



# Hepatic Hydatid Cyst and Intraperitoneal Free Hydatid Cyst

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## Abstract

Hydatid disease is relatively frequent in our country and non-invasive ultrasonic imaging techniques have made possible an earlier diagnosis prior to serious complications. Human hydatid disease usually occurs by infestation with *Echinococcus granulosus* and less frequently with *Echinococcus multilocularis*. A twelve-year old girl fell from the swing 12 days ago. Acute abdomen was suspected, and she was operated under emergency conditions. Exploration of the abdomen soon revealed a giant cystic lesion formation, and this development did not fit the development of hydatid cyst pathophysiology.

**Key Words:** Hydatid disease, trauma, pathophysiology

## Hepatik Hidatik Kist ve İntraperitoneal Serbest Hidatik Kist

### Özet

Kist Hydatid çeşitli komplikasyonlara sebep olabilen ve non invasiv ultrasonik çalışmalarla tespit edilebilen bir hastalıktır. İnsanlarla kist hydatid genellikle *Ekinokoküs granülosus* ile oluşmaktadır. daha az olarak *Ekinokoküs multilokularis* etken olmaktadır. 12 yaşında kız hasta 12 gün önce salıncaktan düşmüş. Akut batın bulguları ile acil ameliyata alındı. Explorasyonda batında dev kistik lezyon tespit edildi. Bu kistin serbest kist hidatik olduğu düşünüldü. bu gelişim normal kist hydatid gelişim patolojisine uymamaktadır.

**Anahtar kelimeler:** Hidatik hastalığı, travma, patofizyoloji

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## INTRODUCTION

Hydatid disease is relatively frequent in our country and non-invasive ultrasonic imaging techniques have made possible an earlier diagnosis prior to serious complications. 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 hosts (2,3). Hydatid disease is an endemic problem in Turkey as well as in sheep-breeding regions of the world (4). Hydatid disease may be located in any organ of the body. The most frequently involved organ is the liver (50% to 70%), while the lungs are the second most common site (20% to 30%) (5).

The cyst may be ruptured after trauma or spontaneously as a result of increased intracystic pressure (1). The most frequent complication is rupture of the cyst, either internally or externally, followed by secondary infection, anaphylactic shock, and liver displacement in decreasing frequency with the same order (3). Systemic anaphylactic reactions have been reported in 1.0% to 12.5% of patients with intraperitoneal rupture, and these complications may be life-threatening (2). Rupture of a hydatid cyst requires emergency surgical intervention (1).

## CASE

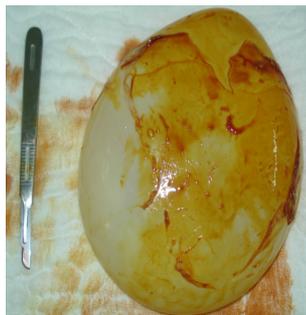
A twelve-year old girl fell from the swing 12 days ago. During the first twelve days, the patient had continuous abdominal pain. The children's outpatient clinic she applied to decided to hospitalize her to find out the reason for the increasing complaints. She was investigated during the 2 days of inpatient treatment. Abdominal pain increased, she had fever and then she was referred to our clinic because of vomiting. The patient's general health status is medium; she appeared painful, photophobic, body temperature: 39 degrees; respiratory chest movement decreased secondary to increased abdominal distension. All the four abdominal quadrants were sensitive with palpation and there was minimal muscular defense. Bowel sounds were decreased. The rectum was empty in rectal examination. Hemogram was normal, in the plain abdominal X-ray, small liquid-gas leveling was seen in the abdominal ultrasonogram: Too much intra-abdominal free fluid was seen. The posterior right lobe of liver is irregular. The patient was suspected of acute abdomen and was operated under emergency

conditions. Explorative laparotomy: Right paramedian abdominal incision was achieved by passing the layers, and abundant serous fluid was drained. A cystic formation white in color and wall thickness approximately 15 cm was observed at the level of umbilicus near the midline. The formation dissected from the tissues with careful blunt dissections. The mass was removed completely (Figure 1). Vesicles were filled with plenty of abdominal material. Debridement of the abdominal areas was made with blunt dissections and povidine iodine pads were used. One pouch 3x3 cm in size was found in the right lobe of the liver. Debridement was performed on the base of the ruptured cyst. Fascia and skin were closed separately. The patient received post-operative Andazol treatment. Currently, the patient is still under follow-up at month 36. Recurrence was not detected at the time of writing this report.

## DISCUSSION

AHydatid disease is caused by *Taenia Echinococcus* which, in its larval stage, induces the development of a cystic tumor. It is most frequently located in the liver, followed by the lung and unusual localizations (spleen, peritoneum, kidney, muscle, adrenal gland, ovary, pancreas, thyroid gland, pleura, diaphragm, brain and others) (6). Although unusual, secondary hydatid disease (7) is generally multiple in location (8). Symptoms vary according to anatomic location, and preoperative diagnosis requires a complex work-out including plain abdominal X-Rays, ultrasound scan, computerized tomography and serological tests. Hepatic hydatid cysts, if ruptured and discharged into peritoneal cavity, cause numerous secondary lesions and require adequate surgical treatment doubled by pre- and postoperative treatment with Albendazol. Residual disease will be followed by scheduled ultrasound scans and additional surgery will be scheduled if required. Surgery together with Albendazol treatment remains the treatment of choice, offering a good clinical result and an acceptable recurrence rate (9).

The incidence of rupture is about 3-17% in patients with liver cysts (10). Although Gonlugur et al. found a high rate of perforation (39%) in their patients, information about perforation status was present only for 69 patients out of 242. Consequently, this finding may be related to the patient selection. Out of 269 cases with abdominal involvement, anaphylactic shock was reported only in



**Figure 1.** The mass was removed completely

one patient (0.4%) due to rupture of a liver cyst (11). This complication is observed in 0.5-1% of patients with abdominal cysts (12,13).

Exploration of the abdomen of our patient revealed a giant cystic lesion formation, and this development did not fit the development of hydatid cyst pathophysiology. Under normal conditions, such cysts grow 0.8-1cm per year in 12-year-old children, therefore, reaching of the cyst to a size of 15 cm is not possible. In addition, we know that the cyst formation in tissues lead to the formation of pseudocapsules. But in this case, formation of pseudocapsule was not present. The mass was separated Very easily from the mesentery and intestines, and adhesions were not present and the cystic lesion was removed as a whole. Vesicles were cleared This case does not conform to the pathophysiology of cyst development. We suggest that the development of this particular cyst is an exception or review of the pathophysiology of development. Also agree with the opinion of surgical treatment, in addition to preventing recurrence of Albendazole Treatment.

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