

Pulmonary Hydatid Cysts: Report of Six Uncommon Cases

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Abstract

We report six unusual cases of hydatid cyst and discuss management problems in hydatid disease. Our first patient had a neurological deficit due to a paravertebrally located cyst. In the second case, a cyst was found in the soft tissue of the chest wall. In another patient the cyst was bulging through the old thoracotomy scar. Iatrogenic cyst rupture was present in the fourth case. The

fifth case had biloptysis due to a liver cyst. In the last case a cyst was found in the thorax accidentally.

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Introduction

Hydatid disease is an old time topic and many patients have been reported especially from the Mediterranean area (1-3).

Hydatid cysts mimic various disorders and the situation becomes problematic when these cysts are located atypically. Echinococcal cysts of the lung should be treated before complications occur, since their rupture may lead to a considerable increase in morbidity.

The patients we report in this paper demonstrate the great variations in presentation and clinical outcome that may be encountered in patients with hydatid disease.

Case Report

Case 1

A 52-year-old woman was admitted to our hospital with complaints of back pain and disturbance in gait. Neurological examination revealed severe paraparesis, hyperactive deep tendon reflexes in the lower extremities and a bilaterally positive Babinski sign. On CT, there was a cystic lesion that eroded bodies and pedicles of the 4th and 5th vertebrae with resulting spinal cord compression (Figure 1A). Surgical exploration showed that the lesion was a hydatid cyst and it was removed. The paraparesis recovered gradually. The patient was completely normal in the postoperative third year.

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Figure 1A. CT shows cystic mass including multiple small cysts, localized in the left paravertebral sulcus. The lesion eroded the bodies and pedicles of the 4th and 5th vertebrae, and dilated the neural foramina.

Case 2

A 9-year-old girl was admitted to our clinic with a 2x2 cm round, fixed, and firm mass resembling a chest wall tumor on the right lateral chest wall. Ultrasonogram showed a septated cystic lesion beneath the skin, which was not consistent with the physical findings. During excisional biopsy, a small amount of suppuration and liquefied germinative membranes were removed. She was discharged on the fifth day.

Case 3

A 13-year-old boy, who had undergone a left thoracotomy for pulmonary hydatid disease four years ago, was admitted with chest wall swelling. On physical examination, a soft bulging

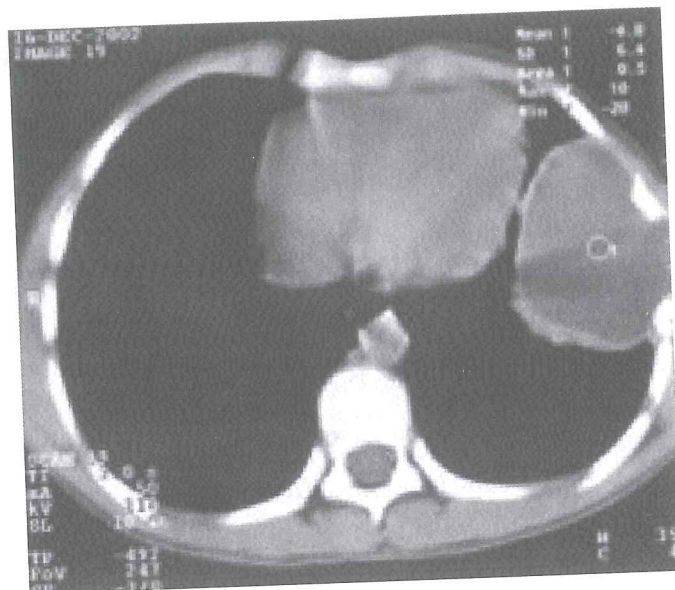


Figure 1B. CT scan showing a single hydatid cyst, extending through the skin between intercostal spaces.

mass (3x3 cm) was encountered on the anterior border of the old thoracotomy scar (Figure 1B). On further questioning, his family described a needle aspiration before thoracotomy. An extrapulmonary hydatid cyst was easily removed by performing a second thoracotomy. This cyst had developed as a consequence of the first interventions. The patient is now at the postoperative 18th month and has no problems.

Case 4

A 59-year-old woman was admitted with "eau de roche" (hydatid fluid) expectoration during bronchoscopy, planned for a lung mass and performed in another clinic (Figure 1C). After surgical exploration, we evacuated a single, germinative membrane from the left upper lobe.

