

## Spontaneous Intraperitoneal Rupture of a Hepatic Hydatid Cyst

Bzikha Ilham<sup>1\*</sup><sup>1</sup>General Surgeon, Department of General Surgery, Provincial Hospital Center of Khnifra, MoroccoDOI: [10.36347/sasjs.2023.v09i04.007](https://doi.org/10.36347/sasjs.2023.v09i04.007)

| Received: 04.03.2023 | Accepted: 10.04.2023 | Published: 18.04.2023

\*Corresponding author: Bzikha Ilham

General Surgeon, Department of General Surgery, Provincial Hospital Center of Khnifra, Morocco

### Abstract

### Case Report

Intraperitoneal rupture is a life-threatening complication of hydatid cysts. The operative procedures, either radical or conservative, should be based on the patient's condition, the regional characteristics, and the surgeon's experience. In addition, the morbidity rates of surgical operations are higher among patients with perforated hydatid cysts than in those with noncomplicated cases. It is most important to prevent hydatid infestation.

**Keywords:** Acute abdomen, Diagnosis, Intraperitoneal rupture, Spontaneous rupture, cystectomy.

Copyright © 2023 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

## INTRODUCTION

Hydatid cyst is an endemic disease frequently localized to the liver. It is frequently observed in Southeast Europe, Middle East, and Turkey.

Rupture of the hydatid cyst requires emergency surgical intervention.

Rupture into the abdominal cavity is a rare but serious complication of hydatid disease. The cysts may be ruptured after a trauma, or spontaneously as a result of increased intracystic pressure.

Radical surgery for liver HC refers to pericystectomy and liver resection, whereas conservative surgery involves the removal of the cyst content and sterilization of the residual cavity, together with partial cyst resection.

Combined treatment with albendazole and surgery leads to a lower risk of recurrence than surgery alone.

## CASE REPORT

A 43-year-old man previously fit and well with no history of abdominal trauma neither previous diagnosis of hydatid disease, presented with fever and abdominal pain that had been gradually increasing over 3 days. The blood pressure was 11/70 mmHg, the pulse 100 beats per minute, and the temperature 38,5°C.

Abdominal examination revealed tenderness and muscular defense in the right hypochondrium.

Blood tests showed a hemoglobin level of 11.7 g/dL, white blood cell count of 19000/mm<sup>3</sup>, and C-reactive protein of 93 mg/dL.

Aspartate aminotransferase (AST), 130; alanine aminotransferase (ALT), 70; alkaline phosphatase (ALP), 270; gamma-glutamyl transferase (GGT), 125; and total bilirubin, (0.3 mg/dL).

The abdominal computed scan (CT) demonstrated a giant hepatic hydatid cyst in segment VI ruptured into the peritoneal cavity.

The patient was treated with intravenous administration of antibiotics, antihistaminic, and corticosteroid at the emergency department.

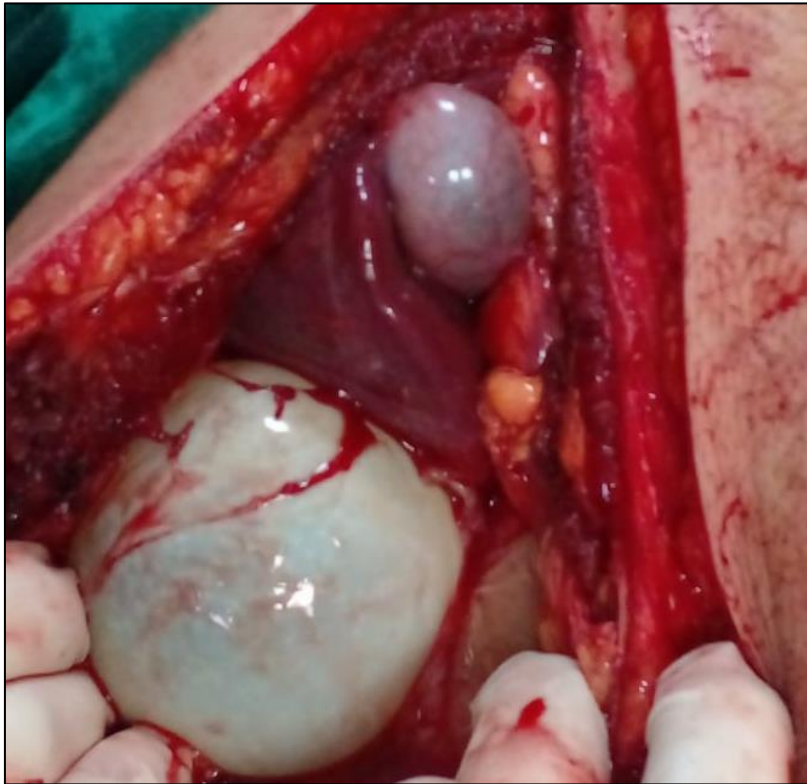
Laparotomy through a right subcostal incision was performed. Intraoperatively, the cyst located in the liver was ruptured (Figure 1).

Besides managing peritoneal dissemination, definitive treatment of intact cysts was applied. After evacuation, the cyst cavity was irrigated by hydrogen peroxide for 10 to 15 min, and the peritoneum was cleaned with 3% hypertonic saline. Any orifice of bile ducts observed on the inner surface of the cavity was sutured with nonabsorbable sutures. Next, a surgical procedure such as total pericystectomy and drainage was performed (Figure 2).

