International Surgery Journal
Dabbagh M et al. Int Surg J. 2026 Sep;13(9):1720-1723
https://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: https://dx.doi.org/10.18203/2349-2902.isj20263001

Case Report

Primary peritoneal cystic echinococcosis: a rare surgical entity

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Received: 15 May 2026
Revised: 16 June 2026
Accepted: 13 July 2026

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ABSTRACT

Hydatidosis is a cosmopolitan parasitic disease that represents a major public health concern in endemic regions such as Morocco. Secondary peritoneal hydatidosis results from intraperitoneal dissemination of Echinococcus granulosus larvae. This rare condition is polymorphic in presentation, and its diagnosis relies on a combination of epidemiological, clinical, biological, and radiological findings. We report a rare case of peritoneal hydatidosis in a patient referred for management of recurrent hepatic hydatid cysts. Physical examination was unremarkable, while serological testing for hydatidosis was strongly positive. Abdominal computed tomography was essential in demonstrating hepatic recurrence associated with multiple peritoneal cystic lesions. The patient underwent surgical management consisting of cyst excision and drainage. Postoperative recovery was uneventful, and adjuvant albendazole therapy was initiated. Peritoneal hydatidosis remains a rare and diagnostically challenging entity. This case highlights the pivotal role of imaging in establishing the diagnosis and supports combined surgical and antiparasitic management as the cornerstone of treatment.

Keywords: Peritoneal hydatidosis, Echinococcus granulosus, Disseminated hydatid cyst, Abdominal surgery, Albendazole

INTRODUCTION

Peritoneal hydatidosis is an uncommon manifestation of hydatid disease, accounting for a small proportion of intra-abdominal localizations. [1] It most frequently occurs secondary to rupture of a primary hepatic or splenic hydatid cyst, whether spontaneous, traumatic, or iatrogenic. In rare instances, it may arise as a primary peritoneal infection.[1] Despite advances in imaging modalities, particularly computed tomography (CT), diagnosis remains challenging due to its nonspecific clinical presentation, which may mimic various abdominal pathologies.[2] As a result, the diagnosis is often delayed or made intraoperatively. Management is primarily surgical, aiming for complete excision of cystic lesions while preventing peritoneal dissemination. Adjuvant therapy with albendazole plays an important role in reducing recurrence risk; however, optimal management strategies remain debated, particularly in disseminated disease.[3] We report a rare case of peritoneal hydatidosis presenting with chronic abdominal symptoms, highlighting its diagnostic challenges and discussing current approaches to diagnosis and management.

CASE REPORT

A 56-year-old man from an endemic rural area, with a history of treated hepatic hydatid disease, presented with progressive abdominal pain associated with abdominal distension evolving over several months. The patient denied any recent history of trauma.

On admission, the general condition was preserved. Vital signs were stable, with no fever. Physical examination revealed a moderately distended abdomen with diffuse tenderness, without signs of peritoneal irritation. No palpable mass was clearly identified. Laboratory investigations showed no major abnormalities. Hydatid serology was positive (30 U) (negative value: 0-8 U) (Table 1).

Table 1: Laboratory findings of the patient.

Parameter	Results	Reference range
White blood cell count (10^3/ul)	10	4.5-11.0
Creatinine (mg/l)	10	6-13
Urea (g/l)	0.22	0.15-0.38
Hemoglobin (g/dl)	11.1	13-17
Hydatid Serology (U)	30	0-8

Abdominal imaging, particularly contrast-enhanced computed tomography (CT scan), revealed a subhepatic peritoneal hydatid cyst measuring 50×38 mm (Figure 1a), associated with a hepatic cyst suggestive of hydatid origin (Figure 1b), without intraperitoneal fluid or collection. These findings were consistent with disseminated peritoneal hydatidosis. The patient underwent an exploratory laparotomy, which revealed a subhepatic cystic mass adherent to the right colic flexure (Figure 2a). Mobilization of the right colon was challenging, allowing subsequent cyst resection with complete removal of the germinative membrane (Figures 2b and 3). Multiple pseudomembranes were observed over the small bowel loops (Figure 2c), along with daughter cysts interspersed between the intestinal loops.

Followed by extensive peritoneal lavage using a scolicidal solution, and two Redon drains were placed in the subhepatic space and pouch of Douglas before layered closure. The postoperative course was uneventful, with favorable clinical and biological evolution. The patient received adjuvant anthelmintic therapy with albendazole for 3 months at 10-day intervals. The patient was discharged on postoperative day six and remained asymptomatic during follow-up, with no evidence of early recurrence.