Table 1. Characteristics of the patients with hydatid disease

	Localization	Presentation	P/S	Type of Life	History of Contact	Surgical Technique
Case 1	Paravertebral sulcus	Neurological deficit	P	Rural	+; dog	Cystotomy
Case 2	Soft tissue of chest wall	Soft tissue mass	P	Rural	+; dog	Cystectomy
Case 3	Extrapulmonary	Bulging mass	S	Urban	-	Cystectomy, partial decortication
Case 4	Left upper lobe	Iatrogenic perforation	P	Urban	+; dogs	Cystotomy, capitonnage
Case 5	Liver dome and intrapleural	Biloptysis, hydro-pneumothorax	S	Rural	+; dog	Cystotomy-partial decortication, fistula excision
Case 6	Left upper lobe	Accidental	P	Urban	-	Closure of bronchial openings

P/S: Primary/Secondary

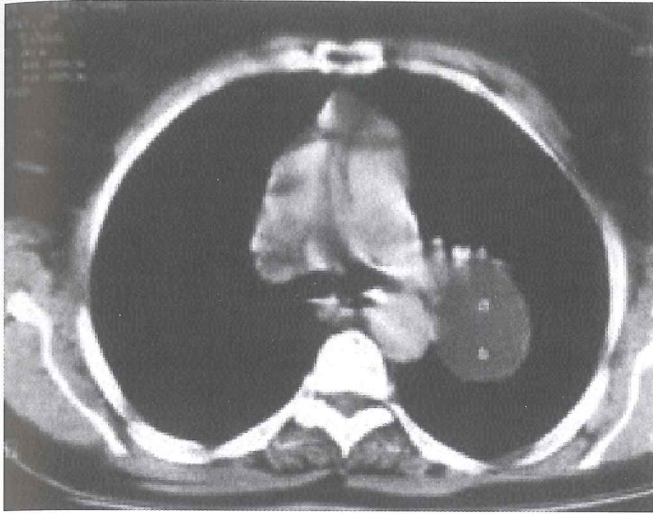


Figure 1C. CT scan showing a cystic mass, placed at the left hilum. The cyst has a communication with the left bronchial system.

The patient was treated for pneumonia for 2 weeks after the operation and discharged with no complaints on the third postoperative week.

Case 5

A 54-year-old woman, hospitalized for pneumonia for 15 days in another clinic, was referred to our department with a recent onset of yellowish-green sputum. A chest x-ray and CT examination of the thorax showed right hydro-pneumothorax (Figure 2A) and a cystic lesion in the liver dome (Figure 2B). Upon observing the daughter cysts and germinative membranes during thoracostomy, an urgent thoracotomy was performed. There was firm adhesion between the right lower lobe and the diaphragm. The daughter cysts were shedding into the pleural space from the necrotic surfaces of the lower lobe. A fistula tract, extending beneath the diaphragm was detected and a laparotomy was performed. A cyst, located on the hepatic dome was found. The fistula tract was divided, and the pulmo-

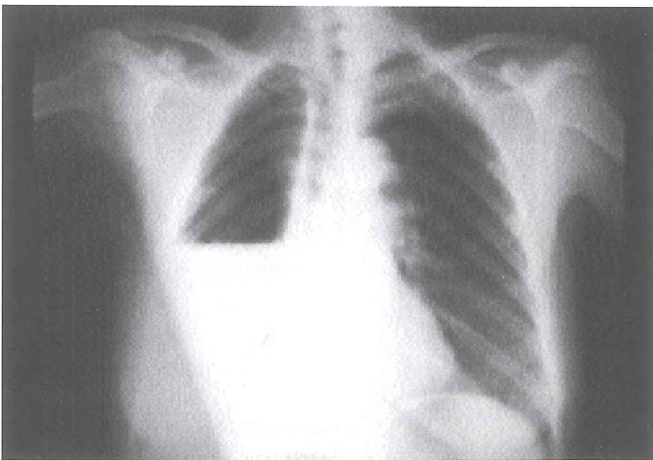


Figure 2A. Chest x-ray showing the hydro-pneumothorax with total collapse of the right lung.

nary defects were repaired. The patient was discharged on the 20th postoperative day with albendazole therapy. She is now in the postoperative 13th month and healthy.

