Unusual Retrovesical Location of Hydatid Cyst in A Pediatric Patient

Çocuk Hastada Retrovezikal Yerleşimli Kist Hidatik Olgusu

Ayşe Seçil Ekşioğlu, Gökçe Çınar, Çiğdem Üner
Dr. Sami Ulus Kadın Doğum ve Çocuk Sağlığı ve Hastalıkları Eğitim ve Araştırma Hastanesi, Radyoloji Kliniği, *Ankara, Turkey*

Abstract

We present an unusual case of retrovesical hydatid cyst causing dysuria and mild pelvic pain in a pediatric patient, with emphasis on the importance of ultrasound in diagnosis.

A 16-year-old boy presented with mild pelvic pain, and dysuria. He had vomited a few times in the previous two days. The physical examination was unremarkable. Laboratory results were normal except for mild eosinophilia. On pelvic ultrasound a well-defined, noncalcified, large cyst located posterior to the bladder and displacing it was demonstrated. Upper abdominal ultrasound revealed grade 1 hydronephrosis on the right and another similar cyst in the the liver. The patient underwent surgery for cystotomy and drainage. The pathologic specimens were typical of a hydatid cyst.

Pelvic hydatidosis is in the differential diagnosis list for a patient presenting with dysuria and pelvic pain in an endemic country. Ultrasound is the first line diagnostic tool. *(Çocuk Enf Derg 2010; 4: 86-8*)

Key Words: Hydatid cyst, ultrasonography, pelvis, pelvic pain

Özet

Pelvik ağrı ve dizüri ile başvuran pediatrik bir hastada nadir yerleşimli retrovezikal kist hidatik olgusu sunulmakta olup ultrasonun tanıdaki rolü vurgulanmaktadır.

16 yaşında erkek hasta genel pediatri polikliniğine hafif pelvik ağrı ve idrarda yanma hissi ile başvurdu. Son iki gün içerisinde birkaç kez kusması olmuştu. Fizik muayenesinde özellik yoktu. Laboratuar bulguları hafif eozinofili dışında normaldi. Pelvik ultrasonda mesane arkasında mesaneyi iten düzgün konturlu, nonkalsifiye kistik kitle izlendi. Bunun üzerine yapılan üst abdominal ultrasonda kitlenin basısı nedeni ile sağda grade 1 hidroüreteronefroz saptandı. Karaciğer sağ lobunda ise benzer sonografik özelliklerde diğer bir kistik kitle lezyonu görüldü. Hastaya kistotomi ve direnaj uygulandı. Tanı patolojik bulgularla doğrulandı.

Özellikle endemik bölgelerde pelvik ağrı ile başvuran hastada ayırıcı tanıda atipik yerleşimli kist hidatik de düşünülmelidir. Tanıda ilk seçenek ultrason incelemesidir. *(Çocuk Enf Derg 2010; 4: 86-8)*

Anahtar Kelimeler: Kist hidatik, ultrason, pelvis, pelvik ağrı

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Correspondence Address:
Yazışma Adresi:
Ayşe Seçil Ekşioğlu, MD
Dr. Sami Ulus Kadın Doğum ve Çocuk Sağlığı ve Hastalıkları Eğitim ve Araştırma Hastanesi, Radyoloji Kliniği,
Ankara, Turkey
Phone.: +90 312 305 61-06
Fax: +90 312 317 03 53
E-mail:
yucelsecil@yahoo.com

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Introduction

Echinococcosis or hydatid disease is a parasitic infection caused by the larval stage of four different types of Echinococcus cestodes. *Echinococcus granulosus* is the most common type, being endemic in Turkey as well as many other parts of the world including Mediterrenean, Eastern Europe, Africa, India, South America, Australia, and New Zealand.

These cestodes begin their life cycles in the intestines of the definitive hosts like dogs, wolves, foxes and jackals who pass the eggs in their faeces. Humans are the accidental dead-end intermediate hosts with sheep, cattle, goats and camels which develop cysts after ingesting the parasite's eggs. When the intermediate host is eaten by a definitive host the cycle is repeated.

