiple laparotomies for abdominal bullet injuries in 1984, including splenectomy, appendectomy, and cholecystectomy.

On physical examination, he had left Costo-vertebral Angle (CVA) tenderness and a hard non-mobile suprapubic mass. A Foley catheter was inserted with difficulty, yet the mass persisted. Subsequently, a computed tomography (CT) scan of abdomen and pelvis was done, revealing a large pelvic cyst measuring 14.9 × 12.7 × 14.8 cm. The left ureter was encased by the large mass, with secondary left hydroureteronephrosis and severe thinning of the left renal cortex. The mass had an irregular wall with a soft tissue component seen at its right lateral aspect, measuring 2 cm in maximal thickness. The bladder was displaced anteriorly and superiorly to the right [Figure 1].

Serum creatinine level was 2 mg/dL. Indirect hemagglutination for *Echinococcus granulosus* was negative (titer < 1:32).

The patient underwent flexible cystoscopy, revealing a normal bladder with no diverticulae. He underwent an exploratory laparotomy, with excision of this large retrovesical cyst, along with a simple left nephroureterectomy. The pelvic cyst was unroofed after injecting citramide inside it and shielding the area around it with citramide-soaked pads. Because of excessive adhesions, we only performed an upper pericystectomy. Through the same incision, a left nephroureterectomy was done [Figure 2].

The pathologic examination of the surgical specimen confirmed hydatid disease, and the remnant kidney was negative for the disease. The patient was started on albendazole for 2 months. He had a rapid resolution of urinary symptoms and improvement in serum creatinine. At 16-month follow-up, the patient is free of symptoms with no disease recurrence on repeated CT scan.

DISCUSSION

Hydatid disease is a parasitic infection caused by the tapeworm *E. granulosus*. The most commonly involved organs are the liver and the lungs; however, virtually any organ can be affected.

After ingestion, the oncospheres hatch and penetrate the intestinal wall, disseminating primarily to the liver, secondarily to the lung, and finally anywhere to form unilocular cysts. However, once inside the circulation, there is a chance to pass through the liver and lung barriers, without seeding these structures, and develop an implant elsewhere.[6] Other pathogenic hypotheses for isolated retroperitoneal or retrovesical cysts have also been proposed.[7,8] A lymphatic route could lead the larvae from the intestinal lymph vessels to the thoracic channel and then anywhere in the body, or the embryo could remain in the rectal ampulla and migrate through the hemorrhoidal vessels to achieve a pre-rectal or retrovesical location and then develop.

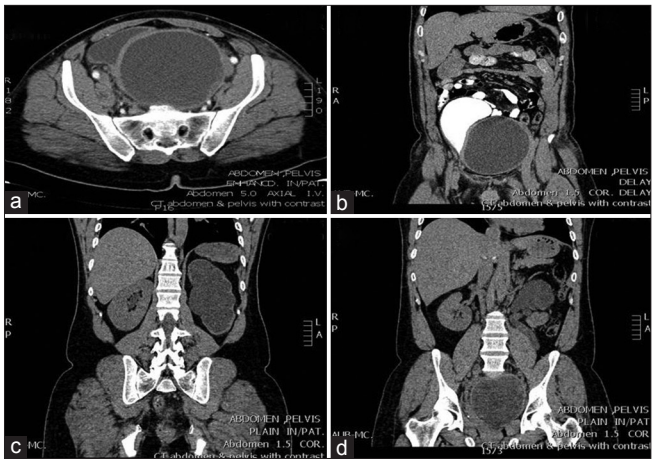

Figure 1: The CT scan with contrast shows a large pelvic mass measuring 14.9 × 12.7 × 14.8 cm in its AP (a) transverse (b) and cranio-caudal dimensions (c and d). It has fluid density and slightly irregular wall. The left ureter is encased by the large mass with secondary left hydroureteronephrosis with thinning of the left renal cortex. The urinary bladder is anteriorly and superiorly displaced to the right

Hydatid cysts are well heard of in endemic areas, but they may not be the first differential diagnosis in a patient presenting with a nonspecific pelvic cystic mass due to the rarity of the disease itself. Bickers reported the occurrence of pelvic hydatid cyst in 12 out of 532 cases (2.25%) of proven hydatid disease.[9] Clements reported two cases of primary pelvic hydatid cysts in a series of 43 patients with pelvic hydatid cysts.[10] The classical radiological signs of hydatid cysts on CT are either a calcified rim mass or a multiseptated cyst; daughter cysts on CT scan are pathognomonic.

The symptomatology is not specific but mostly resulting from pressure effect on adjacent organs, including hematospermia, constipation, weight loss, flank pain, frequency, and urinary retention.

This case represents an example in which multiple laparotomies were done in a patient living in an endemic area for hydatid disease, with a suspicious liver lesion. However, there was no documented surgery on the liver. Therefore, we cannot determine if the pelvic cyst is due to the rupture of the liver lesion or a primary occurrence. Furthermore, the atypical radiologic finding of a cystic mass in the least common anatomical site of involvement by hydatid adds to the challenge in diagnosis. There were no calcifications in the cyst wall, no septations (daughter cysts), and it had a low density of 5 HU. In addition, the indirect hemagglutination titers for *E. granulosus* were negative.

