An Uncommon Presentation of Hydatid Cysts: Renal Hydatid Disease in Two Children

Nadir Bir Hidatik Kist Tutulumu: İki Çocuk Hastada Renal Hidatik Kist

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Abstract

Echinococcus granulosus is the most widespread, serious human cestode infection in the world. It is especially endemic in developing countries. It may involve many organs but the most involved organs are the liver and the lungs. Renal involvement is rare, comprising only 2% to 4% of cases. Renal cyst may be isolated or with cysts in other organs. In this report, we present two cases, the first with isolated renal hydatid cyst and the second with multiple renal cysts and a hepatic cyst. We aimed to draw attention to hydatid cyst disease in the differential diagnosis of renal cysts in children. *(J Pediatr Inf 2014; 8: 44-6)*

Key words: Hydatid cyst, kidney involvement, differential diagnosis, abdominal pain

Özet

Echinococcus granulosis dünyada sık görülen bir sestod enfeksiyonudur. Özellikle gelişmekte olan ülkelerde endemiktir. Bir çok organı etkilemekle birlikte, en çok tutulan organlar karaciğer ve akciğerlerdir. Böbrek tutulumu tüm vakaların ancak %2-4'ünde görülecek kadar nadirdir. Böbrek tutulumu diğer organ tutulumlarıyla beraber olabileceği gibi nadiren izole tutulum da olabilir. Bu yazıda, izole böbrek kisti olan ve karaciğer ile birlikte böbrek tutulumu olan iki kist hidatik olgusu sunulmuş, çocuklarda böbrek kistlerinin ayırıcı tanısında kist hidatik hastalığına dikkat çekmek amaçlanmıştır. *(J Pediatr Inf 2014; 8: 44-6)*

Anahtar kelimeler: Hidatik kist, böbrek tutulumu, ayırıcı tanı, karın ağrısı

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Introduction

Echinococcus granulosus is one of the most frequent parasitosis and it is endemic in Turkey. The larval form results in formation of hydatid cysts in various parts of the body. In children, the lung is a common site, whereas in adults 70% of cysts develop in the right lobe of the liver. Peritoneal cavity, spleen, kidney, bowel, brain, bone, retroperitoneal space, abdominal wall, myocardium and the thoracic wall are unusually involved; renal involvement is seen in only 2-4% of all cases (1, 2).

Ultrasonography (USG) is the most useful radiologic test for diagnosis. Computed tomography (CT) and magnetic resonance imaging (MRI) are highly sensitive for lesions. The most common serologic test used for hydatid disease is indirect hemaglutination assay (IHA) (3, 4).

Medical and surgical therapies are usually combined in the treatment. Puncture, aspiration, injection, respiration (PAIR) is a surgical procedure especially preferred in single lesions (5, 6).

Here, we reported two patients with renal hydatid cyst. We aimed to draw attention to hydatid cyst disease in the differential diagnosis of renal cysts in children, although it is very rare.

Case Reports

Case 1

A six-year-old girl was admitted with abdominal pain. Physical examination, complete blood count, blood urea nitrogen (BUN),

creatine, alanine aminotransferase (ALT), aspartate aminotransferase (AST) and electrolytes were normal. A cystic lesion 49x36 mm in dimension was visualised in the left kidney by USG. Computed tomography of the abdomen demonstrated a unilocular cystic lesion in the left kidney 56x50 mm in dimension and the wall thickness of cyst was 2 mm (Figure 1). Indirect hemaglutination test was found positive in the titers of 1/512. No cyst was visualised in other organs by echocardiography, thoracic, abdominal and cranial CT. After six months of mebendazol therapy, complete cyst resection was performed. She is currently healthy in the follow ups.

Case 2

A seventeen-year-old boy was admitted with respiratory distress and abdominal pain. In his physical examination, hepatomegaly was found. Complete blood count, BUN, creatine, ALT, AST, electrolytes and chest roentgenogram were normal. Abdominal USG showed cystic lesions of 82x65 mm in the right hepatic lobe, 56x51 mm dimensions in the right kidney and three cystic lesions of 55x53 mm, 37x35 mm, 32x26 mm in the left kidney. Abdominal CT revealed cystic lesions in the liver and kidneys (Figure 2). Indirect hemaglutination test was found positive in the titers of 1/320. Cranial MRI and thoracic CT were normal. PAIR was performed for the cystic lesion in the liver. The patient has been taking mebendazol therapy for 12 months, and is being followed for the reduction of cystic dimensions in kidneys.

Discussion

Hydatid cyst disease is prevalent worldwide, but especially in Mediterranean Countries, Middle East and Australia. Turkey is still an endemic country for hydatid disease and the incidence in children is 150 cases per 100.000 children (7). The rupture, infection and compression of the cysts may cause symptoms. Although the disease is sometimes asymptomatic, abdominal and chest pain, abdominal mass, fever, weight loss, anaphylaxis, jaundice and neurological signs are the most frequently seen symptoms (1, 8). One of our cases presented with abdominal pain and the other with respiratory distress and abdominal pain.

Hydatid disease can be diagnosed easily by clinical history, imaging studies and serological tests in many cases. Enzyme-Linked ImmunoSorbent Assay and IHA are the most common serologic tests for diagnosis, though negative serology does not exclude hydatid disease (9, 10). Ultrasonography is the most common imaging method. Chest roentgenograms, CT and MRI are also used. In our patients both serologic tests and radiological investigations confirmed the diagnosis.

