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Case Report

An unusual cause of renal colic: Hydatiduria

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Abstract Hydatid disease of the urinary tract is seen rarely. Hydatiduria may be a finding of renal involvement, but it is a rare cause of renal colic. A case is reported of renal hydatid disease that was diagnosed during the investigation of renal colic. A 38-year-old woman presented with renal colic. She had a history of episodes of renal colic and occasional voiding of grape-like material. No calculus was found in the urinary tract by plain film or ultrasonographic examination. The histopathologic examination of this material revealed daughter cysts that are pathognomonic for hydatid disease. Ultrasound and computed tomography confirmed this diagnosis and right nephrectomy was performed without cyst perforation or any spilling of cyst content. Albendazole, 10 mg/kg per day, was given for 4 weeks (2 weeks preoperatively and 2 weeks postoperatively).

Key words hydatid disease, hydatiduria, kidney, renal colic.

Introduction

Urinary tract involvement in hydatid disease is uncommon, accounting for only 2–3% of all hydatid infestations.[1] The disease is predominantly encountered in sheep and cattle-raising regions. Hydatiduria, the passage of grape-like material in the urine, is reported in up to 29% of renal hydatid disease.[2] Daughter cysts may cause renal colic during passage through the ureter, so physicians in sheep-raising regions should include hydatiduria in the differential diagnosis of renal colic. To our knowledge, the diagnosis of renal hydatid disease has never been made during the work-up of renal colic pain.

We report a case of renal hydatid disease with hydatiduria, presenting with renal colic.

Case report

A 38-year-old woman presented with a 3-year history of episodes of renal colic and occasional voiding of grape-like material (Fig. 1). She had history of contact with sheep. There were no abnormal findings on physical examination except right flank tenderness. Routine blood tests and eosinophil count were normal. In urinalysis there was a microscopic hematuria. We did not find any calculus in the urinary tract by plain film or ultrasonographic examination.

Urography showed a minimal upper calyceal deviation of right kidney with normal left kidney. Ultrasound (US) revealed a cystic mass 104×80 mm in size at the right kidney, including multiple small cysts with internal echo. On computed tomography (CT), there was a septated cystic mass with a thin capsule that was sharply demarcated from renal tissue (Fig. 2). No cystic lesion was seen in the liver or spleen. Chest films were also normal. The histopathologic examination of the grape-like material revealed daughter cysts that are pathognomonic for hydatid disease. The complement fixation serologic test was positive.

Albendazole therapy was administered prophylactically as 10 mg/kg per day for 2 weeks preoperatively. Because of the large size of the hydatid cyst and a connection between the cyst and the renal collecting system, right nephrectomy was performed for radical eradication. The nephrectomy procedure was completed without perforation or any spilling of cyst content. Gross appearance and histopathologic examination of the cystic mass confirmed the hydatid

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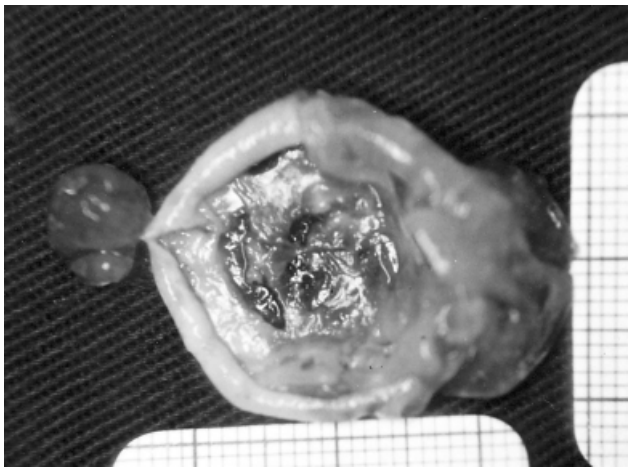


Fig. 1 Grape-like material voided by the patient.

