

Giant liposarcoma in hemithorax

Hemitoraksta dev liposarkom

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A 57-year-old female with obesity was admitted to the emergency service with the complaint of severe dyspnea and chest pain. Chest X-ray showed opacity occupying left hemithorax completely and the right mediastinal shift. Thoracic computed tomography indicated a heterogeneous density of a giant mass in the left hemithorax and right mediastinal shift. Complete surgical resection of the liposarcoma was performed. The pathological examination following surgery suggested pleural liposarcoma. In this article, treatment of pleural liposarcoma was discussed in the light of literature review.

Key words: Giant mass; pleural liposarcoma; surgical resection.

Liposarcomas are common soft tissue neoplasms found in adults that generally occur in the extremities and the retroperitoneum. Pleural liposarcomas are the rarest type with only a few cases having been reported in the literature. The first case of primary pleural liposarcoma was reported by Ackerman and Wheeler in 1942.^[1]

CASE REPORT

A 57-year-old obese female complaining of severe dyspnea was admitted for examination to our clinic. She complained of an inability to walk or lie down on her bed and also had a dry cough and left-sided chest pain. Auscultation revealed that there was no respiration sound in the left hemithorax. The patient had a breathing rate of 30 breaths/minute, and her arterial blood gas measurements were as follows: oxygen saturation (SaO₂): 80%, partial pressure of oxygen (PO₂): 91 mm/Hg, partial pressure of carbon dioxide

Obezitesi olan 57 yaşındaki kadın hasta, şiddetli dispne ve göğüs ağrısı yakınması ile acil servise başvurdu. Hastanın akciğer grafisinde sol hemitoraksı tamamen kapatan opasite ve sağ mediastinal şift saptandı. Bilgisayarlı toraks tomografisinde sol hemitoraksı tamamen dolduran ve mediastinal kaymaya neden olan heterojenik yoğunlukta dev kitle izlendi. Liposarkomun komplet cerrahi rezeksiyonu yapıldı. Cerrahi sonrası yapılan patolojik inceleme sonucu plevral liposarkom olarak bildirildi. Bu yazıda plevral liposarkom tedavisi literatür eşliğinde tartışıldı.

Anahtar sözcükler: Dev kitle; plevral liposarcoma; cerrahi rezeksiyon.

(PCO₂): 37 mm/Hg, hydrogen ion concentration (pH): 7.53, bicarbonate ion (HCO₃): 31 mEq/L. The patient's past history indicated that she had been diagnosed with coronary artery disease one year previously and had undergone coronary balloon angioplasty and stent replacement. The laboratory findings (blood and urine tests) were found to be within normal ranges. Chest radiography revealed a completely radiopaque left hemithorax and right mediastinal shift (Figure 1). A computed tomography (CT) scan of the thorax showed a giant mass in the left hemithorax. It was observed that it occupied the entire left pleural cavity and the mediastinum. In addition, it surrounded the thoracic aorta and invaded the lower part of the right posterior mediastinum (Figure 1). A preoperative true-cut biopsy was carried out for diagnosis; however, the result was negative. An endobronchial outer compression was detected in the left bronchial system by means of a



Available online at
www.tgkdc.dergisi.org
doi: 10.5606/tgkdc.dergisi.2012.186
QR (Quick Response) Code

Received: May 6, 2009 Accepted: May 3, 2010

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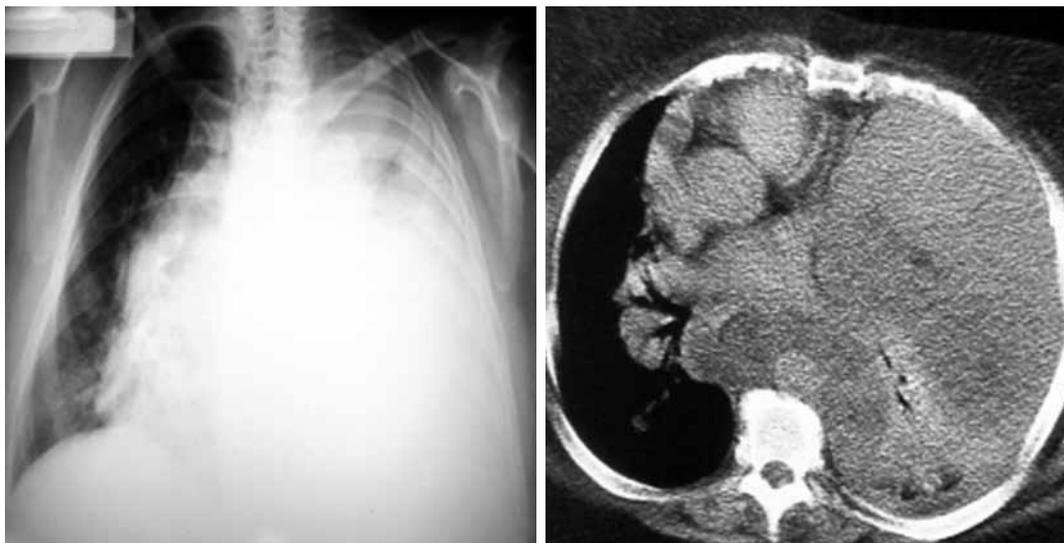


