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OLGU SUNUMU / CASE REPORT

Primary Hydatid Cyst in the Rectovesical Pouch

Rektovezikal Poşta Primer Kist Hidatik

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ABSTRACT
Human hydatid disease is the parasitic zoonosis caused by tapeworm larvae belonging to the Echinococcus species. While hydatid disease can affect almost any part of the human body, the liver and lung are the two organs where the disease is most frequently detected. Peritoneal involvement may develop following a hepatic hydatid cyst surgery or as a result of spontaneous micro-ruptures of the hepatic hydatid cyst into the peritoneal cavity. However, with only a few reported cases, primary hydatid cyst in the rectovesical pouch is extremely rare, even in endemic regions. In this study, a 37-year-old man was admitted to the emergency department with frequency and nocturia diagnosed as having a primary hydatid cyst in the rectovesical pouch.

Keywords: Hydatid cyst, echinococcus granulosus, rectovesical pouch

ÖZET
İnsan kist hidatik hastalığı, Echinococcus türüne ait tenya larvalarının sebep olduğu parazitik bir zoonozdur. Kist hidatik insan vücudunun hemen her yerini etkileyebilirken, karaciğer ve akciğer hastalığın en sık görüldüğü iki organdır. Hepatik kist hidatik cerrahisini takiben veya hepatik hidatik kistin periton boşluğuna spontan mikro rüptürleri sonucu periton tutulumu gelişebilir. Bununla birlikte, bildirilen sadece birkaç vaka ile,endemik bölgelerde bile rektovezikal poşta primer kist hidatik oldukça nadirdir. Bu çalışmada acil servise sık idrara çıkma ve noktüri şikayeti ile başvuran ve rektovezikal poşta primer kist hidatik tanısı alan 37 yaşında erkek bir hasta sunulmaktadır.

Anahtar kelimeler: Kist hidatik, ekinokokus granülosus, rektovezikal poş

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INTRODUCTION

Human hydatid disease is the parasitic zoonosis caused by tapeworm larvae belonging to the Echinococcus species. It is mostly acquired through contact with dogs. The intermediate host of this parasite is sheep and the disease is endemic in countries with large grazing areas such as the Mediterranean, South America, Africa, Middle East, New Zealand and, Australia.[1].The two most common sites where the disease is seen are the liver (66.4-89.3%) and the lungs (7.1-21.6%). It can also affect other areas like; kidney spleen, heart, brain and, musculoskeletal system.[2-5] In rare cases, peritoneal involvement may develop following a hepatic hydatid cyst (HC) surgery or as a result of spontaneous micro-ruptures of the hepatic HC into the peritoneal cavity. However, primary involvement of the periton without any visceral HC is a rare condition.[6] With only a few reported cases, primary HC in the rectovesical pouch is exceptionally rare, even in endemic regions.[7-13] Peritoneal HCs present with symptoms and signs that vary according to their size and localization within the peritoneal cavity.[6] Here, we present a 37-year-old man admitted to the emergency department (ED) with frequency and nocturia diagnosed as having a primary hydatid cyst in the rectovesical pouch.

CASE

A 37-year-old man is living in a rural area admitted to the ED with complaints of frequency, nocturia and, sensation of incomplete urination for the past few months. He also complained of lower abdominal pain and constipation, which had been exacerbated in the past few weeks. He had no fever, dysuria, hematuria, history of surgery, or trauma. In his physical examination, he had a slight lower-abdominal tenderness revealed. Routine laboratory test results were unremarkable.

