

Perforated hydatid cyst into peritoneum presented with urticaria: A case report

Ürtikerle belirti veren periton içine ruptüre kist hidatik olgusu

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Geliş Tarihi / Received: 25.09.2009, Kabul Tarihi / Accepted: 23.10.2009

ABSTRACT

Hydatid cyst of liver is generally asymptomatic unless leading to complications. Spontaneously or trauma induced perforation of cyst into peritoneum is one of that complications. Rupture into the abdominal cavity may cause mild to fatal complications like abdominal pain, urticaria, anaphylaxis and sudden death. We present, herein, a case with abdominal pain and urticaria due to spontaneously hydatid cyst rupture into peritoneum. A 32 year-old woman admitted to the emergency room with abdominal pain and urticaria. Her symptoms had been started spontaneously. Ultrasonography and computed tomography showed cystic lesions in the liver and peritoneum with intraabdominal free fluid. She was treated surgically by partial cystectomy and omentopexy. Postoperative albendazol treatment was given for three months. No recurrence was observed throughout three months of postoperative follow-up period.

Key words: Cyst hydatid, spontaneous rupture, urticaria, treatment

INTRODUCTION

Human hydatid disease usually occurs by infestation with *Echinococcus granulosus* and less frequently with *Echinococcus multilocularis*¹⁻². Humans receive the disease through enteral exposure and become accidental intermediate hosts²⁻³. Hydatid disease is an endemic problem in Turkey as well as in sheep-bearing regions world⁴. Hydatid disease may be located in any organ of the body. The organ that is involved most frequently is the liver (50% to 70%), with the lung being the second most common site (20% to 30%)⁵.

The majority of the patients are asymptomatic, and complications are observed in one third of patients with hydatid liver cyst³. The cyst may be rup-

ÖZET

Karaciğer kist hidatiği, komplikasyon gelişmedikçe genellikle asemptomatiktir. Spontan ya da travmayla periton boşluğuna rüptüre olması bu komplikasyonlarından biridir. Kistin karın içine rüptüre olması, hafif semptomlara veya karın ağrısı, ürtiker, anafilaksi ve ani ölüm gibi ciddi komplikasyonlara da neden olabilir. Biz bu çalışmamızda; karın içine spontan rüptüre olmuş, ürtikeriyal bulgular ve karın ağrısı ile gelen bir olguyu sunduk. Kendiliğinden başlayan ürtiker ve karın ağrısı yakınmaları ile acil servise kabul edilen 32 yaşında kadın hastada, ultrasonografi ve bilgisayarlı tomografik incelemede karın içinde serbest sıvı ve karaciğerde kistik lezyon görüldü. Cerrahi yöntemle parsiyel kistektomi ve omentopexi yapılarak tedavi edildi. Postoperatif dönemde üç ay boyunca albendazol tedavisi verildi. Postoperatif üçüncü aylık izlem süresince nüks saptanmadı.

Anahtar kelimeler: Kist hidatik, spontan rüptür, ürtiker, tedavi

tured after trauma or spontaneously as a result of increased intracystic pressure¹. The most frequent complication is rupture of the cyst, either internally or externally, followed by secondary infection, anaphylactic shock, and liver displacement in decreasing frequency³. Systemic anaphylactic reactions have been reported in 1.0% to 12.5% of patients with intraperitoneal perforation, and these reactions may be life-threatening². Rupture of a hydatid cyst requires emergency surgical intervention¹.

Herein, we present a patient with abdominal pain and urticaria due to perforation of hepatic hydatid cyst into peritoneum who was treated by conservative surgical methods.

CASE

A 32-year old woman admitted to the emergency department with abdominal pain and urticaria. The acute abdominal pain had been started spontaneously three hours ago. Her vital signs were found to be normal. Abdominal palpation revealed abdominal rigidity and tenderness. There were maculopapular lesions on her skin that started after abdominal pain.

Laboratory investigations were normal except leukocytosis (WBC: 18000/ml). Abdominal ultrasound (USG) showed a large amount of free fluid in abdominal cavity and a cystic lesion (9x11cm) in right lobe of liver. Computed tomography (CT) showed a 13 cm regular bordered cyst in localization of VII-VIII liver segments and intraabdominal free fluid (Fig 1). There was a cyst (12 cm) at localization of VI-VII liver segments with septation and border was incomplete (Fig 2a, b). There was free fluid at perihepatic area and Morrison region (Fig. 3)



Figure 1. Hydatid cyst in location of VII-VIII liver segments and intraabdominal free fluid.

