

**A DISASTROUS RESULT OF PERFORATED HYDATID DISEASE;
CASE REPORT****Perfore hidatik kist hastalığının felaket sonucu;
Olgu sunumu****Cengiz Tavusbay¹, Kemal Atahan², Evren Durak², Ercüment Tarcan², Hüdayi Genç¹**Atatürk Educational and Research Hospital, 2nd Surgical Department¹, and 1st Surgical Department², İzmir, TURKEY**J Surg Arts (Cer San D), 2011;4(2):18-20.****ABSTRACT**

One of the most important complications of hepatic hydatid disease is free intraperitoneal rupture. We presented a 19-years-old male patient, who had been operated for hydatid cyst rupture due to blunt abdominal trauma two years ago. CT scan of the abdomen showed uncountable multipl cyst in liver, spleen and abdominal cavity. With acute abdomen symptoms, laparotomy was performed. The cysts were found in the abdominal cavity, both right and left lobes of the liver, rectovesical pouch and also scattered within the abdominal cavity. Total omentectomy, partial cystectomy for the liver cysts and resection of all abdominal cysts were performed. The patient was discharged on 4th postoperative day on Albendazole treatment. This case clearly seems that spillage during surgery can lead to a significant morbidity and inadequate treatment and follow up in patients with free intraperitoneal perforation of hydatid disease might be resulted as a disaster.

Key words: Echinococcosis, hydatid cyst, perforation**ÖZET**

Hepatik hidatik hastalığın en önemli komplikasyonlarından biri serbest intraperitoneal rüptürdür. Her ne kadar, hidatik hastalığı ile ilgili birçok vaka raporlanmış olsa da, literatürde peritoneal kist rüptürüne ait vakalar çok nadirdir. Bu vaka raporunda, 2 yıl önce geçirdiği abdominal travmaya bağlı olarak gelişen hidatik kist rüptürü sebebiyle opere edilen 19 yaşında erkek hasta sunulmaktadır. BT taramasında, karaciğer, dalak ve abdominal kavitede sayılmayan multipl kistler gösterilmiştir. Akut abdomen semptomları sebebiyle laparotomi uygulanmıştır. Laparotomide, abdominal kavitede, karaciğerin sağ ve sol loblarında, rektovesikal poşda yaygın kistler tespit edilmiştir. Total omentektomi, karaciğerdeki kistler için parsiyel kistektomi ve tüm abdominal kistlerin rezeksiyonu gerçekleştirilmiştir. Hasta postoperatif 4. günde Albendazol tedavisi altında taburcu edilmiştir. Bu vaka, ameliyat sırasında meydana gelen safra kaçaklarının sebep olduğu ciddi morbiditeyi ve serbest intraperitoneal hidatik perforasyonu olan hastalarda yetersiz tedavi ve takibin yol açtığı felaketi ortaya koymaktadır.

Anahtar kelimeler: Ekinokokozis, kisthidatik, perforasyon.**INTRODUCTION**

Hydatid disease (*Echinococcus granulosus*) is endemic in the Middle East and other parts of the world, including India, Africa, South America, New Zealand, Australia, Turkey and Southern Europe.¹⁻³ Although parasite can settle in every organ and tissue in the human body, but hydatid disease most

commonly occurs in the liver (55-70%) followed by the lung (18-35%); the two organs can be affected simultaneously in about 5% to 13% of cases.⁴⁻⁵

One of the most important complications of hepatic hydatid cysts is free intraperitoneal rupture. The cyst may be ruptured after a trauma, or spontaneously due to increased intracystic pressure. Life-

threatening anaphylactic shock may occur with an incidence rate of 1-8%.⁶ Rupture of a hydatid cyst requires emergency surgical intervention. Delayed and/or inadequate treatment may be caused as a very serious problem. In this study, we reported a young patient with hydatid cyst, probably following inadequate treatment of the initial free intraperitoneal perforation of hydatid cyst and eventually resulted a disaster.

Case

A 19-years-old man was admitted to our hospital with 2 months' history of abdominal pain and weakness. His medical history revealed that he had admitted to another institution with free intraperitoneal perforation of hydatid disease due to blunt abdominal trauma (fallen down) and operated two years ago. Postoperatively, he did not use any anti-helminthic treatment.

