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A rare Complication of a Hepatic Hydatid Cyst: Spontaneous Rupture into the Gastric Antrum

Karaciğer Hidatik Kistinin Ender bir Komplikasyonu: Gastrik Antruma Spontan Perforasyon

Radyoloji

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Feray Altun Çetin[1]

[1] Özel Sultan Hastanesi

Özet

Superfisial olarak yerleşmiş, büyük ve canlı kistler, yüksek basınçla birlikte plevral aralık, peritoneal kavite gibi vücut boşluklarına, safra kanallarına veya sisteme boşalmaya eğilimlidirler. Başlıca tanısal metodlar ultrasonografi (US) ve komputerize tomografidir (CT). Olgular genellikle yüksek ateş, titreme, rebound, hassasiyet gibi akut abdominal bulgularla prezente olurlar. Otuz altı yaşında kadın hasta iç hastalıkları kliniğine sürekli olan şiddetli epigastrik ağrı şikâyeti ile başvurdu. Fizik muayenesinde epigastrik ve sağ üst kadranda yaygın ağrı ve hassasiyeti mevcuttu. Olgumuz, midenin antroplorik bölgesine rupture karaciğer kist hidatiğin kapalı perforasyonun eşlik ettiği ender vakalardan biridir.

Anahtar kelimeler: *Hidatik kist rüptürü*, *Gastrik kapalı perforasyon*

Abstract

Superficially located, large and viable cysts with high pressure are prone to rupture into body cavities such as the pleural space and peritoneal cavity, or they may drain into the biliary tract or the gastrointestinal system. The main diagnostic methods are ultrasound (US) and computed tomography (CT). Presentation is usually dramatic with acute abdominal signs, such as guarding, tenderness and rebound tenderness, are generally present. A thirty-six-old female admitted to our internal medicine clinic with continuous severe epigastric pain. On physical examination, diffuse tenderness and pain was noticed at the epigastric and right upper quadrant regions. The case, was interpreted as a ruptured liver hydatid cyst associated with closed perforation in antropyloric region of stomach.

Keywords: *Hydatid cyst rupture*, *Gastric closed perforation*

Introduction

Hydatid disease is a worldwide zoonosis and is localized in the liver in most cases[1]. Although, reported from several countries, the disease is endemic in the Mediterranean region, Far East, South America and Middle East [2,3]. In humans, 50% to 75% of hydatid cysts occur in the liver,25% are found in the lungs, and 5% to 10% are distributed along the arterial system [4]. Complications of hepatic hydatid cysts are rupture and secondary bacterial infection [5]. The cyst may be ruptured after a trauma, or spontaneously as a result of increased intracystic pressure. Superficially located cysts, large cysts, and viable cysts with high pressure are especially prone to rupture into body cavities such as the pleural space and peritoneal cavity, or they may drain into the biliary tract or the gastrointestinal system. The main diagnostic methods are ultrasound (US) and computed tomography (CT). Presentation is usually dramatic with acute abdominal signs, such as guarding, rebound, and tenderness. These complications should be included in the differential diagnosis of acute abdomen, especially in the endemic areas. In patients with peritoneal perforation, specific management has not been evaluated sufficiently, and no clear guidelines are available. The main treatment modalities for uncomplicated cases are also valid for complicated ones [6]. In this case, we report an extremely rare presentation of a ruptured hepatic hydatid cyst into gastric antrum, and discuss about its radiologic evaluation by the help of US, CT and MRI [7-11].

Corresponding Author: Feray Altun Çetin, Özel Sultan Hastanesi zel Sultan Hastanesi Radyoloji Bölümü/Bağlar
altun.feray@gmail.com

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Case Report

A thirty-six old female who was living in Southeast region of Turkey admitted to internal medicine clinic. She had uninterrupted moderate and/or severe epigastric pain for a week. She was recently diagnosed with left hepatic lobe hydatid cyst and refused all the treatment options. On physical examination, diffuse tenderness and pain was noticed at the epigastric and right upper quadrant regions. The patient had no fever and vomiting. Laboratory findings revealed increase in serum aspartate transaminase (220 U/L) and alanine aminotransferase levels (180U/L) (normal up to 50 U/L) and elevated erythrocyte sedimentation rate. All the other laboratory examinations were normal. On the US imagings, 5 cm lobulated, thick-walled cyst with detached laminated membrans in segment 4 of the liver, perigastric fluid, gastric antrum wall thickening and capsular perforation in the posterior wall of liver were observed (Figures 1,2).

