

Splenic and Pulmonary Hydatid Cysts in a 7-Year-Old Child: A Radiological Case Report

Asma Cherif*, Zineb Labbi, Siham El Haddad and Latifa Chat

Department of Radiology, Children Hospital, CHU Ibn Sina, Rabat, Morocco

***Corresponding Author:** Asma Cherif, Department of Radiology, Children hospital, CHU Ibn Sina, Rabat, Morocco.

Received: October 28, 2025; **Published:** November 11, 2025

Abstract

Background: Hydatid disease is a parasitic zoonosis caused by *Echinococcus granulosus*, endemic in developing countries. The liver and lungs are the most frequently affected organs, while splenic involvement is rare, representing less than 5% of all cases.

Case Presentation: We report a 7-year-old child presenting with both splenic and pulmonary hydatid cysts. Contrast-enhanced CT demonstrated a well-defined cystic lesion in the spleen with internal floating membranes and an additional cystic lesion in the left lower lung lobe.

Conclusion: This case underlines the role of cross-sectional imaging in detecting multiple hydatid localizations and guiding multidisciplinary management in pediatric patients.

Keywords: Hydatid Cyst; Splenic Echinococcosis; Pulmonary Hydatid Cyst; Child; CT Scan

Introduction

Cystic echinococcosis is a parasitic disease caused by *Echinococcus granulosus* larvae [1]. It remains a neglected zoonosis in endemic regions, particularly in North Africa and the Mediterranean basin [2].

While hepatic and pulmonary involvement are most common, splenic hydatid cysts account for less than 5% of visceral localizations [3]. Simultaneous splenic and pulmonary involvement is exceedingly rare, particularly in children.

CT imaging plays a central role in the diagnosis, staging, and detection of multi-organ hydatid disease [4]. We report a pediatric case of combined splenic and pulmonary hydatid cysts, emphasizing the diagnostic contribution of CT.

Case Presentation

A 7-year-old boy, living in a rural area, presented with progressive abdominal discomfort and a dry cough evolving for two months. Physical examination revealed mild tenderness in the left hypochondrium and reduced breath sounds at the left lung base.

Laboratory work-up showed mild eosinophilia (780/mm³) and positive *Echinococcus granulosus* serology (ELISA).

Imaging findings

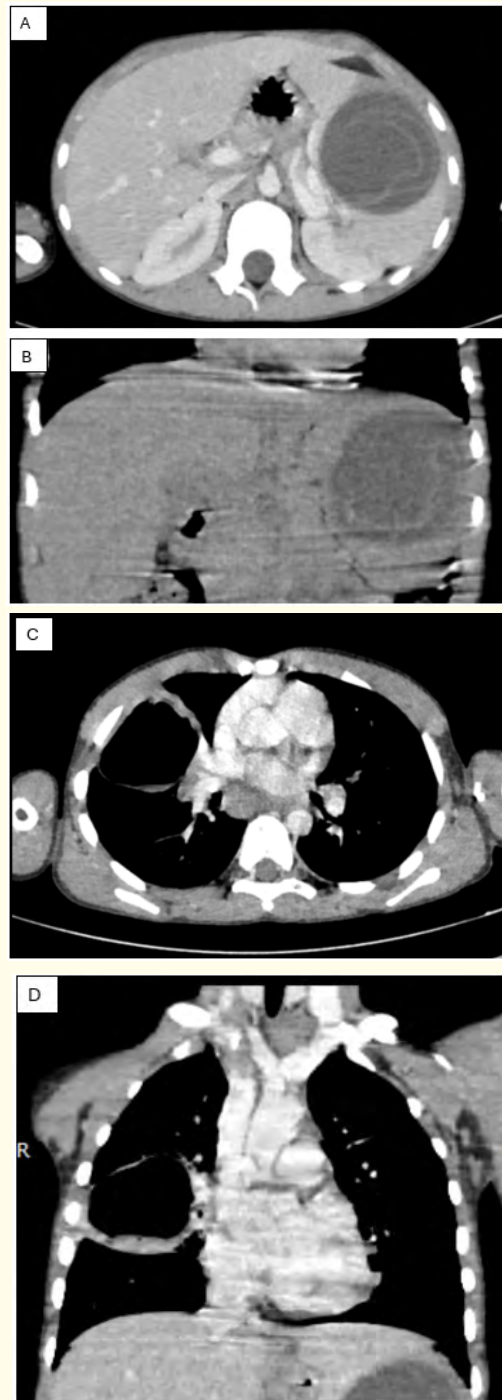


Figure A-D: Axial contrast-enhanced CT of the upper abdomen showing a large splenic cyst with internal floating membranes (water-lily sign). B: Coronal abdominal CT reconstruction showing a well-defined cystic lesion with intact splenic capsule. C: Axial thoracic CT image revealing a rounded cystic lesion in the left lower lobe with thin wall and fluid content. D: Coronal thoracic CT reconstruction illustrating the pulmonary cyst compressing adjacent parenchyma.