Physical examination revealed the patient with minimally abdominal pain by palpation, blood pressure (BP) of 110/60 mmHg, pulse rate of 84/min and temperature of the body of 37.2 °C. White blood cell count (WBC) was 8400 cells uL⁻¹/ml (3% eosinophils). Investigations showed Echinococcus antibody titre of 1:512. CT scan of the abdomen showed uncountable multipl cyst in liver, spleen and abdominal cavity (Figure 1-3). At laparotomy, the cysts were found in the abdominal cavity, both right and left lobes of the liver, rectovesical pouch and also scattered within the abdominal cavity. In operation; total omentectomy, partial cystectomy for the liver cysts and resection of all abdominal cysts were performed (Figure 4). Abdominal cavity were irrigated with povidone iodine in order to kill the viable scolex.

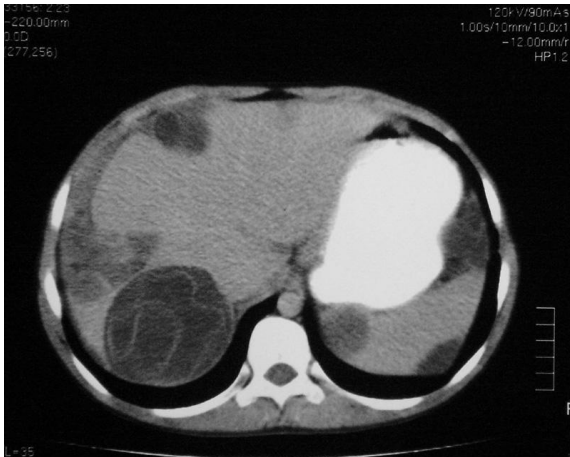


Figure 1: CT-scan showing hydatid cyst in the abdominal cavity involving the liver.

Echinococcus granulosus histopathology, of the removed omentum, confirmed. The patient had uneventful recovery and he was discharged on 4th postoperative day on Albendazole treatment.

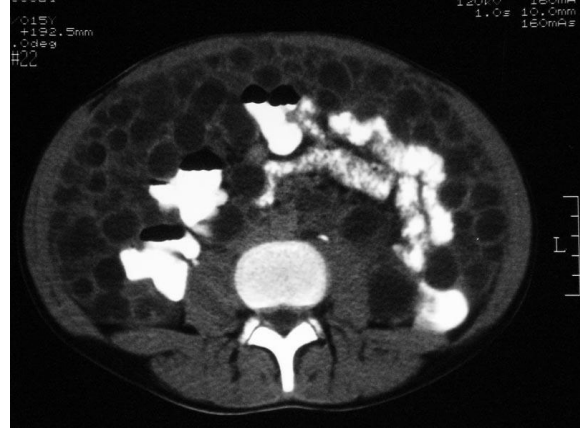


Figure 2: CT-scan showing hydatid cyst in the abdominal cavity. Care dissemination of the cysts.

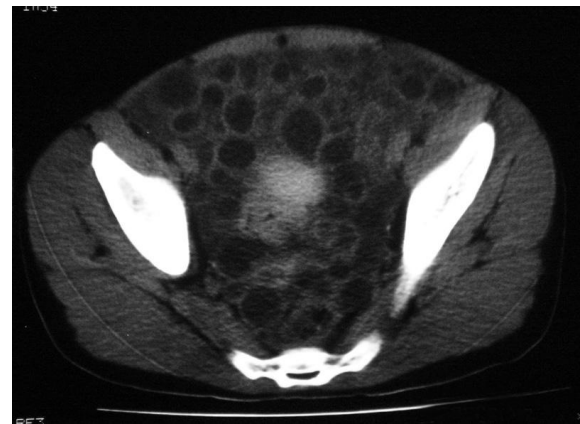


Figure 3: CT-scan showing hydatid cyst in the pelvis.



Figure 4: The resected material showed dissemination of the hydatid disease in the abdominal cavity and uncountable cysts in the omentum.

DISCUSSION

Although hydatid disease is still endemic at some parts of Turkey, but free intraperitoneal perforation of hydatid disease is very rarerly seen. Free intraperitoneal rupture of hydatid cyst causes in dissemination of hydatid contains into the peritoneum,

leading to a transient peritoneal irritation of varying severity. These patients almost always admit to emergency service with acute abdominal findings. But this entity is not an absolute rural and abdominal complaints of the patient may be mild or moderate. In our experience, a patient with free abdominal perforation of hydatid disease admitted with mild abdominal pain to our hospital after three days of perforation. On the other hand, as soon as free intraperitoneal perforation of hydatid disease evolved, anaphylactic reactions of varying degrees of severity may be seen to change from mild maculopapular lesions to death. But in our experience the incidence is not as much as once believed.