Figure 1
On sonography 5cm lobulated, thick-walled cyst with a detached laminated membrans in segment 4 of the liver

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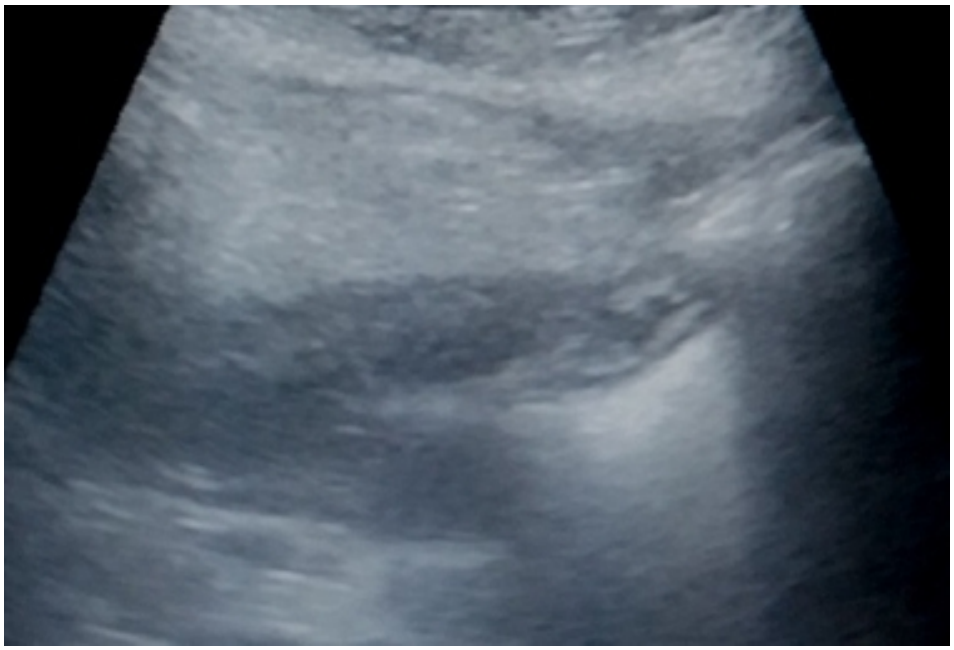

Figure 2
On sonography perigastric fluid, gastric antrum wall thickening and capsular perforation in the posterior wall of liver

The CT scan revealed free air at posterior gastric pylor wall, gastric antral luminal high density content and dilatation (Figure 3).

Figure 3
CT image showing free air at pylor wall antral luminal high density content and dilatation

The MRI revealed detached laminated membrans in hydatid cyst of liver, free perigastric fluid and lobulated thick wall cysts at antral luminal mucosa. The case was interpreted as a ruptured liver hydatid cyst associated with closed perforation in antropyloric region of stomach.

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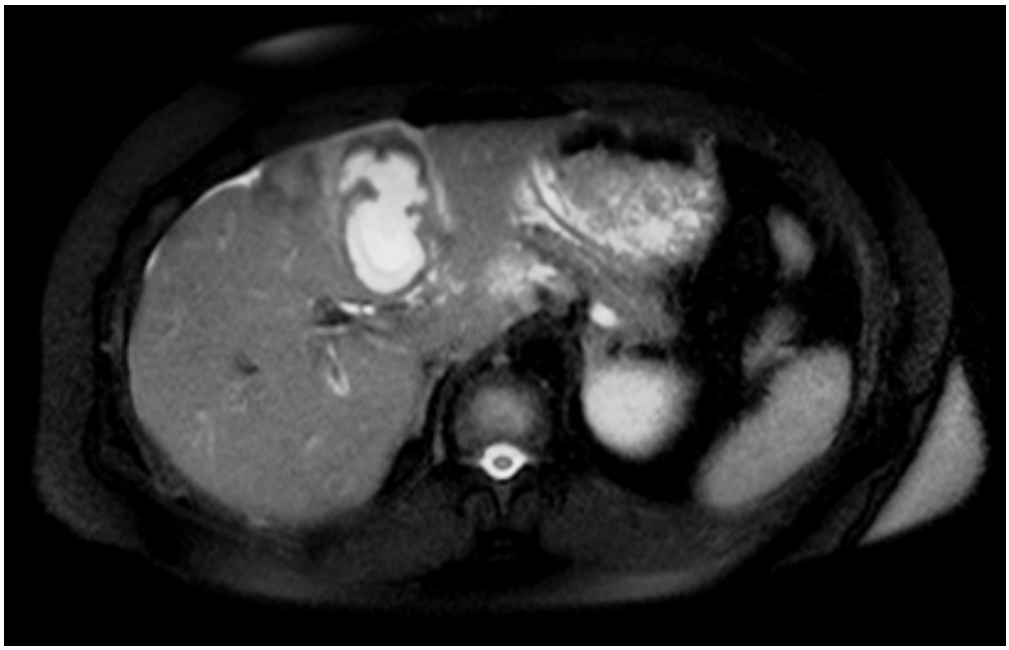

