

Splenopulmonary fistula complicating hydatid disease

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Abstract

Splenic echinococcosis is rare even in endemic regions and the intrathoracic rupture is extremely rare. We present the case of a patient with a primary splenic hydatid disease complicated with pulmonary extension through a splenothoracic fistula.

Introduction

In patients with hydatid disease or echinococcosis, the most commonly affected organ is the liver, followed by the lung and the spleen.¹ Splenic echinococcosis is rare even in endemic regions. Splenic hydatid cysts may rupture intra-abdominally, but intrathoracic rupture is extremely rare.² We present the case of a patient with primary splenic hydatid disease complicated with pulmonary extension through a splenothoracic fistula.

Observation

A 45-year-old man was admitted to the hospital because of pain in the left side of his chest with haemoptysis of 1 month's duration. At admission, physical examination was normal except for signs of left pleural effusion. A chest radiograph disclosed a left lower lobe opacity (Figure 1). A computed tomographic scan of the thorax and abdomen showed a multilocular cystic structure of the spleen with trans-diaphragmatic lung involvement (Figure 2). No other cysts were apparent.

A left seventh interspace posterolateral thoracotomy was made. The left hemidiaphragm was elevated, and adhesions between the left lower lobe and the diaphragm were noted. The diaphragm and lower lobe were separated and the cystic lesion of the left lower lobe was opened and found to contain a hydatid cyst with splenopulmonary fistula. A segmentectomy of the left lower lobe was performed. The splenopulmonary fistula was cannulated and splenic cysts were aspirated transdiaphragmatically, removing 750 cc of fluid without any additional resection. External marsupialisation over two left-sided trans-abdominal tubes was performed, and two left-sided chest drainage tubes were inserted.

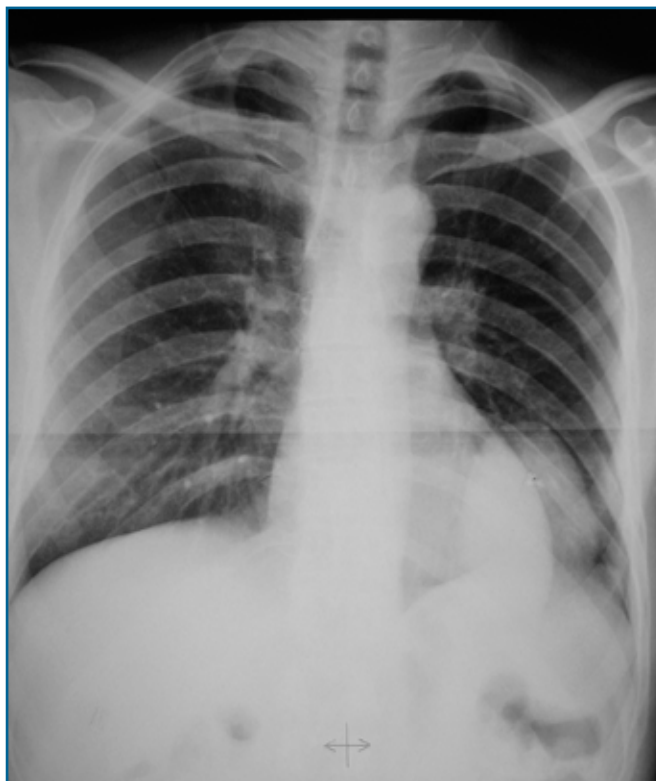


Figure 1: Chest radiograph showing an opacity in the left lower lobe

The patient had an uneventful recovery, was discharged on post-operative day 8 and was asymptomatic at a 10-month follow-up consultation.

Discussion

Hydatid disease is a parasitic disease caused by the development of the larval form of *Echinococcus granulosus*. The parasite can infest every organ. The liver and lung are the most frequently affected organ, but the spleen ranks third, with an estimated frequency of less than 4% of all cases.¹ Hydatid cysts of the spleen can be either primary or secondary to dissemination into the abdominal cavity.¹

Our patient had solitary splenic hydatidosis without any other localisation of hydatid disease. Intra-abdominal rupture is a well-known complication of splenic hydatidosis, whereas intrathoracic rupture (either in the pleural cavity or in the lung parenchyma) is extremely rare, with only a few cases reported in the medical literature.²⁻⁵ In our patient, the cyst ruptured into the lung parenchyma after having eroded the diaphragm.

The treatment of hydatid disease is surgical, with thoraco-abdominal access if necessary. When a splenic

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Figure 2. CT scan showing a multilocular cystic structure of the spleen with trans-diaphragmatic lung involvement: (a) mediastinal window; (b) parenchymal window; (c) sagittal reconstruction.



Figure 2 (a)

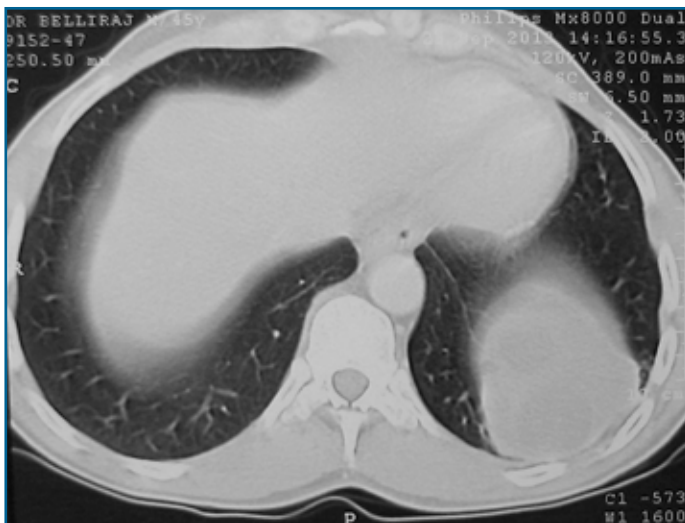


Figure 2 (b)



Figure 2 (c)

cyst extends through the diaphragm, a low posterolateral thoracotomy allows access to and treatment of the parenchymal lesions and then, through a phrenotomy, of the splenic lesions.^{4,5} This procedure was followed in our patient in whom we successfully performed a thoracotomy allowing us to carry out an atypical parenchymal resection and then a splenic cystectomy.

Conclusion

Splenothoracic hydatidosis is a rare complication of splenic hydatid cysts. A low thoracotomy allows treatment of the chest and splenic cysts in a single procedure.

References

1. Akhan O, Koroglu M. Hydatid disease of the spleen. *Semin Ultrasound CT MR* 2007; 28: 28–34.
2. Barzilai A, Pollack S, Kaftori JK, et al. Splenic echinococcal cyst burrowing into left pleural space. *Chest* 1977; 72: 543–5.
3. Venissac N, Alifano M, Mouroux J. Splenic hydatidosis complicated by a splenothoracic fistula: report of a case. *Surg Today* 2002; 32: 1023–5.
4. Alba D, Diaz Lobato S, Garcia-Quintero T, et al. Splenothoracic fistula complicating primary splenic hydatidosis. *J Thorac Cardiovasc Surg* 1996; 111: 1103–4.
5. Bouchikh M, Meziane M, Ouadnoui Y, et al. Splenothoracic hydatidosis: case report. *Rev Pneumol Clin* 2009; 65: 61–2.