DISCUSSION

Peritoneal hydatidosis is a rare but severe complication of hydatid disease, accounting for approximately 5–16% of abdominal localizations. It most commonly results from rupture of a hepatic hydatid cyst, either spontaneously or following trauma or surgical manipulation.[4] The pathophysiology involves intraperitoneal dissemination of protoscolices, leading to implantation and development of multiple peritoneal cysts. This mechanism explains the frequent diffuse presentation, sometimes involving numerous cysts as reported in the literature. [5] Clinically, the disease has an insidious course and often remains asymptomatic for prolonged periods. When symptomatic, manifestations are nonspecific and usually related to mass effect or complications such as rupture, infection, or compression of adjacent organs.[5] Imaging is essential for diagnosis. While ultrasonography may serve as a first-line modality, computed tomography (CT) remains the reference standard for evaluating the number, size, and distribution of cysts, as well as detecting associated intra-abdominal involvement.[6] Surgery remains the cornerstone of treatment, particularly in disseminated disease.

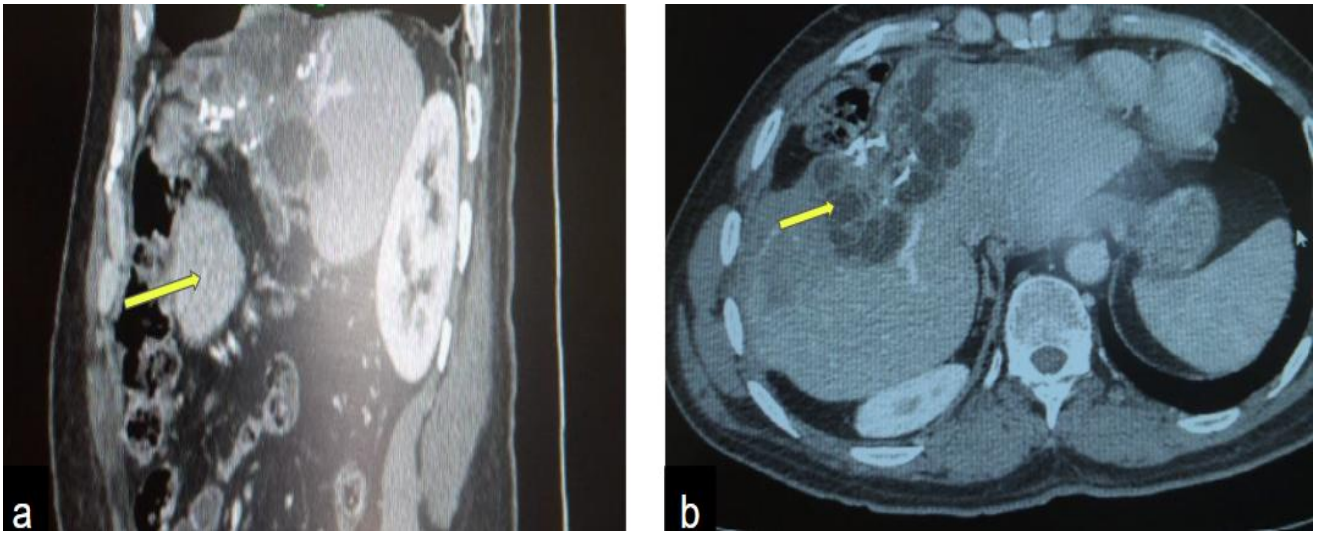

Figure 1: (a) Abdominal CT scan image showing a subhepatic peritoneal hydatid cyst (yellow arrow) and (b) abdominal CT scan photo showing an associated hepatic cyst suggestive of hydatid origin (yellow arrow).