Figure 4
Axial T2-weighted MRI showing decolated membrane hydatid cyst at liver

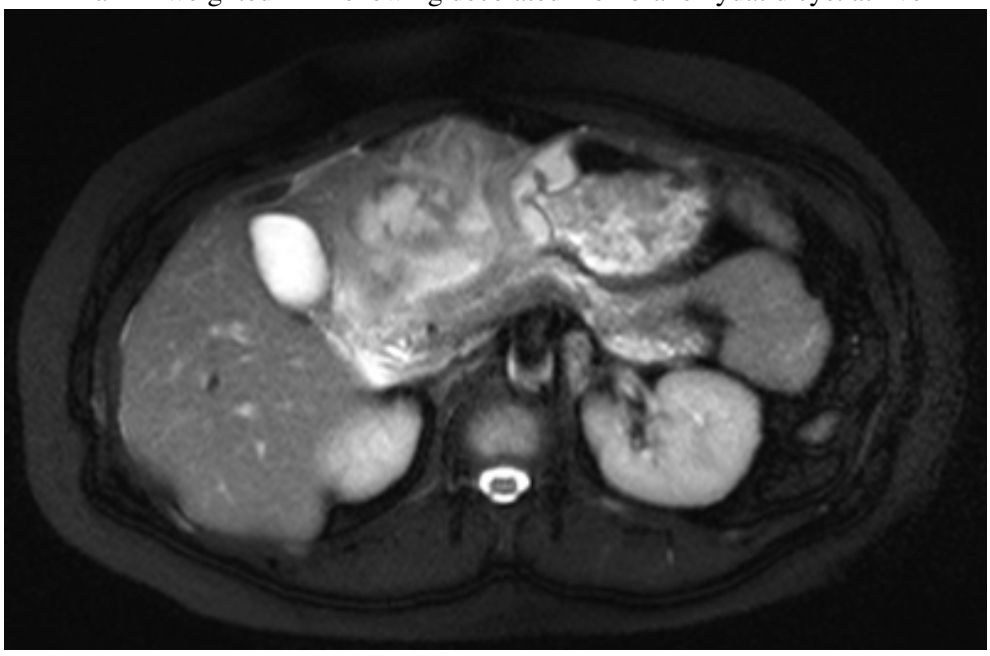

Figure 5
Axial T2-weighted MRI showing perigasric fluid, lobulated thick wallcysts at antral luminal mucosa

Case Discussion

Rupture can occur spontaneously or following a trauma. The risk of rupture is reported to increase with the increased size of the cyst and intracystic pressure [5]. The clinical signs and symptoms of hydatid cyst rupture are not always severe, but in free perforation, hydatid fluid can cause chemical peritonitis. Furthermore, peritoneal signs and symptoms may develop earlier and can be more severe [6]. The patients with ruptured liver hydatid cyst may rarely be asymptomatic. Echinococcal cysts of the liver can cause complications in about 40% of cases. The most common complications in order of frequency are infection, rupture to the biliary tree; rupture to the peritoneal cavity; rupture to the pleura. However, rupture into the gastrointestinal tract; bladder and the vessels are very rare [12]. We present a case of a hydatid cyst of the liver which ruptured spontaneously into the antrum of

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the stomach that confirmed on abdominal CT scan and US. Before the introduction of US or CT, preoperative diagnosis of the complications of hepatic hydatidosis was difficult and based on clinical manifestations and results of laboratory studies. US and CT may suggest the diagnosis of a ruptured liver hydatid cyst with closed perforation of stomach whereas MRI provides additional multiplanar images.

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