



## Primary Hydatid Disease of the Chest Wall Presenting as a Chest Wall Tumor

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### ABSTRACT

Hydatid cyst is a parasitic disease that is endemic in Mediterranean areas, South America, North Africa, Australia, and Iran. Although the liver and lung are the most common involved organs, but the other organs in human body also can be involved by hydatid cyst. Chest wall involvement by hydatid cyst is a rare condition, which may be misdiagnosed as chest wall tumor in the endemic areas. Herein, we presented a case of primary chest wall hydatid cyst mimicking chest wall tumor.

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## Introduction

*Echinococcus granulosus* is a parasitic disease that can affect the humans as an intermediate host. Hydatid disease is endemic in the Mediterranean areas, South America, North Africa, Australia, and Iran (1). The liver and lung are respectively the most common involved organs in this disease. However, this condition rarely affects the chest wall (2). Primary hydatid disease of the chest wall can destroy the adjacent ribs; therefore, it mimics a chest wall tumor. Regarding this, hydatid disease should be considered in the differential diagnosis of chest wall mass in the endemic areas.

## Case Presentation

A 35-year-old woman in 5th Azar Hospital,

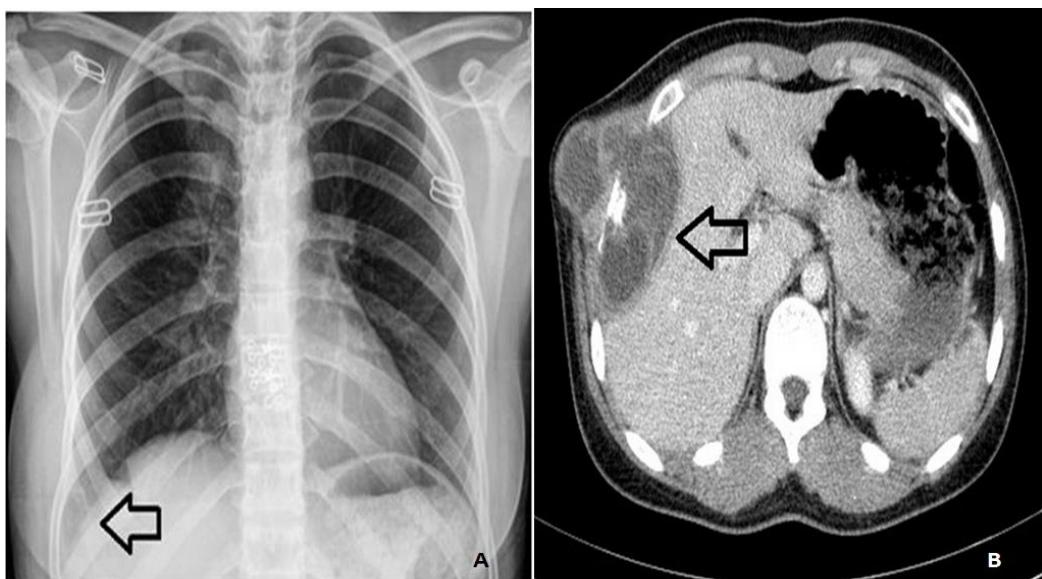
Golestan University of Medical Sciences (2015), presented with smooth, firm mass protruding through the right anterolateral chest wall. She complained of the pain of the lower lateral part of the right hemithorax. On physical exam a soft but firm mass was palpable in this area. Chest X-ray revealed a mass-like lesion. Furthermore, the computed tomography (CT) scan demonstrated a multivesicular cystic mass that destroyed the 7<sup>th</sup> rib (Figure 1). Radiologic consult posed the probable diagnosis of hydatid disease of the chest wall; nevertheless, chest wall tumor could not be ruled out. The evaluation of other sites for hydatid disease was negative. Furthermore, the result of anti-hydatid ELISA test was negative.

Albendazole prescribed for the patient for 3-4

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**Figure 1.** Posteroanterior view of chest X-ray (A) and conventional view of computed tomography scan (B) before operation

days preoperatively, and then she operated with radical excision of the mass along with the involved rib. The excised area was covered with the latissimus dorsi muscle flap (Figure 2). Albendazole continued for at least three months postoperatively. We have achieved the true diagnosis of hydatid cyst intraoperatively. Pathologic result confirmed the diagnosis. After two years of follow up, no recurrence was observed.

## Discussion

Primary hydatid disease of the chest wall is a differential diagnosis of chest wall mass in the endemic area. Extrapulmonary thoracic hydatid cyst may involve chest wall (14%), mediastinum (4.5%), diaphragm (4.5%), and parietal pleura (18%). This disease affects musculoskeletal system and chest wall in 1-4% and 6% of cases (3, 4). Chest wall involvement may occur in three different mechanisms, including spontaneous rupture of the liver and pulmonary hydatid cyst

to pleural space, iatrogenic rupture of the cyst to pleural space, and hematogenous spread (5).

Hydatid cyst can destroy the bone in proximity to cyst. These lesions can mimic chest wall tumors, such as primitive neuroectodermal tumor, Ewing sarcoma, rhabdomyoblastoma (2). On the other hand, these cysts can be infected or ruptured to the pleural space to create empyema (6). Therefore, early diagnosis and intervention is necessary to prevent major complications. Employment of CT scan and magnetic resonance imaging can help to make accurate diagnosis, and also localize the lesion (4).

The diagnosis of this disease is based on the clinical findings as well as radiologic and laboratory data. In the majority of cases, radiology is the main modality for diagnosis; however, definite diagnosis can be made after operation (2, 7). Surgical evacuation, drainage, and excision of the involved rib are the mainstays of the treatment of this condition. Furthermore, the anti-parasitic agents are utilized as the



**Figure 2.** Resected specimen (A) and hydatid cyst of the chest wall (B)

complementary therapy to the surgical treatment.

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### Conflict of Interest

The authors declare no conflict of interest.

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