In humans, *Echinococcus granulosus* cysts are most commonly found in the liver (60%) and the lungs (15%). Brain, bones, muscles, adrenals, and the spleen are uncommon sites being approximately 10%. Pelvic echinococcosis is rare, with an incidence of 0.2 to 2.25% (retrovesical location

being even rarer). This case report describes an instance of a retrovesical hydatid cyst causing dysuria and mild pelvic pain in a pediatric patient.

Case Report

A 16-year-old boy presented with mild pelvic pain, and a burning sensation during urination. He had vomited a few times in the previous two days. On clinical examination there was mild hepatomegaly, and the spleen was not palpable. Chest and cardiovascular examination was normal. Laboratory results were normal except for mild eosinophilia. Blood urea levels, creatinine levels and the results of liver function tests were normal. Examination of urine and faeces revealed no pathological findings.

A pelvic ultrasound examination was carried out. A well-defined, noncalcified, large cystic lesion with heterogeneous echogenicity was demonstrated in the pelvis posterior to the bladder, displacing it anterosuperiorly (Figure 1a-b). Upper abdominal ultrasonography revealed a grade 1 hydronephrosis in the right kidney secondary to external compression of the right ureter by the pelvic cystic mass (Figure 2 a-b). Another cystic lesion with the same characteristics and water-lily appearance, classical of hydatid cyst, was present in the right lobe of the liver (Figure 3). The intra- and extrahepatic bile ducts seemed intact. No other cyst was noted. Chest X-Ray was normal. Indirect Hemagglutination test for *E. granulosis* was positive. A diagnosis of coexistent hepatic and pelvic hydatid cyst was made.

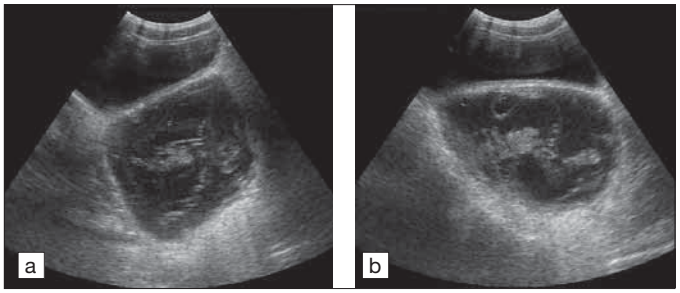

Figure 1. A large cystic mass with heterogeneous echogenicity is retrovesically located, displacing the bladder a) transverse b) longitudinal view

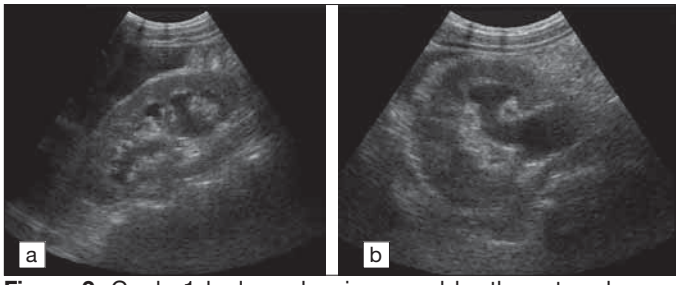

Figure 2. Grade 1 hydronephrosis caused by the external mass effect of the cyst on the rightureter a) longitudinal b) transverse view

The patient underwent exploratory laparotomy during which surgeons identified a ruptured large cystic lesion within the right lobe of the liver. The cyst included a germinative membrane and there was a significant amount of seropurulant ascites which was aspirated. The bile ducts were considered intact and there was good biliary drainage. Further exploration revealed another large cyst located in Douglas pouch posterior to the urinary bladder. Cystotomy and drainage was performed for both lesions. No complications occurred. The pathology report confirmed the diagnosis of hydatic cyst. The patient was put on oral antiparasitic medication for 6 months to prevent recurrence and was scheduled for follow-up at 3-month intervals for the first year and then for yearly controls for a total of at least 5 years. The right hydronephrosis had resolved and he was asymptomatic at the time of this report.