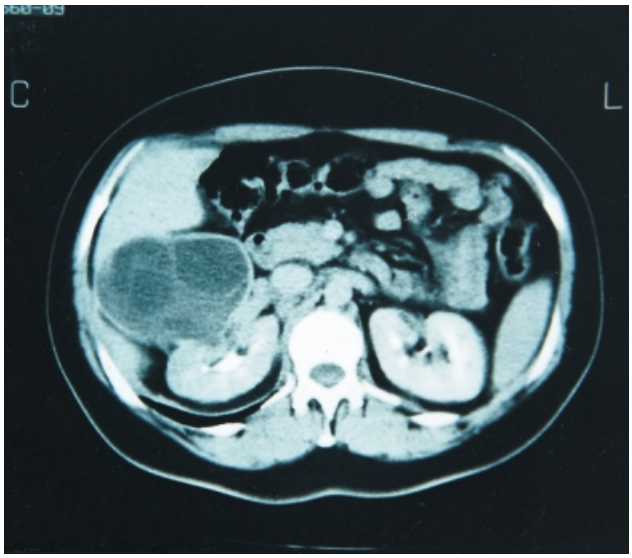


Fig. 2 The characteristic appearance of a hydatid cyst as seen on computed tomography.

disease (Fig. 3). Subsequently, the patient received 10 mg/kg albendazole therapy daily for 2 weeks postoperatively.

Discussion

Hydatid disease is a parasitic infestation caused by the larval form of *Echinococcosis granulosus*. The disease is most common in sheep-raising countries including Turkey.[1,3] Although all parts of the human body are vulnerable to hydatid cysts, the most common sites are the liver and lung.[1,3] Renal involvement constitutes only approximately 2–3% of all cases.[1]

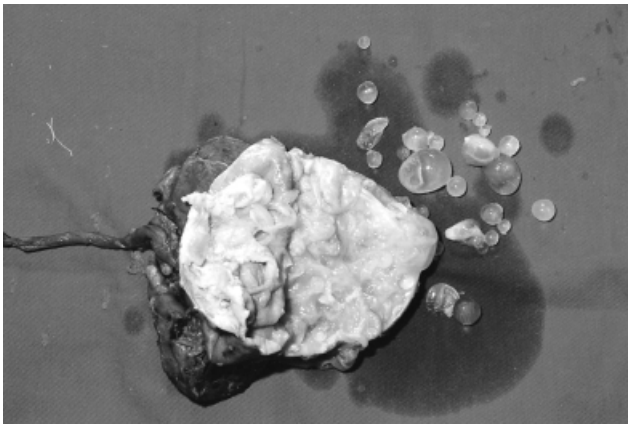


Fig. 3 Cyst contents showing daughter cysts.

There are no specific clinical symptoms or signs that will reliably confirm the diagnosis of renal echinococcosis. In addition, there is no laboratory finding that is pathognomonic for hydatid disease except for hydatiduria. Routine blood tests are generally normal except for eosinophilia, which is found in only 50% of cases. Serologic tests such as Casoni skin test, complement fixation test and indirect hemagglutination test, even with a high incidence of false negative and positive results, are helpful in some patients.

There is no specific sign on plain radiography or intravenous urography. Although US may reveal cysts, CT is more sensitive than US.

Hydatid cysts may rupture into organ spaces with parenchymal destruction. Rupture into the renal pelvis results in acute flank pain, followed by voiding of scolices or daughter cysts (hydatiduria) with or without hematuria and/or obstruction of urinary passage, as in our patient.[4] Rupture of a hydatid cyst of the liver into the biliary tract and of a hydatid cyst of the lung into the bronchi have been reported.[5,6] In addition, rupture into the peritoneal cavity may be cause of an anaphylactic reaction that might result in death.

Surgical procedures are the main treatment method of renal hydatid disease. The type of surgical treatment may be selected according to the degree of renal parenchymal destruction, and size and location of cyst. The extension of the hydatid cyst and whether there is a connection between the cyst and the renal collecting system should be considered in the management of renal hydatid disease. Simple nephrectomy, partial nephrectomy, endocystectomy plus closure of connection, cystectomy and pedicled omentoplasty can be performed. Perioperative albendazole therapy should be administered to prevent anaphylaxis and disease

recurrence and maintained for a reasonable period. The usual dose is 10–15 mg/kg per day in a cycle of 28 days with an interval of 2 weeks. In addition, scolicidal agents may be used intraoperatively to prevent implantation of the cysts at the surgical spill.[7]

We performed nephrectomy for complete eradication of disease, because of the large size of the cyst and the hydatiduria indicating a connection between the hydatid cyst and the renal collection system. Partial nephrectomy and closure of connection may have a risk of implantation of daughter cysts and also anaphylactic reactions.

In conclusion, hydatiduria should be considered as a cause of renal colic in patients without evidence of urolithiasis on their plain film, especially in sheep-raising regions. When hydatiduria is evident, surgical procedures should be considered with perioperative albendazole therapy because of the risk of rupture and anaphylaxis.

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