The diagnosis of intraperitoneal perforation of hydatid disease is made to use with ultrasonography and/or computed tomography. Serological tests such as indirect haemagglutination (IHA) test, enzyme-linked immunosorbent assay (ELISA) and latex agglutination test can be helpful for diagnosis, screening and post-operative follow up for recurrence.⁷

The surgical treatment of hydatid disease is radical or conservative procedures. The conservative approaches include evacuation of the cyst cavity and irrigation with a scolocidal agent with or without reduced diameter of cavity. The decision whether to radical or conservative procedures depends on its location, surgeon's experience, comorbidity, condition of medical center and other factors. Although low recurrence rates after radical procedures and conservative methods have a higher postoperative morbidity than radical procedures, but also in most cases total cystectomy involves operative risks for a benign disease. For this reason, radical methods are not popular, especially in the endemic areas.^{1,6,7}

Recurrence is the most common problem with conservative procedures. The recurrence rate of this disease is still relatively high, accounting for about 10% to 15%.⁸ This reason, particularly in cases of free intraperitoneal rupture of hydatid disease, the first operation for the hydatid disease has the highest importance. Since the reproductive cystic elements usually initiate the formation of new cysts in the peritoneal cavity, ruptured cases like our patient have more vulnerable for recurrence. Generally, patients admit after hours perforating of hydatid cyst and spillage of the cyst contents into all peritoneal surface, and intraabdominal organs had been determined, preoperatively. In cases of free intraperitoneal rupture of hydatid disease, the most important step is removal of all cystic contents but also lavaging the peritoneal cavity with a sufficient amount and duration of appropriate scolocidal solution in order to kill all scolexes and prevent recurrence. There are a lot of scolocidal agents but no ideal agent defined yet.⁷⁻¹⁰ Although it seems hypertonic saline is one of the most common scolocidal agents used in the world. The recurrence encountered in this case is most likely due to dissemination from previous surgery. If adequate surgical treatment of free intraperitoneal perforation of

hydatid disease is not done, secondary cyst formation will be unavoidable. In the literature, most authors strongly recommended to use Albendazole 10 mg/kg /day following the surgical procedure for at least 3 months to prevent recurrence.^{7,8} Medical treatment should proceed and follow the surgical intervention, to prevent recurrence. Additively, meticulous postoperative follow up is very important.

This case clearly seems that spillage during surgery can lead to a significant morbidity and inadequate treatment and follow up in patients with free intraperitoneal perforation of hydatid disease might be resulted as a disaster.

REFERENCES

1. Balık AA, Başoğlu M, Çelebi F, Ören D, Polat KY, Atamanalp S, et al. Surgical Treatment of Hydatid Disease of the Liver: Review of 304 Cases. *Arch Surg* 1999;134(2):166-9.
2. Prousalidis J, Tzardinoglou K, Sgouradis L, Katsolis C, Aletras H. Uncommon sites of hydatid disease. *World J Surg* 1998;22(1):17-22.
3. Karavias DD, Vagianos CE, Kakkos SK, Panagopoulos CM, An-droulakis JA. Peritoneal echinococcosis. *World J Surg* 1996;20(3):337-40.
4. Kir A, Baran E. Simultaneous operation for hydatid cyst of right lung and liver. *Thorac Cardiovasc Surgeon* 1995;43(1):62-4.
5. Abu-Eshy SA. Some rare presentation of hydatid cyst (*Echinococcus granulosus*). *Case Report. J R Coll Surg Edin* 1998;43(5):347-52.
6. Derici H, Tansug T, Reyhan E, Bozdog AD, Nazli O. Acute intraperitoneal rupture of hydatid cysts. *World J Surg*. 2006;30(10):1879-83.
7. WHO informal working group on Echinococcosis. Guidelines for treatment of cystic and alveolar Echinococcosis in humans. *Bull World Health Org* 1996;74(3):231-42.
8. Abu Zeid M, El-Eibiady G, Abu-El-Einien A, Gad El-Hak N, Abd El-Wahab M, Azzat F. Surgical treatment of hepatic hydatid cysts. *Hepato-gastroenterology*. 1998;45(23):1802-6.
9. Kayaalp C, Balkan M, Aydin C, Ozgurtas T, Tanyuksel M, Kirimlioglu V, et al. Hypertonic saline in hydatid disease. *World J Surg* 2001;25(8): 975-9.
10. Gökçe O, Gökçe Ç, Yılmaz M, Hüseyinoglu K, Günel S. Povidone-iodine in experimental peritoneal hydatidosis. *Br J Surg* 1991;78(4):495-6.