

CASE REPORT

Rupture of Hydatid Cyst of the Liver Due to Minor Abdominal Trauma: A Case Report

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ABSTRACT

Echinococcus granulosus is the most common cause of hydatid cyst. Hydatid cyst is an infectious disease that generally occurs in the liver, followed by the lungs, although it may also be seen in other solid organs. It may rupture spontaneously or due to trauma. Surgery may be life-saving in these patients. In this report, we present a 35-year-old male who admitted to the emergency department with a history of minor abdominal trauma and who was operated due to ruptured hydatid cyst.

Key words: Hydatid cyst, Acute abdomen, Rupture

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ÖZET

Abdominal Travmaya Bağlı Bir Karaciğer Kist Rüptürü: Olgu Sunumu

Kist hidatiğin en sık sebebi Echinococcus granulosus'dur. Kist hidatik genellikle karaciğerden yerleşmekle birlikte, akciğer ve diğer solid organlarda da görülebilir. Kendiliğinden veya travmaya bağlı olarak rüptüre olabilir. Cerrahi bu hastalarda hayat kurtarıcıdır. Bu yazımızda; acil servise minör karın travması hikayesi ile başvuran ve akut batın tanısı ile operasyona alınan 35 yaşındaki karaciğer kist hidatik rüptürü tespit edilen hasta sunulmuştur.

Anahtar kelimeler: Kist hidatik, Akut karın, Rüptür

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INTRODUCTION

Hydatid cyst is an infectious disease in which the liver is the organ most frequently involved. It is a serious public health problem in endemic areas^[1]. *Echinococcus granulosus* (EG) causes a typical tapeworm infection, and produces eggs that are passed with the feces of dogs. Although most hydatid cyst cases are asymptomatic, patients may become symptomatic due to rapid growth, rupture and pyogenic infection^[2,3]. Intrahepatic biliary rupture is more frequent than intraperitoneal rupture^[4]. The rupture may be spontaneous (due to increased intracystic pressure), or due to surgery or trauma^[4]. In this report, we describe a patient who admitted to the emergency room with abdominal pain due to a ruptured hydatid cyst after minor abdominal trauma.

CASE REPORT

A 35-year-old male was admitted to our emergency department with the complaint of abdominal pain after a minor abdominal trauma. The patient described an abdominal pain localized to the periumbilical region that spread to the whole abdomen. The patient's Glasgow Coma Scale was 15, blood pressure was 130/80 mmHg, heart rate was 98/min, and body temperature was 37.1°C. There was no nausea/vomiting. There was no evidence of allergic reaction in the physical examination. Widespread tenderness, defense and rebound were observed during the abdominal examination. The patient's routine laboratory tests were normal except for white blood cell count of 14.000/mm leukocytes (normal range: 4000-10.400/mm); abdominal and chest X-rays were normal.

The patient was operated with a diagnosis of acute abdomen. During the abdominal exploration, 400 cc clear fluid was observed. A 10 x 15 cm hydatid cyst was located in the right lobe of the liver adjacent to the gallbladder, which was growing outward from the liver. A rupture measuring 2 x 3 cm was observed in the anterior wall of the cyst Figure 1. No vesicle was observed in the cyst content or abdominal cavity. The germinative membrane of the cyst was resected (Figure 2). There was no relationship between the cyst and biliary channels. The cyst cavity was washed with hypertonic saline, while the abdomen was washed with 1% povidone iodine and the saline mixture. Partial cystectomy and capitonnage were performed. There was no other abdominal pathology. A latex drain was placed in the subhepatic region. On the postoperative first day, echinococcosis immune

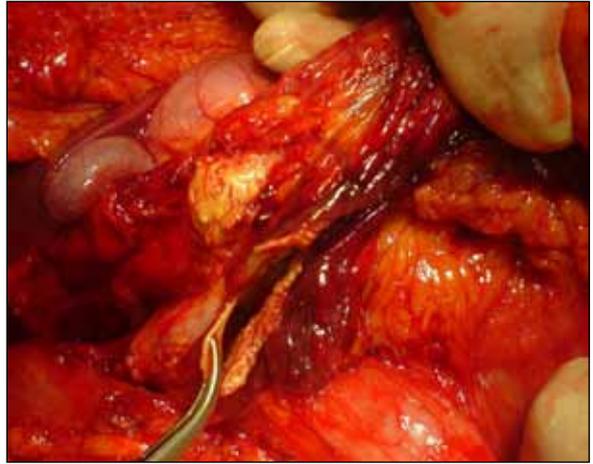


Figure 1. Intraoperative view of the perforated cyst in the liver.



Figure 2. View of the resected laminar membrane.

hemagglutination test was 1/128 +. The patient was discharged uneventfully on the fifth postoperative day. Albendazole was prescribed at a dose of 10 mg/kg.

DISCUSSION

Hydatid cyst is a parasitic disease that is usually formed by EG and caused by contaminated feces of infected dogs. While it most frequently occurs in the liver, it also settles in the lungs and rarely in other organs. Intrahepatic rupture of hydatid cyst, whether spontaneous or due to trauma or iatrogenic conditions, may cause serious complications that can cause life-threatening conditions such as anaphylaxis. In the event of ruptured hydatid cyst, prompt surgery should be planned to avoid allergic reaction^[4,5]. Intrahepatic rupture of hydatid cyst at a rate of

1-8% has been reported in the literature. Abdominal pain, nausea, vomiting, and urticaria are the common symptoms of the disease. Although 25% of the cases demonstrate rapid allergic reactions, there was no allergic reaction in our case^[5,6].

Ultrasound is a noninvasive method, with a sensitivity of 85-90%. The sensitivity of tomography in the diagnosis of hydatid cyst rupture has been reported in the literature as up to 100%^[4,7]. We could not perform preoperative ultrasound in our patient due to technical reasons.

Scolices and the germinative membrane should be removed in a controlled manner during surgery. Hypertonic saline is a widely used anti-scolicidal, but can lead to hypernatremia. Povidone iodine at a concentration of 10% and hydrogen peroxide are other effective agents reported in the literature^[8,9]. Increase in the hydatid cyst size increases the risk of rupture^[10]. In our case, the cyst measured 15 x 10 cm.

In conclusion, although rupture of hydatid cyst is a rare situation, it can be fatal. The mortality rate in surgery for ruptured hydatid cyst cases has been reported to be higher than that in elective surgery of a non-complicated hydatid cyst. In endemic regions, ruptured hydatid cyst should be considered in the differential diagnosis of acute abdomen.

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