Pelvic ultrasonography (US) revealed a uniloculated cyst of 9 x 8.5 x 7.5 cm (transverse x anteroposterior x craniocaudal) located in the retrovesical region. Abdominopelvic computed tomography (CT) demonstrated that the cyst was located in the rectovesical pouch and caused compression of both the bladder and the rectum. Small vesicles at the anterosuperior aspect of the cyst had been missed on the US and could clearly be identified only in the CT images obtained following intravenous iodinated contrast material administration

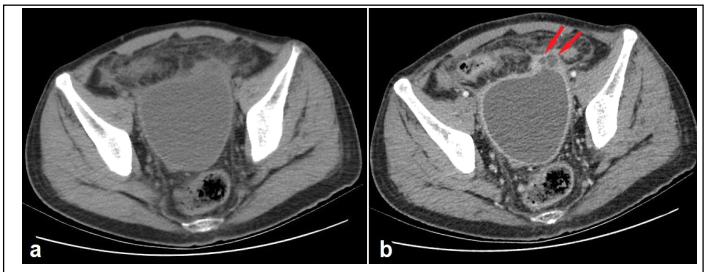

Figure 1 a,b. Axial pre - (a) and post -contrast (b) computed tomography sections through pelvis showing a large hydatid cyst anterior to the rectum. Loculations in the anterior aspect of the cyst is clearly visible only in the post -contrast image (arrows).

Figure 1a,b
Contrast-enhanced CT demonstrated that the cyst was limited within the pouch without infiltrating adjacent structures. No additional cystic lesion was detected in the abdomen

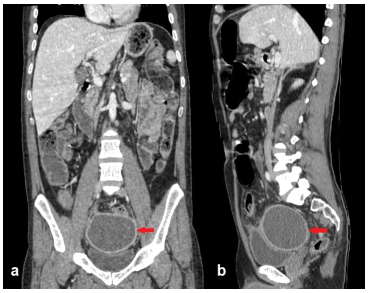

Figure 2 a,b. Coronal (a) and sagittal (b) post -contrast abdominopelvic computed tomography sections show that the hydatid cyst fills the rectovesical pouch and compresses the bladder (arrows). There is no evidence of infiltration in the adjacent stru ctures of the cyst. Note that there is no additional cystic lesion in the abdominopelvic cavity.

Figure 2a,b
Pelvic HC was suspected, and enzyme-linked immunosorbent assay (ELISA) for hydatid disease confirmed the diagnosis. Then a thoracic CT was performed, and it was normal. When clinical, laboratory and imaging findings were evaluated, the patient was diagnosed with primary HC in the rectovesical pouch. Percutaneous aspiration-injection-reaspiration (PAIR) treatment was recommended to the patient, however the patient refused the treatment. After five days of anthelmintic treatment with albendazole (400 mg twice a day) the cyst was surgically removed. By histopathological examination of the surgical specimen, lamellated cyst wall, numerous hooklets, and a few protoscolex which are consistent with hydatid cyst were seen

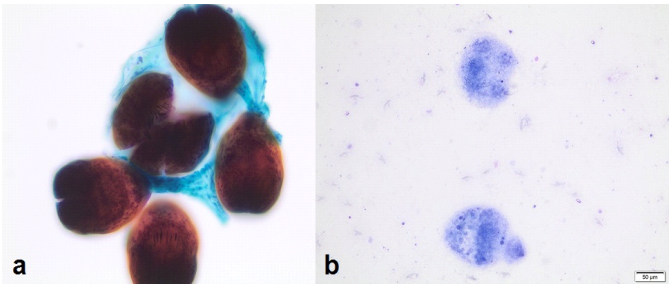

Figure 3 a,b. Photomicrographs show a. protoscoleces (PAP stain, x400 magnification) and b. numerous hooklets and two degenerated protoscolex (MGG stain, x200 magnificatio n), which are characteristic of the hydatid cyst.

Figure 3 a,b
No surgical complications have occurred. A 6-month albendazole treatment was planned with the follow-up of liver functions and the patient was discharged. Informed consent was obtained from the patient.