This is the first report in the English medical literature which

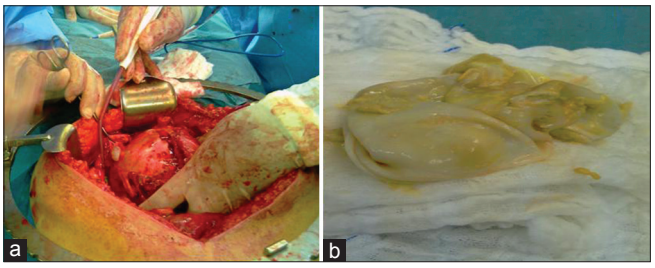

Figure 2: (a) Laparotomy view of the cyst, (b) the resected cyst membrane

demonstrates complete kidney atrophy by pelvic hydatid cyst, and it is due to the encasement of the left ureter by the inflammatory mass and not due to previous surgeries. Therefore, physicians must consider performing ultrasounds of the abdomen and pelvis in patients with liver or other organ hydatid disease in order to avoid such a complication of their secondary disease cyst.

CONCLUSION

Hydatid disease should be taken into consideration in the differential diagnosis of a cystic mass in any anatomic localization, especially in patients from endemic areas.

In many occasions, as in our case, the radiologic findings and even the serology were not specific for the diagnosis. So, physicians and surgeons should have a high index of suspicion to take measures that decrease the chance of recurrence if the management is surgical.

At many times, the effect of pelvic hydatid cyst is local, but many can have detrimental effects on other organs, like the irreversible destruction of one or both kidneys.

REFERENCES

1. Saidi F. Surgery of Hydatid Disease. Philadelphia PA: WB Saunders; 1976.
2. Kirkland K. Urological aspects of hydatid disease. Br J Urol 1996;38:241-54.
3. Pedrosa I, Saiz A, Arrazola J, Ferreiros J, Pedrosa CS. Hydatid disease: Radiologic and pathologic features and complications. Radiographics 2000;20:795-817.
4. Emir L, Germiyanoglu C, Lokumcu A, Erol D. Retrovesical echinococcal cyst causing renal failure and nocturnal enuresis in a child. J Pediatr Surg 2001;36:E14.
5. Seenu V, Misra MC, Tiwari SC, Jain R, Chandrashekhar C. Primary pelvic hydatid cyst presenting with obstructive uropathy and renal failure. Postgrad Med J 1994;70:930-2.
6. Ouadfel J, Assem A, Errougani A, Jalil A, Belkacem R, Balafrej S. [Isolated retroperitoneal hydatid cyst. Apropos of a case]. Ann Chir 1990;44:243-5.
7. Fernandez Larranaga A, Silmi-Moyano A, Rodriguez-Vallejo JM, Uson-Calvo A. [Retrovesical hydatidosis]. Actas Urol Esp 1983;7:165-74.
8. Manouras AJ, Tzardis PJ, Katergiannakis VA, Apostolidis NS. Unusual primary locations of hydatid disease. Case report. Acta Chir Scand 1989;155:217-9.
9. Bickers WM. Hydatid disease of the female pelvis. Am J Obstet Gynecol 1970;107:477-83.
10. Clements R, Bowyer FM. Hydatid disease of the pelvis. Clin Radiol 1986;37:375-7.

How to cite this article: Nasr R, Saad GA, Shahait M, Khater N. Retrovesical hydatid cyst presenting with urinary retention and left kidney atrophy. Urol Ann 2014;6:68-70.

Source of Support: Nil, **Conflict of Interest:** None.

Commentary

Retrovesical hydatid cyst presenting with urinary retention and left kidney atrophy

The authors have reported a rare case of retrovesical hydatid cyst which had caused chronic obstructive changes in the left kidney. On diagnostic imaging, the differentials of a pelvic/retrovesical cyst in men are not many and include duplication cysts, mesenteric cysts, lymphocele in patients who have undergone radical surgeries,[1] and hydatid cysts. However, the reporting radiologist has to consider hydatid cyst as a likely possibility in an endemic area and alert the treating physician because of the management implications. There are several case series published recently.[2-4] Angulo *et al.* and Horchani[3,4] also highlight the difficulties encountered in the surgical management of the complicated hydatid cysts in which a proportion of cases had adherence to the urinary bladder and total or partial cystectomy had to be done. Postoperative death was also reported by Horchani. There is a lot of improvement in the surgical techniques of hydatid cyst, such as the Palanivelu hydatid system (PHS), which is a special instrument[5] with a trocar and two channels, and can be used to aspirate the cyst without spilling the contents and for the treatment of pelvic hydatid cysts as well. This case report has teaching points to both radiologists as well as surgeons.

Access this article online	
Quick Response Code:	Website: www.urologyannals.com