Discussion

Hydatid disease results from ingestion of *Echinococcus* eggs, with larvae migrating via the portal circulation to form cysts in various organs [5]. The liver filters most larvae, followed by the lungs, while splenic involvement occurs through arterial dissemination or secondary seeding [6].

Epidemiology and pediatric specificity

Children are more likely to present with pulmonary than hepatic hydatidosis due to the elasticity of lung parenchyma. Splenic localizations are rare, either primary or secondary after hepatic rupture [7].

Imaging findings

CT is essential for identifying the location, number, and stage of cysts. Hydatid cysts evolve from simple fluid lesions (CE1) to complex cysts with detached membranes (CE3A-B) or calcifications (CE5), according to the WHO classification [1,8].

In our case, the splenic cyst was CE3A (detached membrane) and the pulmonary cyst CE1.

Treatment and prognosis

Surgical removal remains the treatment of choice for large or complicated splenic cysts. Partial splenectomy is preferred in children to preserve immune function [9].

Adjunctive albendazole therapy reduces recurrence risk. Pulmonary hydatid cysts are generally excised by cystectomy, with favorable prognosis in children [10].

Follow-up imaging is essential to detect recurrence or secondary dissemination, particularly in endemic settings.

Conclusion

Hydatid disease involving the spleen and lung simultaneously is rare in pediatric patients. CT is the imaging modality of choice for diagnosis, staging, and surgical planning.

Early multidisciplinary management combining surgery and anti-parasitic therapy offers excellent outcomes and prevents life-threatening complications.

Learning Points

- Hydatid disease should be suspected in any cystic lesion of the spleen or lung in children from endemic regions.
- CT imaging enables precise identification of cyst stage and detection of multiple organ involvement.
- Combining conservative surgery with albendazole therapy ensures optimal recovery and prevents recurrence.

Conflict of Interest

None declared.

Bibliography

1. Calame P, *et al.* "Role of the radiologist in the diagnosis and management of cystic echinococcosis". *Insights into Imaging* 13.1 (2022): 68.
2. Casulli A, *et al.* "The neglected zoonosis cystic echinococcosis: global burden and gaps". *Lancet Infectious Diseases* 23.12 (2023): e451-e466.
3. Rodríguez LRA, *et al.* "The many faces of pediatric hydatid disease: a pictorial essay". *Pediatric Radiology* 55.1 (2025): 115-127.
4. Tao Y, *et al.* "Pictorial review of hepatic echinococcosis: ultrasound, CEUS and intraoperative US features". *World Journal of Gastroenterology* 30.37 (2024): 4115-4133.
5. Aydın Y, *et al.* "Current management of pulmonary hydatid cyst". *Eurasian Journal of Medicine* 57.1 (2025): 1-7.
6. Boozhmehrani MJ, *et al.* "Surgical options for pediatric pulmonary hydatid disease: a systematic review and meta-analysis". *Frontiers in Pediatrics* 12 (2024): 1161564.
7. Koirala DP, *et al.* "Giant isolated splenic hydatid cyst in a pediatric patient: case report and review". *Annals of Medicine and Surgery (London)* 85 (2024): 1080-1084.
8. Wani BA, *et al.* "Primary splenic hydatid cyst: case report". *Frontiers in Medicine (Lausanne)* 12 (2025): 1605050.
9. Zhou Q, *et al.* "Simultaneous hepatic and renal echinococcosis in a child: a multidisciplinary approach". *Frontiers in Pediatrics* 13 (2025): 1623294.
10. Siles-Lucas M, *et al.* ""No cyst, no echinococcosis": updated scoping review on imaging-based staging and follow-up". *Parasite* 30 (2023): 26.

Volume 8 Issue 12 December 2025

©All rights reserved by Asma Cherif, *et al.*