

## A Rare Case of a Giant Hydatid Cyst

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Kalp ve Damar Cerrahisi

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### Özet

Kist hidatik hastalığı, *Echinococcus Granulosus*'un neden olduğu sıklıkla karaciğer ve akciğerde kistlerle seyreden parazitik bir hastalıktır. Dev akciğer kist hidatiği, akciğerde büyük çaplara ulaşan ve ciddi komplikasyonlara neden olan klinik tablo olarak tanımlanır. Yazımızda non spesifik şikayetlerle hastanemize başvuran ve başarılı bir şekilde cerrahi uygulanan 18 yaşındaki lingula kaynaklı dev kist hidatik vakasını sunmaktayız.

**Anahtar kelimeler:** akciğer kist hidatiği, lingula cerrahi

### Abstract

Hydatid cysts are caused by the parasite *Echinococcus granulosus* and are usually characterized by cystic lesions of the liver and lung. A giant hydatid cyst can be defined as a huge, complicated lesion with possible severe systemic symptoms. We report an 18-year-old man admitted to the hospital with non-specific symptoms who was diagnosed with a lingular giant hydatid cyst and treated successfully with surgery.

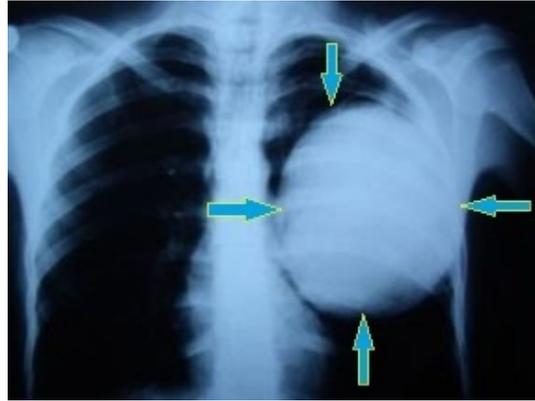
**Keywords:** pulmonary hydatid cyst, lingula surgery

### Introduction

Hydatid cysts are caused by the parasite *Echinococcus granulosus* and are usually characterized by cystic lesions of the liver and lung. Rarely, the cysts may be elsewhere in the body.<sup>1,2</sup> Hydatid disease is endemic in many countries, especially in Turkey, where the prevalence is 50–400 per 10<sup>5</sup> and the incidence is 3–4 per 10<sup>5</sup>.<sup>3</sup> Hydatid cysts can cause serious health problems, especially in eastern and southerneastern regions of Turkey where veterinary and preventive medical services are inadequate. Hydatid cysts may lead to severe complications by means of vital organ compression or rupture into the bronchus or pleural cavity. Because of these possible complications, hydatid cysts must be treated urgently.<sup>4-6</sup> We report the case of an 18-year-old man who was operated on for a lingular giant hydatid cyst occupying all of the left hemithorax.

### Case Report

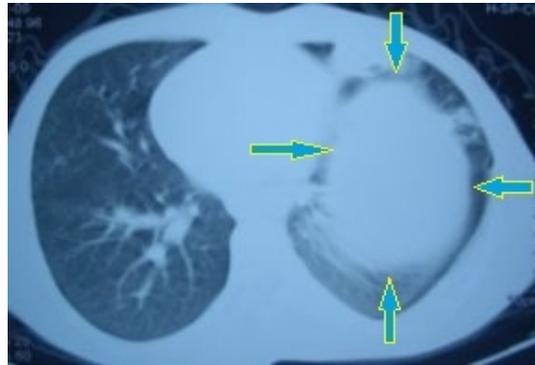
An 18-year-old male was admitted to State Hospital Hakkari with progressive chest pain on the left side, dry cough and progressive dyspnea, especially when lying down. He had had the complaint for about one year. No respiratory noises were heard in the middle and lower zones of the left hemithorax by auscultation. The physical examination was otherwise normal. The chest x-ray revealed a round, well-shaped lesion with dense homogeneous opacity filling the middle and lower lobes of the left lung, which could readily be distinguished from the lung tissue (Figure 1).



**Figure 1**

Preoperative chest x-ray

A giant cystic lesion, 12.5 × 13.5 × 10 cm in size, was observed in the left hemithorax upon spiral thorax computed tomography (CT) (Figure 2). Abdominal ultrasonography and brain CT revealed no other lesions.