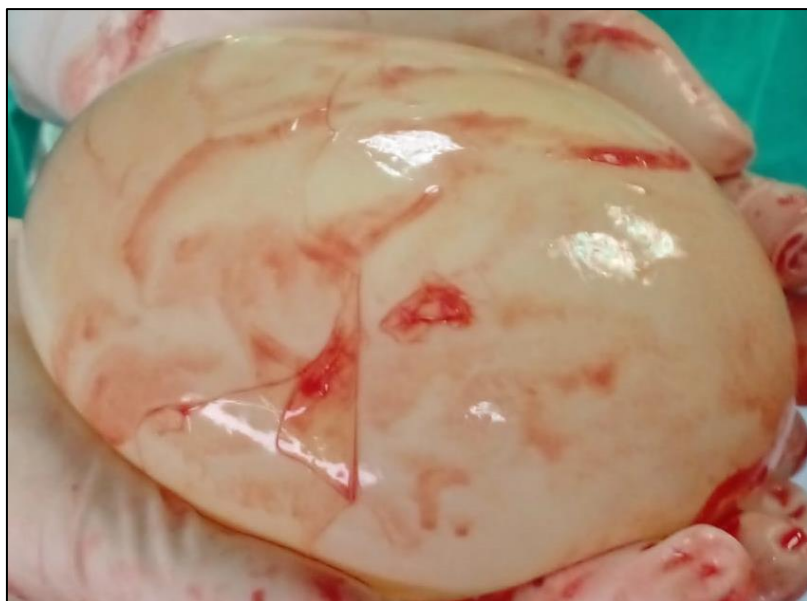
Albendazole treatment was initiated after the surgery.

The postoperative follow-up was simple and

there were no complications.



**Figure 1: The cyst located in the liver**



**Figure 2: The cyst after its resection from the liver**

## DISCUSSION

Intraperitoneal rupture is the third most common complication (0.9%-16%) after intrabiliary rupture (5%-25%) and allergic reactions (1%-25%) [1].

Most superficial cyst walls are not protected by the liver parenchyma. This is a facilitating factor for rupture of the cyst into peritoneal cavity [2].

It causes serious problems and severe, life-threatening complications, including anaphylaxis.

The main predisposing factors for cyst perforation are young age and superficial localization. Abdominal pain, nausea and vomiting, and urticaria are the most common symptoms. Allergic reactions may be seen in 25% of the cases. Some authors reported that allergic symptoms occurred in 16.7% to 25.0% of study

patients with ruptured hydatid cysts. Fatal anaphylaxis after cyst rupture has been described. Ultrasound (US) and CT scan may be helpful for defining the cysts with detached membrane and the presence of intraabdominal fluid [3].

The sensitivity of US and CT is 85% and 100%, respectively.

Treatment aims to eliminate the parasite and to prevent recurrence, in order to minimize morbidity and mortality risk. The primary liver cyst's surgical approaches can be divided into the unroofing procedure, a conservative modality, and radical methods that include pericystectomy, pericystoresection, and hepatectomy [4].

In the emergency context, the conservative modality seems to be the method of choice since it does not require high surgical skills, and is associated with low bleeding risk and shorter operative time [5].

In case of large cysts greater than 10.5 cm or with bilious content or in the presence of clinical (cholestatic jaundice), biological (biological cholestasis) or radiological (bile ducts dilatation) signs of associated rupture into the bile ducts, intraoperative cholangiogram is indicated, and fistula treatment is required. Antihelminthic treatment based on albendazole should be initiated as soon as possible after surgery [6].

## CONCLUSION

Intraperitoneal rupture is a life-threatening complication of hydatid cysts.

The operative procedures, either radical or conservative, should be based on the patient's

condition, the regional characteristics, and the surgeon's experience.

In addition, the morbidity rates of surgical operations are higher among patients with perforated hydatid cysts than in those with noncomplicated cases. It is most important to prevent hydatid infestation.

## REFERENCES

1. Niklas, K. (2022). Immunobiology of the biliary tract system. *Björkström Journal of Hepatology*.
2. Mohammed, A. A., & Arif, S. H. (2019). Hydatid cyst of the parietal peritoneum. *Journal of Pediatric Surgery Case Reports*, 43, 80-82.
3. Agha, R. A., Borrelli, M. R., Farwana, R., Koshy, K., Fowler, A. J., Orgill, D. P., ... & Kasi, V. (2018). The SCARE 2018 statement: updating consensus Surgical CAse REport (SCARE) guidelines. *International Journal of Surgery*, 60, 132-136.
4. Salih, A. M., Kakamad, F. H., Hammood, Z. D., Yasin, B., & Ahmed, D. M. (2017). Abdominal wall Hydatid cyst: A review a literature with a case report. *International journal of surgery case reports*, 37, 154-156.
5. Valizadeh, M., Haghpanah, B., Badirzadeh, A., Roointan, E., Fallahi, S., & Raeghi, S. (2017). Immunization of sheep against *Echinococcus granulosus* with protoscolex tegumental surface antigens. *Veterinary World*, 10(8), 854-8.
6. Rabiou, S., Harmouchi, H., Belliraj, L., Ammor, F. Z., Issoufou, I., & Sidibé, K. (2017). Management for ruptured liver hydatid cysts in the chest: Experience of a Moroccan Center. *Clin Surg*, 2, 1757.