Discussion

Echinococcal cysts are rarely found in the pelvis. Genital tract involvement is the most common by 80%, juxta vesical location, preponderantly retrovesical, is even rarer (2-4). Pelvic echinococcosis is usually secondary to the traumatic or spontaneous rupture of a hepatic or splenic cyst and the seeding of the parasite in the pelvic region of the peritoneal cavity, evolving to a new cyst. Pelvic involvement is considered primary if no other site is found to be affected.

In our case there is a pelvic cyst coexisting with a hepatic one, detected on the same occasion, which is suggestive of a secondary nature.

The symptoms of retrovesical echinococcosis are not specific and may involve frequency, urgency, pelvic pain, burning sensation during urination and urinary retention secondary to the pressure effect of the mass on the ureters (4). Our case was asymptomatic for hepatic hydaditosis, however he presented with many of the nonspecific symptoms of retrovesical involvement. He had a unilateral grade 1

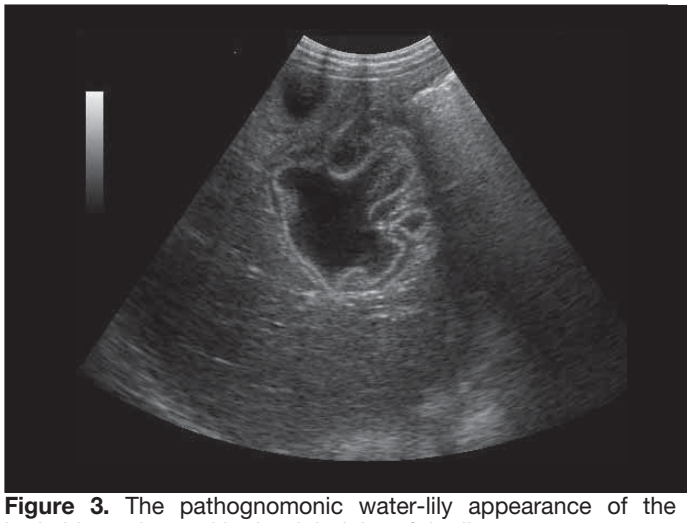

Figure 3. The pathognomonic water-lily appearance of the hydatid cyst located in the right lobe of the liver

hydronephrosis secondary to the pressure caused by the large cyst on the right ureter.

The most important factor in the diagnosis of pelvic hydatid disease is an awareness of its possibility in the endemic areas. In the presence of a pelvic mass, suspicion is important for the diagnosis.

Ultrasonography is the key diagnostic tool in cases of hydatid cyst. It is cost-effective, accessible and radiation-free with a high sensitivity ranging from 93% to 98% (5,6). It is an excellent modality to examine the inner structure of a cystic lesion and to identify fairly specific signs of hydatid disease such as the undulating membranes, laminated membranes i.e. 'double-line' sign or multiple septations suggestive of daughter cysts (7,8). The sonographic findings revealing the morphology and structure of the hydatid cysts are accepted to correspond to their evolutionary stage. Therefore, there are several classifications based on the ultrasound findings, the Gharbi classification being the most famous (9). According to the Gharbi classification, both our lesions are type 3, with undulated contours representing detached membranes, almost pathognomonic for hydatid cyst. Besides, ultrasound is a good and efficient way to examine intrahepatic and the extrahepatic bile ducts and their relationship with the cyst.

CT is useful to confirm the diagnosis when there is doubt or to determine the exact location of nonhepatic cysts in relation to the adjacent organs. Demonstration of plaque-like calcifications in the cystic wall or the presence of daughter cysts by CT helps the diagnosis. CT sensitivity ranges from 90 to 98% (5,6).

In conclusion, pelvic hydatic cyst is rare and it results from peritoneal seeding of a intraperitoneal cyst or from haematogenous dissemination. The present case highlights the role of ultrasound in the diagnosis of retrovesical hydatid cyst and it also reminds us that pelvic hydatidosis is included in the differential diagnosis list for a patient presenting with dysuria and pelvic pain in an endemic country.

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