Figure 1. In the chest radiography, there was a completely radioopaque left hemithorax and right mediastinal shift. A computed tomography scan showed the thorax with a giant mass in the left hemithorax.

fiberoptic bronchoscopic examination, and a decision was made to perform an explorative thoracotomy. In the exploration, a solid mass was observed that filled up the entire hemithorax. The tumor mass biopsy was sent for frozen section examination, which was reported to be malignant. The tumor was found to be very close to the heart, mediastinum, and main vessels; however, there was no invasion. Subsequently, the tumor was stripped and removed, from the pleural cavity, along with an adventitial layer of the thoracic aorta, to reduce the pressure on the great vessels and the heart. The pathological specimen size was 20x10x6 cm, and the total weight was 2500 grams (Figure 2). It was multilobular and well encapsulated. The larger fragment was continuous with the inferior

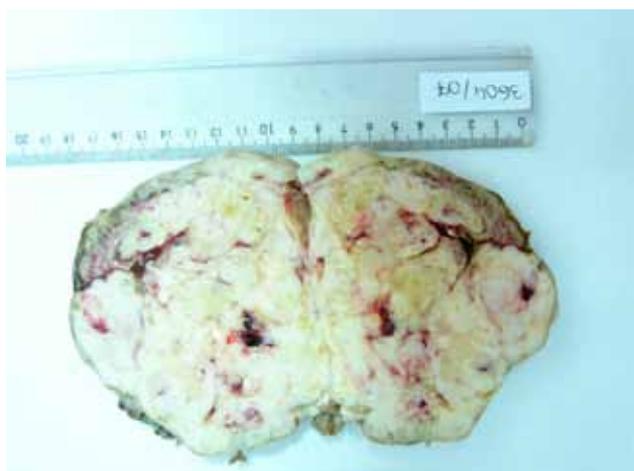


Figure 2. The pathological specimen size was 20x10x6 cm, and the total weight was 2500 grams.

ligament of the left lung and mediastinal pleura. A histological examination revealed a liposarcoma with a combination of well-differentiated and pleomorphic features. The postoperative course was very good, and, as a result, the patient recovered with no major complications and was discharged from the hospital after 12 days (Figure 3).

DISCUSSION

Liposarcomas account for 10-12% of soft tissue tumors in adults. The peak incidence occurs with



Figure 3. Postoperative chest radiography.

patients in their sixties.^[2] It has been found that liposarcomas frequently appear in the extremities and the retroperitoneum, but primary intrathoracic liposarcomas are quite rare. The tumor grows slowly within the pleural cavity and usually causes no symptoms or slight dyspnea. Heavy dyspnea appears when the tumor reaches a certain size, thus compressing the lung and causing pulmonary atelectasis and a shift of the mediastinum. Similar to other reports in the literature, the patient involved in this case study had effort dyspnea. Chest CT revealed a mass in the pleural cavity. Our research indicated that there have only been two previously reported cases which were similar to this one.^[3,4] In the CT investigation of these cases, it was found that the hemithorax was occupied by a giant mass, which caused a mediastinal shift. However, a dissimilar feature was found on CT that makes our case different from the others. The mass in the left hemithorax surrounded the thoracic aorta and invaded the lower part of the right posterior mediastinum. This resulted in the stripping of the tumor and its removal along with the adventitial layer of the thoracic aorta via a thoracotomy.

Seventeen cases of primary liposarcoma of the pleural cavity have been reported in the literature.^[3,4] These cases were 11 men and six women, aged 19 to 80 years, with an average age of 50 years old. The tumors were located in the right hemithorax in six patients and the left hemithorax in 10 patients (one patient was unknown). It was accepted that the most common therapy for these tumors was surgical resection. In the literature, 13 patients underwent a thoracotomy, four underwent adjuvant radiotherapy, and three had adjuvant chemotherapy. The tumor weights ranged from 0.54 to 4.460 grams.^[3,4]

Liposarcomas can be divided into four basic histological categories: myxoid, well-differentiated, round cell, and pleomorphic. This categorization system, as described by Enzinger and Winslow,^[5] correlates well with the prognosis. The overall five-year survival rate for liposarcomas as a group varies between 57 and 70%; however, it has been found that the myxoid and well-

differentiated liposarcomas have considerably higher survival rates than the round cell and pleomorphic types.^[5] In general, the recurrence of a mixed pattern liposarcoma may be expected in approximately 50% of the cases.^[6] In this case study, the histological examination revealed a liposarcoma with a mix of well-differentiated and pleomorphic features. The treatment chosen was radical excision since local recurrence is common. Several series indicated an increased rate of survival with a combination of surgery and radiotherapy.^[6,7] In our case, radiotherapy was schedule to be performed on the whole mediastinum; however, it could not be carried out owing to the heart disease of the patient. Since there is only limited knowledge available, it is difficult to predict the treatment outcomes and identify the prognostic factors. However, surgery for pleural liposarcomas is the procedure of choice.^[4]

Declaration of conflicting interests

The authors declared no conflicts of interest with respect to the authorship and/or publication of this article.

Funding

The authors received no financial support for the research and/or authorship of this article.

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