



# Primary Pleural Hydatid Disease

## Primer Plevral Hidatik Hastalık

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### Abstract

A 32-year-old man was admitted to our clinic with complaints of left pleuritic pain and sweating persisting for 15 days. The chest x-ray revealed left pleural effusion. Pleural fluid was exudate. During videothoroscopic exploration, a pleural, yellowish 4 x 1.5 cm mass lesion was observed around the left costodiaphragmatic sulcus. The mass was totally removed from the pleura. Pathologic diagnosis of the lesion was a hydatid cyst in the pleura.

**Key words:** Hydatid disease, pleural effusion, VATS.

### Özet

Otuz iki yaşında erkek hasta 15 gündür devam eden sol plöretik ağrı ve terleme yakınmaları ile kliniğimize başvurdu. Akciğer grafisinde solda plörezi saptandı. Plevral sıvı eksuda özelliğindedir. Videotoroskopik incelemede sol kostodiafragmatik sulkusta 4x1,5 cm boyutunda sarımsı renkte lezyon saptandı. Kitle plevradan total olarak çıkartıldı. Patolojik tanı plevrada hidatik kist idi.

**Anahtar Sözcükler:** Hidatik hastalık, plevral effüzyon, VATS.

Hydatid disease is an infection produced by the larvae of the parasite platyhelminth *Echinococcus granulosus* (1). The liver and the lungs are the most commonly affected areas in adults. Intrathoracic extrapulmonary locations are very rare, and generally include the mediastinum, pericardium, pleura, and chest wall (2). Pleural

involvement usually develops as a result of perforation of the cyst into the pleural area, and by diaphragmatic transmission causing secondary pleural hydatidosis (1,3). Hydatid cysts may develop primarily in the pleural layers (1). The current study presents a case of primary pleural hydatid disease.

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Submitted (Başvuru tarihi): 21.03.2013 Accepted (Kabul tarihi): 17.04.2013

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## CASE

A 32-year-old Turkish man was admitted to our clinic with complaints of left pleuritic pain and sweat persisting for 15 days. He was a nonsmoker. He had no history of contact with carnivores and sheep. The chest radiograph was consistent with pleural effusion in the left lower hemithorax (Figure 1). Physical examination revealed dullness to percussion and diminished breath sounds over the left lower lung field. Routine biochemical analyses and electrocardiogram were within normal limits. Erythrocyte sedimentation ratio was 20 mm/hour. Computed tomography of the thorax showed left-sided pleural effusion (Figure 2). Thoracentesis yielded exudative pleural effusion. The adenosine deaminase level of pleural fluid was within normal limits. Pleural fluid sample for acid-resistant bacilli was negative. The tuberculin skin test was positive. Bronchoscopic examination revealed normal endobronchial appearance. A video-assisted thoracoscopic exploration was performed. A pleural, yellowish 4 x 1.5 cm mass lesion was observed around the left costodiaphragmatic sulcus. Multiple pleural biopsies were made and the mass was totally removed from the pleura. Pleural biopsies were reported as chronic pleuritis. Pathologic diagnosis of the pleural mass was hydatid disease. Ultrasonography of the abdomen was normal. There were no complications in the postoperative period and the patient was discharged three days after the operation. The anthelmintic agent albendazole (10 mg/kg) was administered daily for three months postoperatively. Chest radiograph revealed no pleural effusion two months after operation (Figure 3).

## DISCUSSION

Hydatid cyst disease is a parasitic disease that has been known since the time of Hippocrates. Although it has been rare in developed countries, it is common in many sheep- and cattle-raising areas, notably Mediterranean countries, South America, the Middle East, New Zealand, and Australia (2). It remains endemic in Turkey and the incidence of hydatid disease is said to be 2/100,000 (4).



Figure 1: Chest x-ray shows left-sided pleural effusion.



Figure 2: Computed tomography of the thorax shows left-sided pleural effusion.



Figure 3: Chest x-ray shows no pleural effusion two month after operation.

Hydatid disease can be found in various tissues. The liver is the most commonly affected area in adults, followed by the lungs. In the Turkish population, 54 % of cases of hydatid disease involved the liver and 35 % affected the lung (4,5). The brain, kidney, heart, spleen, uterus, fallopian tubes, diaphragm, and muscles may be affected (1,2). Intrathoracic, yet extrapulmonary locations, are infrequent, with an occurrence rate of 7.4 % (1,6). To date, pleural hydatid cysts were reported to be the most common forms of intrathoracic yet extrapulmonary cysts with an incidence of 53-72 % (6,7). Pleural hydatid disease can be classified as primary and secondary pleural hydatidosis (1,8). Most of the previously reported pleural hydatid cysts have developed chiefly as a result of perforation of the cysts into the pleural area, and by diaphragmatic transmission. Primary pleural hydatid cysts are rarer than secondary pleural hydatid cysts (1). The current study reports a case of primary pleural hydatid disease.

Although hydatid disease usually produces various symptoms, they can be asymptomatic in 30 % of patients (3). In the cases of intrathoracic extrapulmonary cysts, preoperative diagnostic methods are not always reliable. Precise diagnosis usually occurs during surgical procedure (1). The present patient described chest pain and sweating; he presented with left-sided pleurisy. There was no preoperative suspicion of hydatid disease. Precise diagnosis was established postoperatively in the current case

Surgery is the treatment of choice for patients with intrathoracic hydatid disease. It is recommended either by open or endoscopic technique depending on the characteristics of the cysts and the patient. VATS removal of hydatid cysts can be done successfully (9). Medical therapy is useful when surgery is technically difficult or contraindicated due to high risk of morbidity or mortality (3,8). Albendazole (10 mg/kg) was administered daily for three months postoperatively (1,3). The pleural cyst was removed by video-assisted thoracoscopic surgery in our patient. He was administered Albendazole (10 mg/kg) daily for three months postoperatively.

In conclusion, although hydatid disease is endemic in Turkey, primary pleural hydatid disease is rare. Hydatid disease should be considered as a differential diagnosis of pleural effusions in endemic areas.

#### CONFLICTS OF INTEREST

None declared.

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