DISCUSSION

The development mechanism of the primary rectovesical HC has not been fully understood yet. There are three theories to explain how the HC affects this region without evidence of visceral involvement. According to Dévè's classical theory, rectovesical involvement develops as a result of seeding, following a rupture of a visceral HC that heals and then disappears, leaving a scar that cannot be detected by routine imaging methods. The second theory is that it develops following a hematogeneous or lymphatic dissemination. Third and more accepted theory than the other two, is that the larvae remain within the rectal bulb during the gastrointestinal passage, and passing through the hemorrhoidal vessels, they reach the rectovesical region. It has been said that the cyst grows one centimeter per year, causing compression of adjacent structures.[9] The disease is usually manifested by symptoms developed as a result of compression of the bladder and/or rectum. Urinary symptoms such as frequency, nocturia, incomplete urination sensation, intermittent voiding flow, and urinary retention often dominate the clinical picture. Previously reported cases of primary retrovesical HC, which are of limited number, show that a lower-abdominal pain of varying intensity usually accompanies the urinary symptoms.[7,9-12] And in some cases, like in that of us, constipation may also be added to the clinical Picture.[9]

In cases where a pelvic pathology is suspected, the first imaging method should be US.[8] HC can be seen as a unilocular cyst, a multiseptated cyst, a cyst containing detached membranes, a multivesicular cyst, or a complex cystic lesion with or without wall calcification(s), on US.[2,6] In our case, a limited number of small vesicles located in the anterosuperior aspect of the cyst was missed on US examination. And the multivesicular appearance, a diagnostic imaging pattern for HC, was only available in contrast-enhanced CT examination. CT is reported to be more accurate than the US for identifying HC in selected cases, such as the case we are presenting. In addition, CT is accepted as the method of choice for evaluating calcified HCs.[13] Recently, Unal et al. showed that transrectal US provides an excellent resolution in rectovesical HC cases where the transabdominal US is inadequate and suggested the use of this method in cases of pelvic HC.[8] Magnetic resonance imaging, another imaging option, is an excellent method to evaluate the internal structure and the extensions of the cyst, and also adjacent soft tissue structures before surgery.[6]

Differential diagnosis list of rectovesical HC in males is long, including seminal vesicle cyst, mullerian duct cyst, ejaculatory duct cyst, prostatic cyst or abscess, bladder diverticulum, ureterocele, cystic hamartoma, mesenteric cyst, colonic lymphatic cyst, and intestinal duplication.[10] And in women, the most common differentials of rectovesical HC are ovarian pathologies such as carcinoma and cyst torsion.[8] The gold standard treatment for the disease is the excision of the cyst by traditional or laparoscopic surgery. There is another treatment approach called as PAIR (puncture (P), aspiration (A), injection of scolicidal agent (I), and reaspiration (R)), that can be used instead of these treatments. PAIR is indicated for patients who are inoperable, refuse surgery, relapse after surgery, and do not respond to antiparasitic therapy alone.[14] However, PAIR can be applied at appropriate localization in Gharbi type I-II hydatid cysts.[15] In PAIR, which is a non-invasive method, the hospital stay is shorter and less costly than surgery.[16] In the treatment of hydatid cyst; the number of cysts, cyst location, Gharbi classification and patient-related factors should be considered[10]

Albendazole, is an antiparasitic drug with a broad spectrum of action. For cystic echinococcosis recommended dose is 400 mg twice daily for 3–6 months with 14 days of a break.[17] Although this medicine has no major adverse effects, asymptomatic increases in serum aminotransferase levels may be noticed, which regress with discontinuation of treatment.[18] Preoperative use of albendazole reduces the risk of intracystic pressure and anaphylactic reaction, while its postoperative use reduces the risk of recurrence of hydatid cystic disease.[19,20] During surgery, HCs should be removed to maintain their integrity to prevent infection from spreading to healthy tissue.[10,18]

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N.K. and A.S.: Diagnosed and investigated the patient; N.K., A.S., M.Ö., T.T.T., R.P.K.: Prepared the manuscript and the images; N.K., M.Ö. and R.P.K.: Edited and proofread the manuscript.

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