CASE REPORT
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Multiple Pleural Hydatid Cysts Associated with Destruction of the Vertebral Column

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Abstract
Multiple pleural hydatid cysts associated with destruction of the vertebral column through an intervertebral foramen is an uncommon clinical entity. We present a 22-year-old man who underwent left thoracotomy for the removal of multiple pleural hydatid cysts associated with destruction of the vertebral column. In his history, he was operated for the removal of a left lung hydatid cyst at the age of eight. He had back pain and his physical examination was normal. A thoracal computed tomography (CT) scan revealed cystic lesion which eroded the costotransverse joint of the fourth thoracal vertebra and caused destruction of the vertebral column.

Keywords: hydatid cyst, pleural hydatid cyst, vertebral destruction

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INTRODUCTION

Cystic hydatid disease (CHD) is an infection produced by larvae of the parasite platyhelminth *Echinococcus granulosus* [1]. Living in a rural area is an important risk factor for this disease. It is still an endemic disease in some regions of the world, particularly in many Mediterranean countries. The organs most commonly affected are the liver and the lungs. Vertebral involvement accounts for less than 2% [2]. Pleural involvement is rare and usually follows the rupture of a pulmonary cyst [3]. We report a case of multiple pleural hydatid cysts with destruction of the vertebral column successfully treated by resection of the involved rib followed by removal of cysts via Th4 partial corpectomy.

CASE PRESENTATION

A 22-year-old man was admitted to hospital with back pain. In his history, he had undergone surgical excision of a left lung hydatid cyst 14 years previously and albendazole was administered postoperatively for one year. Physical examination was completely normal. Routine laboratory studies yielded normal values. Posteroanterior chest radiograph revealed multiple masses at the left hemithorax (Figure 1). A computed tomography (CT) scan revealed hypodense, multiple complicated cystic lesions with septations located in the chest wall causing destruction of the fourth rib, fracture at the costotransverse joint and the posterior of the fourth rib and invasion of the Th4 vertebral corpus (Figure 2). The lesion extended intrathoracally and compressed the inferior lobe of the left lung. Moreover, the mass eroded the vertebral pedicle and lamina.

Partial resection of the fourth rib and transverse process was performed via left posterolateral thoracotomy. Some of the cysts in the pleura and pericardial fatty tissue were thick–walled and lobulated (Figure 3). Vertebral corpus destruction (Figure 4) was successfully treated by resection of the involved ribs followed by removal of cysts via Th4 partial corpectomy. Histological examinations confirmed a diagnosis of hydatid cyst. Postoperative course was uneventful, and the patient was discharged on the 6th day postoperatively. Albendazole (10 mg/kg daily) was administered postoperatively.

DISCUSSION

Cystic hydatid disease of the lung is asymptomatic in 30% of patients; when symptoms do occur, they are usually due to the compression of the underlying pulmonary tissue by the cyst and/or to the presence of complications, such as rupture or infection [1,2,3]. Our case, however, complained of low back pain because of vertebral corpus destruction. Intrathoracic extrapulmonary hydatid disease constitutes 2.3% - 7.4% of all hydatid diseases [1,2,3]. Among intrathoracic extrapulmonary hydatid cysts, 55% of the cysts are located in the fissure, 18% within the parietal pleura, 14% in the chest wall, 4.5% in the mediastinum, and 4.5% in the diaphragm [2]. When an intrathoracic extrapulmonary hydatid cyst lies in the vicinity of bone structures, it may result in bone and muscle destruction. In cases of extrapulmonary involvement by hydatid cysts, rib involvement accounts for only 2.3% [3]. Musculoskeletal system involvement accounts for 1–4% [2]. There is only

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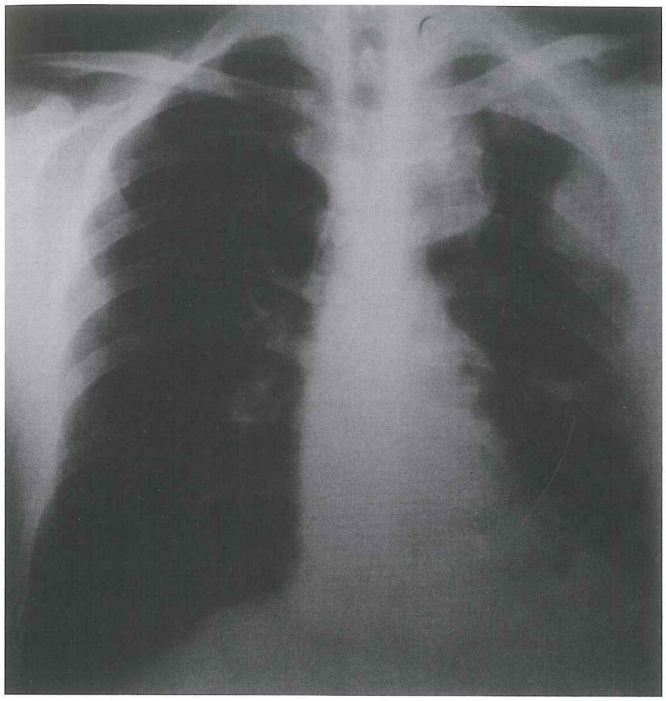

Figure 1. Posteroanterior chest radiograph showing multiple masses located in the left hemithorax.

one chest wall involvement in the report of 842 hydatid cysts in the series of Qian [4].