Case 6

A 10-year-old girl had suffered from a blunt thoracic trauma. A chest tube had been inserted for the hydro-pneumothorax which had developed following the trauma. Considering a possible tracheobronchial rupture or deep paranchymal laceration, we performed an urgent thoracotomy for massive air leaks. During thoracotomy, a germinative membrane was found to be floating in the pleural space. A cystic space (10x12 cm) in the left upper lobe was repaired. The patient was discharged with albendazole and recommendations for a 10% pneumothorax. During the follow-up visit, the pneumothorax was found to be increased up to 30%. The expansion failure was corrected with a three-week "Heimlich valve" application. The patient was well by the end of the postoperative first year. In Table 1, the findings on these 6 patients are summarized. Half of the patients were living in rural areas. Four of the patients had a history of close contact with a dog.

Discussion

We would like to discuss the different aspects of our cases. In the first case, the lesion which was wrongly assumed to be a neurofibroma had compressed the spinal cord. In the operation, the hydatid cyst in a single germinative membrane, including multiple "daughter cysts", was evacuated. When the compression was relieved, the patient's clinical condition improved day by day.

The cysts are located in the bones only in 0.5%-2% of all cases of hydatidosis. Vertebra is one of the most commonly involved site (44%) (4). Our patient is an unusual case, since reports of such cases mention that spinal cord compression is always due to the "multiloculare form" of the disease. In our

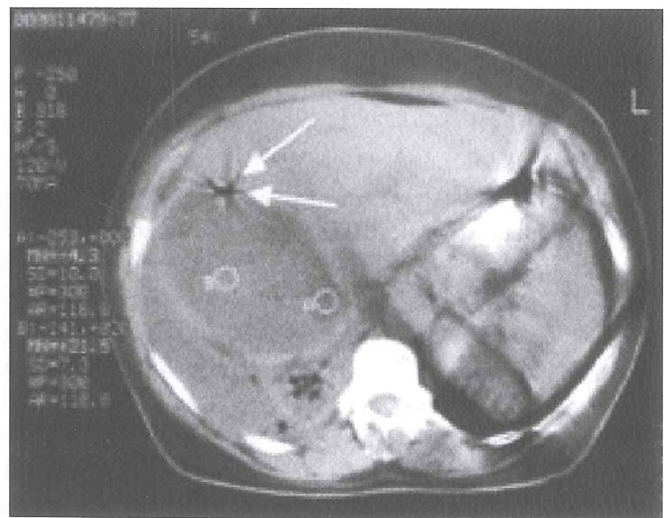


Figure 2B. White arrows indicate air in the cyst, which is located in the hepatic dome.

patient, although we do not have histological or immunological confirmation, radiologic and surgical findings were both consistent with "alveolar echinococcus".

Soft tissue location of the cysts is very rare, and reported cases are related to "thoracic wall" involvement (5). In our second case, radiological investigation was normal and the cyst, located under the skin, was considered to be primary in origin.

In the third case, the cyst was extrapulmonary and bulging through the operation scar. This case showed us the need for meticulous technique and, extreme caution in interventions dealing with suctioning or evacuating the cysts.

In the fourth case, the "iatrogenic rupture" was due to bronchoscopic biopsy. Asphyxia, lung abscesses, long lasting pneumonia, hydropneumothorax are common results of perforations (2-3). Transthoracic or bronchoscopic sampling of a pulmonary hydatid cyst is dangerous and should be avoided.

In the fifth case; bile was expectorated due to a hepatic cyst. Mortality is between 9-43% in these cases (6). CT findings (Figure 2B) were very revealing in this case (7). Instead of a lobectomy, as recommended in the literature, we preferred to repair the necrotic lung areas, and obtained a good result.

In the last case, a ruptured cyst was found in thorax. Traumatic abdominal cyst ruptures have been reported; however we could find only one case due to thoracic trauma (8). We could not explain the postoperative expansion failure,

which showed a gradual increase in severity. At the operation, there were three bronchial openings, and these were closed without any difficulty. Neither decortication nor capitonnage was necessary.

These cases which are examples of unusual presentations of hydatid disease, also make us reflect on the need for careful surgical judgment and meticulous care in the interventions.

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