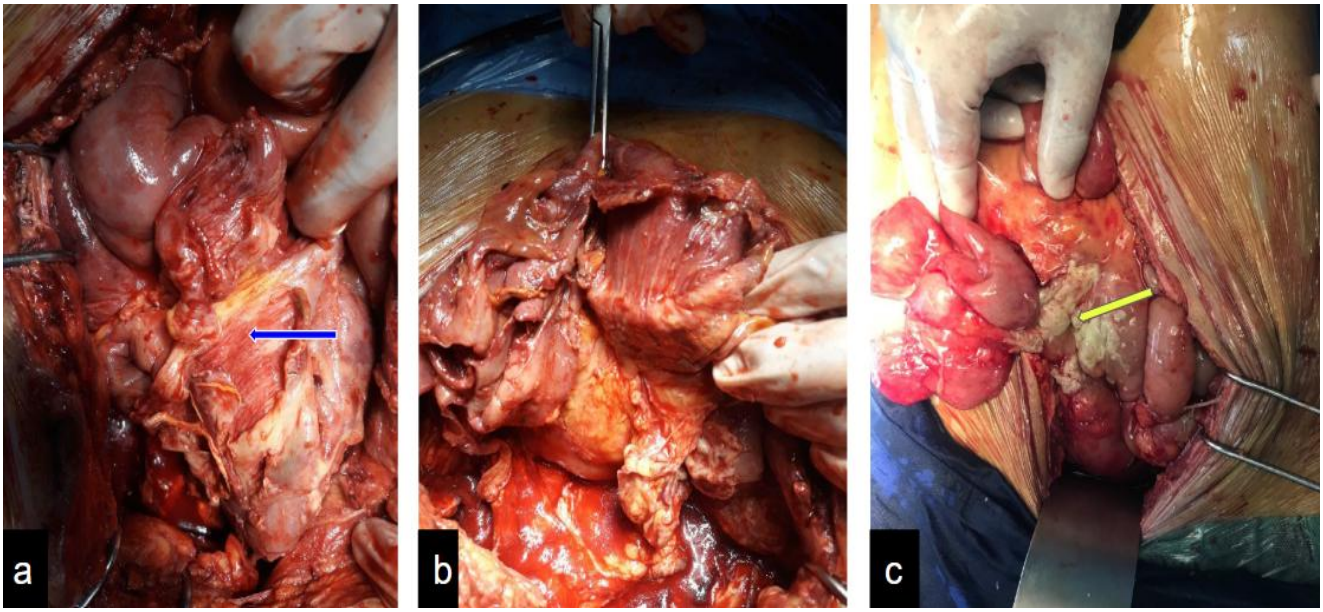

Figure 2: (a) Intraoperative view showing a subhepatic cystic mass adherent to the right colic flexure (blue arrow); (b) intraoperative view showing complete resection of the cyst following mobilization of the right colon and (c) intraoperative photo revealing multiple pseudomembranes distributed over the small bowel loops (yellow arrow).

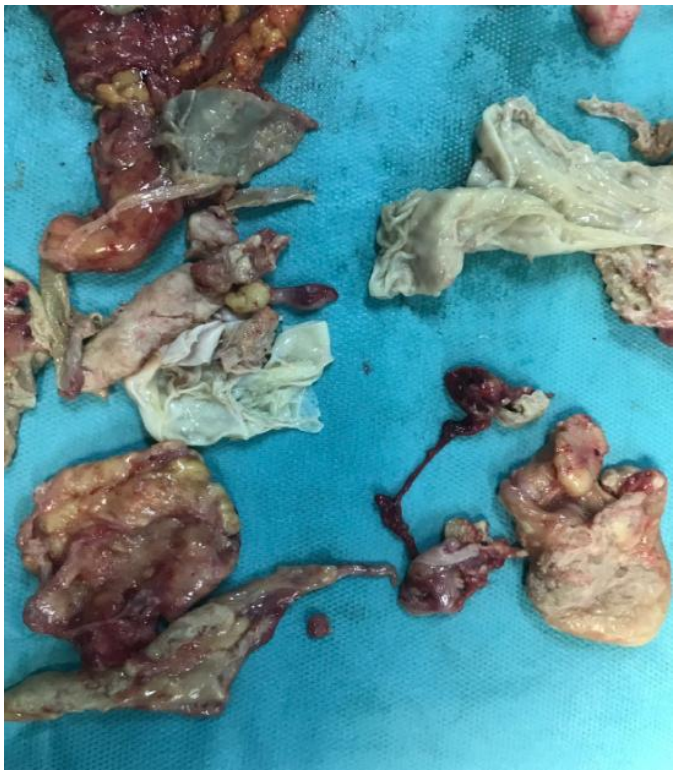

Figure 3: Surgical specimen showing multiple extracted germinative membranes.

The main objectives are complete or maximal cyst removal while avoiding spillage and recurrence. This is often complemented by peritoneal lavage with scolicidal agents. Albendazole therapy plays an important adjuvant role in reducing recurrence risk and treating residual disease.[7] Despite advances in surgical and medical management, recurrence remains a major concern, especially in extensive or delayed-diagnosed forms. 8The main objectives are complete or maximal cyst removal while avoiding spillage and recurrence. This is often complemented by peritoneal lavage with scolicidal agents. Albendazole therapy plays an important adjuvant role in reducing recurrence risk and treating residual disease.[7] Despite advances in surgical and medical

management, recurrence remains a major concern, especially in extensive or delayed-diagnosed forms. [8]

CONCLUSION

Peritoneal hydatidosis is an uncommon and usually secondary manifestation of hydatid disease. Diagnosis relies primarily on imaging, particularly computed tomography. Surgical management, combined with antiparasitic therapy, remains the cornerstone of treatment. Early diagnosis and appropriate management of primary hydatid cysts are essential to prevent this severe and potentially disseminated complication.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Dabbagh M, Maazouz A, Kaoui HE, Bouchentouf SM, Moujahid M. Primary peritoneal cystic echinococcosis: a rare surgical entity. Int Surg J 2026;13:1720-3.