

# Case Report: Local Allergic Reaction of Bowel Wall Secondary to Ruptured Hydatid Cyst

Yakup YESILKAYA<sup>1</sup>, Çiğdem ÖZER<sup>1</sup>, Yusuf Alper KILIÇ<sup>2</sup>, Erhan AKPINAR<sup>1</sup>, Barış TÜRKBEY<sup>1</sup>

Hacettepe University School of Medicine, <sup>1</sup>Department of Radiology; <sup>2</sup>Department of Surgery, Ankara, Türkiye

**SUMMARY:** This is a report of a case of local allergic reaction which developed secondary to a ruptured hydatid cyst with a diffuse bowel thickening detected by computed tomography.

**Key Words:** Hydatid cyst, bowel wall thickening, local allergic reaction

## Olgu Sunumu: Rüptüre Kist Hidatiğe Bağlı Gelişen Bağırsak Duvarının Fokal Alerjik Reaksiyonu

**ÖZET:** Bu olgu bildirisinde, rüptüre kist hidatik lezyonuna bağlı olarak lokal alerjik reaksiyon gelişen ve bilgisayarlı tomografide diffüz duvar kalınlaşması ile prezente olan bir olgu sunmaktayız.

**Anahtar Sözcükler:** Kist hidatik, bağırsak duvar kalınlaşması, lokal alerjik reaksiyon

## INTRODUCTION

Hydatid disease is a parasitic infestation caused by *Echinococcus granulosus*, generally manifests with slowly growing cystic mass mostly effecting liver (70%), followed by lungs and other body parts such as spleen, kidney, pancreas, and brain (1, 2). Involvement of the biliary tree, rupture into the peritoneum, and anaphylactic shock are the most severe complications of liver involvement. Rupture of a liver hydatid cyst occurs commonly secondary to trauma, but it may also occur spontaneously (3). Daughter cysts and cyst fluid spilled after rupture are considerably allergenic, which can damage surrounding tissues and organs (4, 5). Herein, we present CT findings of a local allergic reaction within jejunal wall secondary to ruptured hydatid cyst.

## CASE REPORT

A 53-year-old female presented with sudden onset of abdominal pain, nausea, vomiting, and fever. Her past medical history included chronic vague abdominal pain starting from right upper abdomen extending to her right shoulder for nearly 2 years. Additionally, she had been diagnosed with hepatic hydatid disease in an out center 2 months ago and had been scheduled for elective treatment. Physical examination findings were unremarkable. Her vital findings were within normal ranges. Blood laboratory results were normal except for elevated glu-

cose 156 mg/dl (70-110 mg/dl), alkaline phosphatase 170U/L (35-129 U/L) and eosinophil count 16.7% (0.5-11%). Abdominal ultrasound revealed a cystic lesion within liver and intraabdominal free fluid. For further evaluation, abdominal computed tomography (CT) was performed following oral and intravenous contrast administration. On CT, a ruptured hydatid disease lesion was detected at right liver lobe with free fluid in the abdomen and pelvis (Figure 1). Moreover, diffuse jejunal wall thickening was noted (Figure 2). Findings were consistent with ruptured hepatic hydatid lesion. Patient was operated after supportive treatment. At laparotomy, ruptured hepatic hydatid cyst and peritoneal free fluid were identified. Additionally, small bowel segments were diffusely edematous. Her abdomen was rinsed with 3% saline, partial cystectomy and omentopexy was performed. Pathologic examination of specimens was positive for cuticular membranes suggestive of hydatid disease. Albendazole treatment with a total dose of 800mg was started. Her blood eosinophilia resolved on the 2<sup>nd</sup> day after surgery. Postoperative course was uneventful and patient was discharged 12 days after the surgery. She is still symptom free in 12 month follow up (Figure 2).