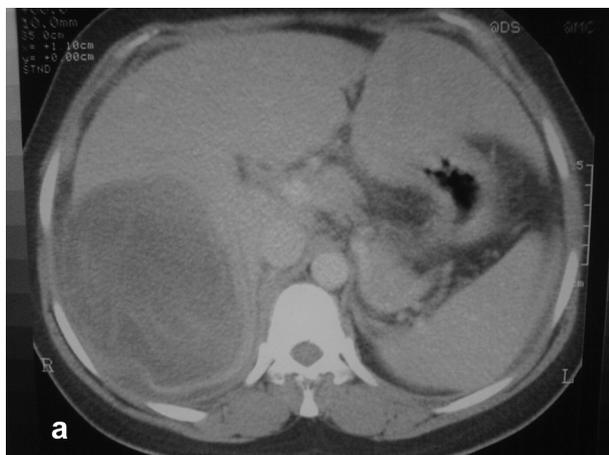


Figure 2 a, b. Perforated hydatid cyst in VI-VII liver segments with septation and border was incomplete.

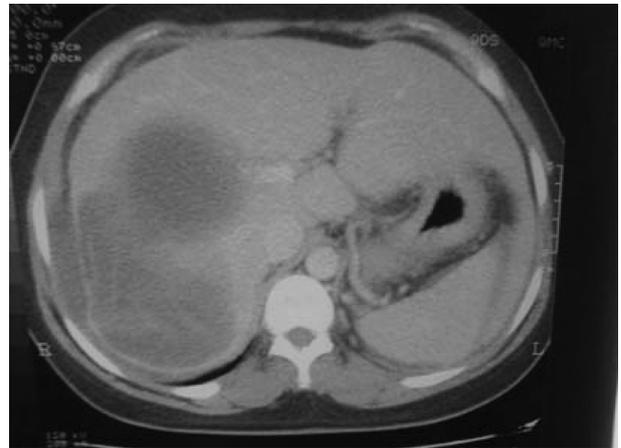


Figure 3. Free fluid at perihepatic area and Morrison region.

The patient underwent emergency surgery and the abdomen was exposed through a subcostal incision. Approximately 200 ml biliary fluid and daughter vesicles were aspirated from the intraperitoneal space. There was a ruptured 5x7 cm diameter cyst located four and six segment of liver. At exploration of the abdomen there was another cyst (5x6 cm) located at near of perforated hydatid in liver that non-ruptured. The germinative membrane and daughter vesicles were take out. The perforated cysts cavity was irrigated with hypertonic saline (3% NaCl) and then by isotonic saline. The abdominal cavity was irrigated with isotonic saline. The hypertonic saline was injected into the other cyst and waited 15 minutes. Partial pericystectomy and drainage was made. The perforated cyst was treated with partial pericystectomy and omentopexy. There was con-

nection between cysts and bile ducts at saline test and this was sutured. T-tube was inserted into choledoc. Drains were inserted to cyst cavity and sub-hepatic space.

The patient was discharged from the hospital on the thirty five postoperative days after taken out of T-tube without any complication. Postoperative albendazol therapy was given for three months. There was not recurrence in three months postoperative.

DISCUSSION

Hydatid disease is a serious health problem in endemic areas as well as in Turkey. The diagnosis and appropriate surgical therapy is usually delayed because most of the hydatid cysts remain asymptomatic until it is getting complicated⁴. Rupture of a hydatid cyst into the abdominal cavity is a rare complication of the hydatid disease and causes serious problems and severe, life-threatening complications, including anaphylaxis. The frequency of hydatid cysts rupture into peritoneum has been reported between 1% and 8% in the literature. Abdominal pain, nausea, vomiting and urticaria are the most common symptoms. Allergic reactions may be seen in 25% of the cases¹. It is clear that nearly all parasitic infections can cause eosinophilia and allergic symptoms. However, it is not known in which patients and circumstances anaphylactic reactions occur⁵. Jaundice may also occur after rupture of the cyst into the biliary system¹. In our case there wasn't abdominal pain and other symptoms associated with hepatic hydatid cyst before perforation. The patient had no history of trauma or any event that increases intra-abdominal pressure such as coughing or constipation.