Our review of the literature revealed a few articles reporting multiple pleural hydatid disease associated with destruction of the vertebral column. Although they are nonneoplastic, in the spinal canal, hydatid cysts are generally space-occupying lesions that produce signs and symptoms due to their mass effect [5,6]. Despite therapy, the disease frequently relapses with progressive destruction of the vertebral column and neurological deterioration. Altinors et al. [5] in their cooperative study reported the rate of recurrence in patients with spinal cysts and bony involvement to be 24.3% and the incidence of paraplegia due to recurrent disease to be 25–45% [7]. In the presented case, with vertebral bony destruction, all of the thin-walled daughter vesicles were removed without rupture, and after performing corpectomy of Th4, spinal stabilization was not required. Albendazole treatment was started in the postoperative stage for prevention of late recurrences.

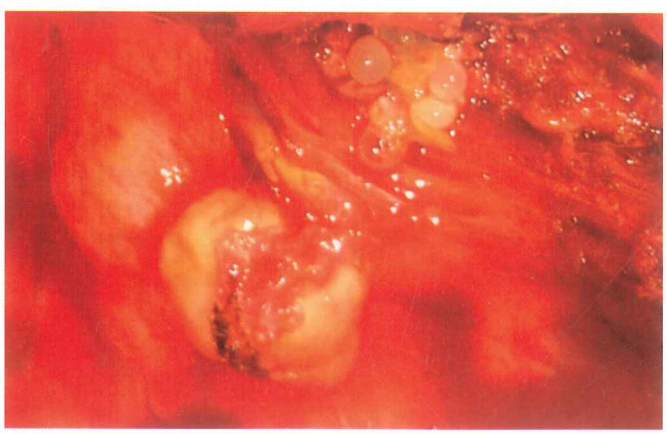

Figure 3. Multiple intact cysts located in thoracal fourth vertebra and costotransverse joint, and lobular cysts between vertebral corpus and subparietal pleura.

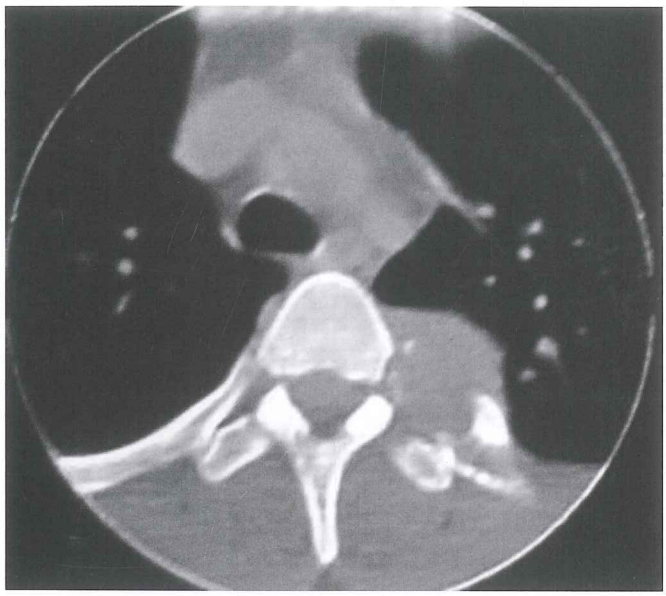

Figure 2. CT scans of thorax showing hypodense, complicated cystic lesions with destruction of fourth rib and transverse joint.

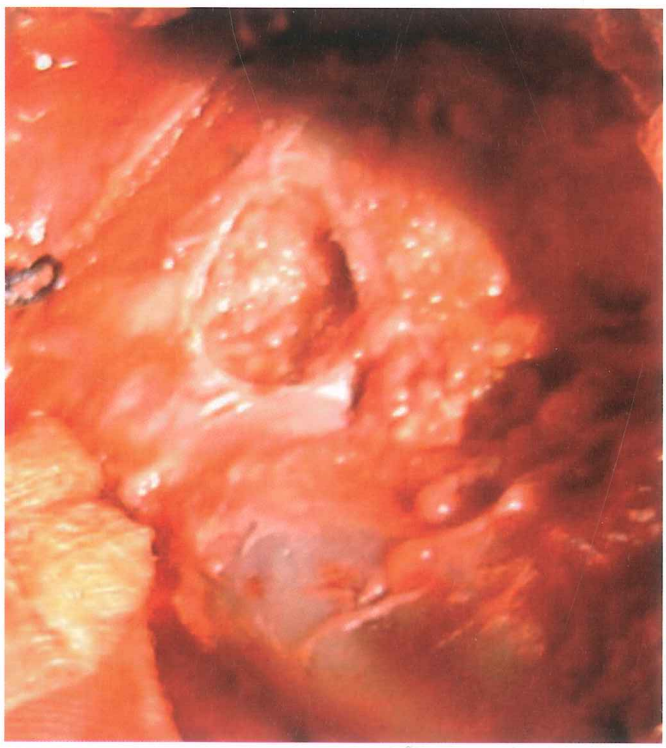

Figure 4. Destruction of fourth vertebral corpus due to hydatid cysts.

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