**Figure 2**

Preoperative thorax CT. Parenchymal window

Surgical resection was decided upon as the best treatment choice. Under general anaesthesia, a muscle-sparing left thoracotomy was performed from the 5th posterior intercostal space. Surgical layers were passed by routinely until contact with the left thoracic cavity. The giant cyst was detected as resulting from the lingula (Figure 3).



**Figure 3**

Peroperative view of hydatid cyst

Routine cystectomy and capitonnage were performed. The resected cyst had a large, thick wall. Bronchial closure was applied to all bronchi in the cyst cavity. Due to the large size and possible long-term existence of the lesion, there was non-ventilated lung parenchyma. We performed a mandatory wedge resection. Especially thickened pleura decortication was lobta top. Postoperative recovery was uneventful with no complications, and the patient was discharged on the eighth postoperative day. Other than mild thoracotomy pain, the patient was asymptomatic,

and his control chest x-ray was normal (Figure 4).



**Figure 4**  
Postoperative chest x-ray

## Discussion

The lungs are the second most common part of the body, after to liver, to be affected by hydatid cysts.<sup>1,2</sup> The lung tissue is more elastic than other organs. This elasticity allows hydatid cysts localized in the lung to grow to an enormous size. A giant hydatid cyst is defined as a cyst with a diameter larger than 10 cm in any axis.<sup>5,6</sup>

Symptoms of a hydatid cyst may vary according to its localization, adjacent anatomical structures, the size of the cyst and whether it has ruptured. Most hydatid cysts in the lung are asymptomatic; however, giant and complicated cysts are generally symptomatic.<sup>7,8</sup> Cough, chest pain, dyspnea, haemoptysis, fever, expectoration of sputum with cyst fluid and skin rashes may be observed. Hypersensitivity reactions such as urticaria, bronchospasm and anaphylaxis may occur as a result of a rupture.<sup>5-8</sup> Our case had chest pain, dry cough and dyspnea, especially when lying down. Although the detected cyst occupied almost 60–65 % of the left lung, it was not ruptured, and the dyspnea was not serious.

Uncomplicated lung hydatid cysts are usually seen incidentally during a chest x-ray taken for another reason.<sup>7</sup> Radiological imaging is the most important diagnostic procedure. Chest x-rays and CT are often adequate for diagnosis.<sup>5</sup> However, final diagnosis can be made by pathological examination. An indirect haemagglutination test is widely used for the serological diagnosis of a hydatid cyst. Casoni skin and Weinberg complement fixation tests are not routinely used because of their high rates of false positives.<sup>5,6</sup> We made the initial diagnosis of our patient by chest x-ray and CT; however, the final diagnosis was made by pathological examination of the surgically resected specimen.

Hydatid cysts must be urgently treated because they can lead to severe complications by means of vital organ compression or rupture into the bronchi and/or pleural cavity.<sup>4</sup> Surgery is the primary treatment for hydatid cysts in the lungs.<sup>6</sup> Medical treatment is applied for uncomplicated cysts, in medically inoperable patients and in patients who will not accept surgery.<sup>8</sup> All of the parasitic material must be removed, and as much as possible of the lung parenchyma must be preserved. Parenchyma-protected cystectomy and capitonnage, pericystectomy and enucleation can be used as surgical procedures. The most commonly performed procedure is cystectomy and capitonnage, as performed in our case.<sup>4,6,8,9</sup> Anatomical resection should be avoided unless the lobe is seriously damaged.<sup>8</sup> However, tissue-sparing surgery is not always possible for a giant cyst. The pulmonary resection rate is 6.6–13 % for giant hydatid cysts.<sup>5,6</sup> The larger the diameter of the cyst, the more damage will have occurred to the lung parenchyma. Although the surgical procedure may be somewhat different, the basic principles remain the same.<sup>6</sup> In our case, we attempted to preserve the parenchyma; however, wedge resection was applied to the non-

ventilated damaged part of the lung because of the large size of the cyst. It has been recommended that medical treatment begin four days before surgery, although this is controversial for lung hydatid cysts because of the perforation risk. The entire treatment is at least one month with albendazole or three months with mebendazole.<sup>4,8</sup> Our patient was given albendazole for one month following surgery.

Hydatid cyst disease remains an epidemiological problem in endemic regions such as Turkey. This problem can be minimized by educating people at risk and by improving veterinary and preventive medicine in endemic regions. Parenchyma-protected surgery is not always possible with giant cysts, and there may be some difficulties in performing the surgery. Nevertheless, surgery is the primary treatment for a giant lung hydatid cyst.

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## Information Presentation

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