Ultrasonography and computed tomography have been reported to be main diagnostic methods, with 85% and 100% sensitivity, respectively, in identifying hydatid cyst rupture²⁻³. Magnetic resonance imaging (MRI), magnetic resonance cholangio pancreatography (MRCP), sintigraphy scans and laparoscopy may be useful for diagnosis of the rare, undiagnosed cases and for its complications⁴. Ultrasonography is a noninvasive, sensitive, and cost-effective imaging method in detecting the intra-abdominal fluid and locating the hydatid cysts; thus it is useful to diagnose rupture of hydatid cysts. On the other hand, Computed tomography and MRI provide more concrete information about spread

in the abdominal and pelvic regions and about the walls of the ruptured cyst in the liver. Diagnostic laparoscopy may facilitate preoperative diagnosis¹. We used both USG and CT successfully in diagnosis.

Perforation of the hydatid cyst may cause dissemination of the parasite and increased morbidity and mortality rate. As cyst size increases, risk of rupture increases⁴. Immediate medical treatment against allergic reactions should be initiated, and emergency surgery should be performed after diagnosing rupture of hydatid cysts. The goal of the surgical treatment is to prevent complications, to eliminate local disease, and to minimize morbidity, mortality, and recurrence rates¹. Surgery is still the main modality for the treatment of hydatid disease, despite the developments in radiologic techniques and medical therapy. However, controversy exists about the choice of a radical versus a conservative approach; radical operations include pericystectomy and liver resection, whereas conservative techniques include external drainage, unroofing, and cavity-obliterating methods. Generally, conservative methods are favored in endemic areas. Although, conservative operations are more widely used, cavity complications and recurrence pouch major problems with these methods³. Radical procedures have a higher operative risk than conservative procedures. However, conservative procedures have a higher postoperative morbidity than radical procedures, although they are safer and easier to perform⁵. Surgical mortality rates are as much as 3% even after surgery for uncomplicated hydatid cysts, and can be much higher for complicated cases¹.

Following the surgical procedure, albendazole 10 mg/kg/day was used for 3 months to prevent recurrence. The efficacy and safety of albendazole treatment have been demonstrated in various studies. Reported complications associated with this drug are allergic reactions and elevated liver functions values. Albendazol treatment is effective for preventing recurrence and secondary hydatidosis, but there is no agreement on the duration of use of the medications for cyst sterilization². Rupture hydatid cysts require meticulous postoperative follow-up. Although the patients with uncomplicated hydatid cysts are followed with US examination and indirect hemagglutination tests starting 6 months after the operation and every 1 or 2 years thereaf-

ter, those with perforated cysts are followed with shorter intervals, and CT scans are included in the procedures to detect recurrence¹.

In conclusion, rupture of hydatid cysts into the peritoneal cavity is a rare condition. This pathology should be taken into consideration in the differential diagnosis of acute abdominal pain with urticaria in endemic areas.

REFERENCES

1. Derici H, Tansug T, Reyhan E, Bozdoğan A.D, Nazli O, Acute intraperitoneal rupture of hydatid cysts. *World J Surg* 2006; 30:1879-1883; discussion 1884-1885.
2. Akcan A, Akyildiz H, Artis T, Ozturk A, Peritoneal perforation of liver hydatid cysts: clinical presentation, predisposing factors, and surgical outcome. *World J Surg* 2007;31:1284-1291.
3. Gunay K, Taviloglu K, Berber E, Ertekin C. Traumatic rupture of hydatid cysts: a 12-year experience from an endemic region. *J Trauma-Injury Infect&Crit Care* 1999;46:164-167.
4. Karakaya K. Spontaneous rupture of a hepatic hydatid cyst into the peritoneum causing only mild abdominal pain: a case report. *World J Gastroenterol.* 2007;13:806-808.
5. Ozturk G, Aydinli B, Yildirgan M.I, Basoglu M, et al. Post-traumatic free intraperitoneal rupture of liver cystic echinococcosis: a case series and review of literature. *Am J Surg* 2007;194:313-316.