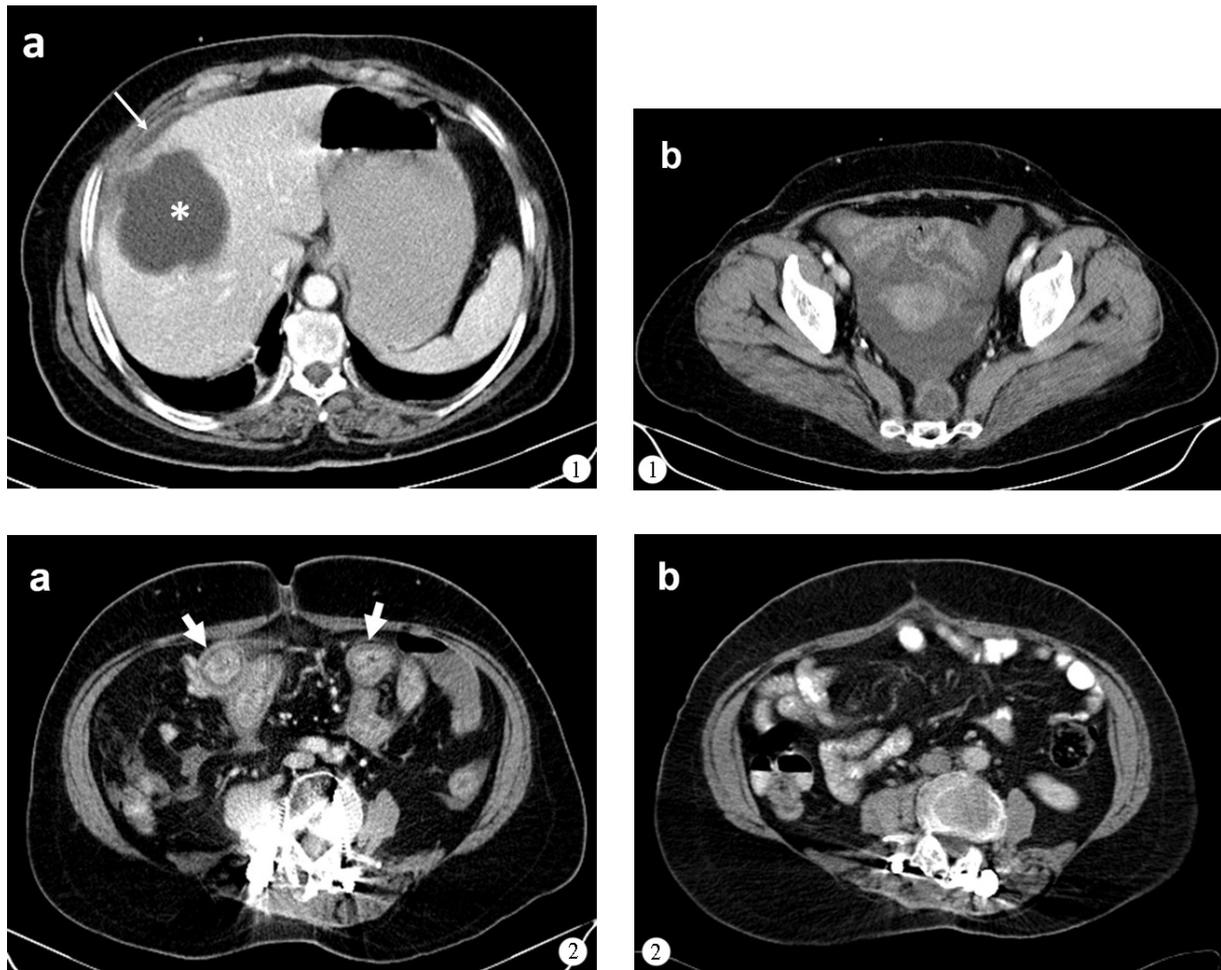
## DISCUSSION

Hydatid cyst is an endemic parasitic disease in the Mediterranean area, the Middle and Far East, as well as South America where animal husbandry is common (1, 2). Dogs are the definitive hosts; whereas domestic ruminants (sheep, cattle) and human are intermediate hosts. Human become hosts accidentally by ingestion of contaminated foods, then ova of *E. granulosus* are released within duodenum and embryos are

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Yazışma /Corresponding Author: Barış TürkbeY  
Tel: (+90) (312) 305 11 88 Fax: -  
E-mail: bturkbey@yahoo.com

formed. If embryos pass the hepatic sinusoid barrier, they may access lung and enter the circulation by pulmonary capillaries, through which they may travel to several organs. Usually, hepatic hydatid cysts are clinically unapparent and diagnosed incidentally during abdominal ultrasonography. Symptoms are usually secondary to rupture or infection of the lesion or dysfunction of the affected organ and anaphylaxis due to rupture can be a complication (3, 4). If a patient with a known history of hydatid disease refers with sudden onset of acute abdominal pain to emergency room, rupture of the hydatid lesion should be considered in the differential diagnosis (6, 7).

diagnoses above suited to our case, except eosinophilic enteritis in which patients usually present with blood eosinophilia and diarrhea. For exclusion of eosinophilic enteritis, our patient did not present with diarrhea and her eosinophilia was resolved just after the surgical treatment without any requirement of steroid medication. Her positive history for hydatid disease and imaging findings consistent with ruptured hydatid lesion were suggestive of a possible local allergic reaction of the jejunal wall secondary to rupture. To our knowledge this is the first case demonstrated at CT in the literature.



**Figure 1.** Axial contrast enhanced computed tomography images demonstrate ruptured hydatid lesion within right liver lobe (asterisk), perihepatic free fluid (thin arrow) (a) and free serous pelvic fluid (b). 2. Axial contrast enhanced computed tomography image shows diffusely thickened jejunal segments (short arrows) (a); one year follow up computed tomography image demonstrates normal jejunal segments some dilated with oral contrast material (b).

In the present case, CT scan demonstrated two hydatid lesions in the liver accompanying with diffuse wall thickening of distal jejunum. One of the hepatic lesions showed prominent wall thickening suggesting rupture and jejunal wall thickening on CT might be secondary to several pathologies including Crohn disease, amiloidosis, eosinophilic enteritis, hemorrhage, ischemia, and malignancies. None of the differential

In conclusion, when a patient with a suspicious history of hydatid disease refers with acute onset abdominal pain to emergency room, a possible rupture should be considered. In such patients diffuse or local bowel wall thickening can be seen as a result of local allergic reaction to hydatid cyst and may represent an indirect indication of rupture.

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