Primary hydatid cyst of the kidney revealed by hydatiduria: A case report

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ABSTRACT

Hydatid disease is frequent in endemic regions especially in sheep farming areas. Kidneys are uncommonly affected (2%–4%). We report a case of right renal colic with hydatiduria revealing a primary renal hydatid cyst ruptured in the mid calyx proved by computed tomography scan and laboratory testing. A kidney sparing surgery was performed by excision of the protruding dome and suturing of the fistula without any postoperative complication. This case emphasizes on further studies to define a standard treatment modality for renal hydatidoses.

1. Introduction

Most cases of hydatid disease is a parasitic disease that involves the liver in 60% of cases followed by lungs in 20% of cases. Diagnostic difficulties arise when it occurs in unusual locations such as kidneys in 2%–4% of cases. We report a case of primary renal hydatid cyst presenting with right renal colic and hydatiduria.

2. Case presentation

A 28-year-old man from Jendouba in Tunisia presented with right renal colic with history of right flank pain for 1 month associated to elimination of pearly white balloon like structures in the urine (Fig. 1).

Routine investigations and chest X-ray were normal. An ultrasonography revealed the presence of a 70mm cyst in the right kidney with hyper-echoic stroma and dilation of the homolateral upper tract. The hydatic serology was positive and eosinophil count was high (650.10^9/l).

A computed tomography scan showed a well-defined 69mm cyst occupying the upper and mid pole of the right kidney communicating with the mid calyx containing multiple cysts associated with a right hydroureteronephrosis measuring 32mm. No cystic lesion was seen in the liver or spleen (Fig. 2).

The patient underwent left open lombotomy and sterilization of the cyst using scolicidal solutions to prevent further spreading or anaphylactic reaction. After contouring the kidney with sterile drapes soaked in the hypertonic solution, the cyst was punctured and its contents were aspirated and the surgical exploration revealed ruptured multilocular hydatid cyst of the kidney communicating with mid calyx through a 2 cm fistula that was repaired with numerous daughters’ cysts in the upper tract that were aspirated (Fig. 3). Utmost care should be taken to prevent spillage and resultant disseminated hydatidosis during the surgery. Per operative intravenous injection of dexamethasone was administered and continuous arterial blood pressure monitoring was used. The protruding dome of the cyst was resected and the pericyst was respected. Cyst fluid was sent for parasitological workup showed hooklets and protoscolices of echinococcus spp. No medical treatment was advised. The patient was discharged on the third postoperative day without any complication during follow-up.

3. Discussion

Renal hydatid cysts are uncommon and seen only in 2%–4% of cases. The multilocular cyst is composed of a single large cyst containing smaller daughter cysts of varying sizes. Renal hydatidosis is frequently revealed by an abdominal mass syndrome, lumbar pain or hematuria according to literature. In our case, the clinical presentation of the renal hydatid cyst is unusual and rare which is pathognomonic of the rupture of the cyst in the pelvicalyceal system. Identifying protoscolices or hooklets in cyst confirms the diagnosis of hydatid cyst.

In this case report, our patient had a history of macroscopic hydatiduria and we report the particularities of the therapeutic management. The diagnosis of renal hydatid disease is suggested by hydatiduria which is a pathognomonic feature but rarely documented. In this case, computed tomography scan confirms the diagnosis of a right renal cyst with a right

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Hydroureteronephrosis and it has advantage over ultrasonography as it is more sensitive and accurate to detect calcifications and daughter cysts. The serological findings in this case revealed IgG antibodies, which could be due to chronic immune response to the ruptured cyst.

Complicated renal hydatid cysts can be treated by nephrectomy to avoid the relapse especially in completely destroyed kidneys but kidney sparing surgery is possible in 75% of cases, with higher risk of dissemination of small vesicles and incomplete cure. Medical management of renal hydatidosis using albendazole should be prescribed pre and post operatively to sterilize the cyst and decrease the risk of anaphylaxis especially in ruptured cysts and intraoperative spillage or in disseminated hydatid disease.

4. Conclusion

Hydatiduria is a very rare phenomenon that can exceptionally reveal renal hydatid cyst. Surgical excision of the cyst with conservative management is the treatment of choice of renal hydatid cyst. Radiology provides a useful support in the pre-surgical planning phase. Surgery may cure the patient completely but may not totally prevent recurrence.

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Fig. 3. Drained large unilocular cyst after reparation of the fistula [A] and the aspirated cyst fluid contains membranes and daughter cysts [B].

CRediT authorship contribution statement

Mohamed Fares Daoud: Writing, Investigation. Mehdi Raboudi: Project administration, Revision. Chams Sridi: Data curation, Software. Abdallah Chaachou: Resources. Mohamed Dridi: Supervision. Samir Ghozzi: Validation.

Declaration of competing interest

We have no conflicts of interest to disclose.

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