Hydatid disease of the kidney is extremely rare in children and constitutes only 2-4% of all cases of hydatid disease (2). There was an isolated renal cyst in our first case and she had a history of animal contact, so hydatid

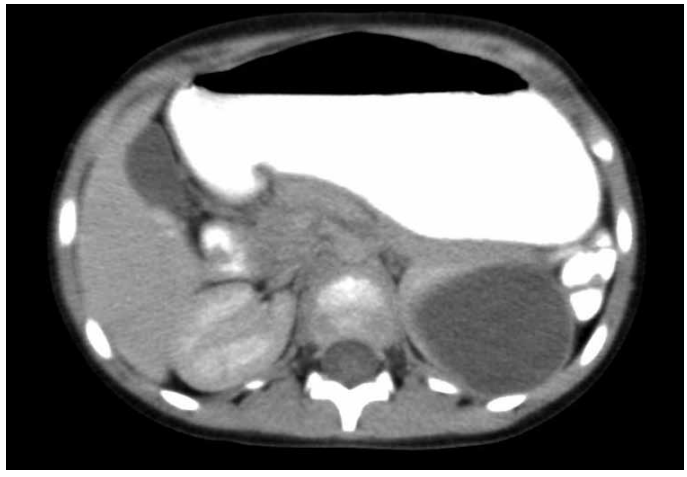

Figure 1. Renal cyst at abdominal CT
CT: computed tomography

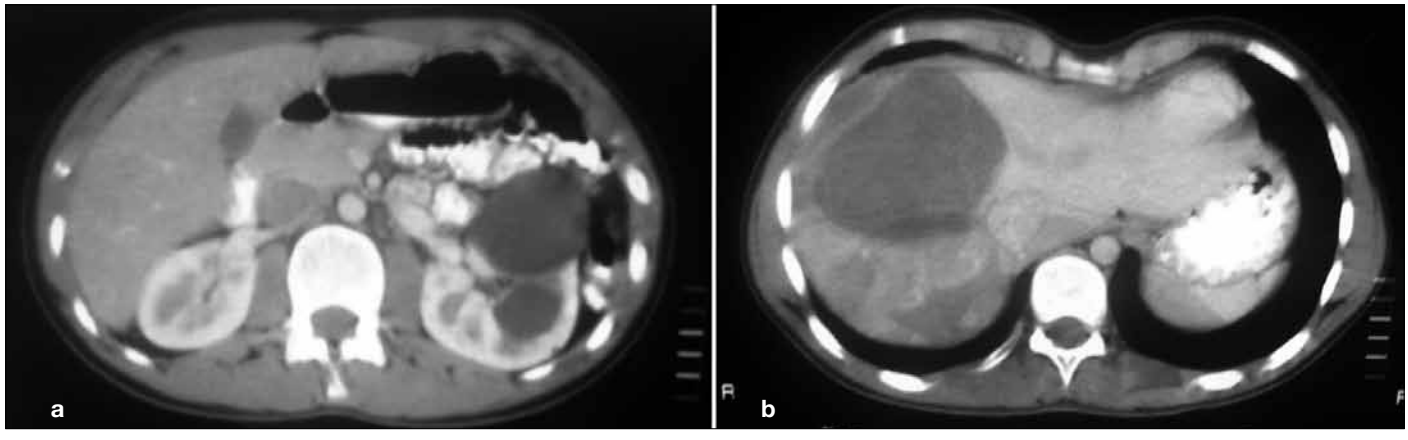

Figure 2. Cystic lesions in kidneys (a) and liver (b) at abdominal CT
CT: computed tomography

cyst was suspected in the differential diagnosis of isolated renal cyst. Serological tests confirmed the diagnosis. In our second case; cysts were detected both in liver and kidneys, therefore hydatid disease was diagnosed radiologically and was supported with serological findings.

The primary treatment for hydatid disease is still surgical excision of the cysts. Detailed examination of the thorax and abdomen must be done by imaging studies before surgery. The choice of the surgical approach depends on three basic elements: the volume of the mass, the relation of this mass with neighboring tissues and the extra-renal and abdominal localization of another hydatid cyst (11). Medical treatment with benzimidazole, such as albendazole and mebendazole is recommended in pre and post operative periods in order to sterilize the cyst, to decrease the chance of anaphylaxis, and the tension in the cyst wall and to reduce the recurrence post-operatively (4, 12). Complete cyst resection was performed in our first patient after six months of mebendazol therapy. The PAIR procedure is an effective, safe and well-tolerated choice in children. It is a less invasive method, especially preferred for single cystic lesion (6). PAIR was performed for the cystic lesion in the liver in our second case. He is still being followed for multicysts in both kidneys, he is asymptomatic and on the 12th month of mebendazol therapy.

Conclusion

Renal hydatid disease should be kept in mind in the differential diagnosis of children presenting with renal cysts, especially in endemic areas, although it is extremely rare. Prognosis is good with early diagnosis and appropriate treatment in patients with a single lesion.

Informed Consent: Written informed consent was obtained from patients who participated in this case.

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