Giant pericardial cyst causing compression atelectasis of the lower lobe

Alt lobda bası atelektazisine neden olan dev perikard kisti

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Pericardial cysts are rare, congenital, and benign mediastinal lesions. These cysts are usually asymptomatic unless they reach large sizes. A 47-year-old man with a history of exertional dyspnea was admitted after radiographic detection of atelectasis in the right lower lobe of the lung. Multislice computed tomography of the thorax revealed a well-defined, thin-walled, fluid-filled, and homogenous cystic lesion, measuring 23 x 14 x 13 cm and causing atelectasis of the right lower lobe. A right lateral thoracotomy was performed to reach the cyst. A clear cyst fluid amounting to 1,700 ml was drained. The cyst was transparent and thin-walled and had no adhesion to the adjacent tissues. After drainage of the fluid, it was understood that the cyst originated from the pericardium. The cyst wall was resected without any pericardial injury. Histopathological diagnosis was reported as a pericardial cyst.

Key words: Mediastinal cyst/surgery; pulmonary atelectasis/etiology.

Perikard kistleri nadir görülen, benign mediastinal lezyonlardır. Bu kistler genelde büyük boyutlara ulaşmadıkça semptom vermezler. Kırk yedi yaşında erkek hasta egzersizle ortaya çıkan nefes darlığı yakınmasıyla başvurdu. Göğüs filminde akciğer sağ alt lobda atelektazi saptanması üzerine çekilen çokkesitli bilgisayarlı tomografide iyi sınırlı, ince duvarlı, içi sıvı dolu homojen bir kistik lezyon görüldü. Kistin büyüklüğü 23x14x13 cm idi ve yarattığı basıyla sağ alt lobda atelektazi oluşturmuştu. Kiste ulaşmak için sağ lateral torakotomi yapıldı ve kistten yaklaşık 1700 ml berrak bir sıvı boşaltıldı. Kistin şeffaf ve ince duvarlı olduğu görüldü; çevredeki komşu dokulara yapışıklığı yoktu. Sıvının boşaltılmasından sonra kistin perikarttan kaynaklandığı anlaşıldı. Kist duvarı perikarda zarar vermeden rezeke edildi. Histopatolojik tanı perikard kisti olarak kondu.

Anahtar sözcükler: Mediastinal kist/cerrahi; pulmoner atelektazi/etyoloji.

Intrathoracic mesothelial cysts are congenital lesions resulting from the abnormalities that occur during the development of the pericardial coelom. Primary mediastinal cysts comprise 19% to 25% of all mediastinal masses and they are mostly bronchogenic and pericardial cysts.[1,2] Pericardial cysts are usually asymptomatic, and are detected incidentally on chest X-rays as round and smooth lesions, the most common localization being the right cardiophrenic angle.[2] In this report, we presented a case of giant pericardial cyst causing atelectasis of the right lower lobe of the lungs, which is a rare finding.

CASE REPORT

A 47-year-old man with a history of dyspnea on exercise for a year was hospitalized after detection of atelectasis in the right lower lobe of the lung on a chest X-ray (Fig. 1a). On physical examination, arterial blood pressure was 120/70 mmHg, pulse rate was 84/min, and he did not have fever. Multislice computed tomography (CT) of the thorax revealed a well-defined, thin-walled, fluid-filled, and homogenous cystic lesion, measuring 23 x 14 x 13 cm and causing atelectasis of the right lower lobe by compressing it upward (Fig 1b-d). Radiologic density of the cyst was +4 Hounsfield units (HU). The lesion was located above the diaphragm, beneath the lower lobe of the lung, and on the left and right of the thoracic wall and heart, respectively. Because hydatid cyst was endemic in our region, we performed serological tests, but they were negative. A right lateral thoracotomy was performed to reach the cyst (Fig 2). A clear cyst fluid as much as 1,700 ml was drained. The cyst was transparent and thin-walled and had no adhesion to the adjacent tissues (Fig. 3a). After drainage of the fluid, it was understood that the cyst originated from the pericardium. The cyst wall was resected without any pericardial injury. Histopathological diagnosis was reported as a pericardial cyst (Fig. 3b).

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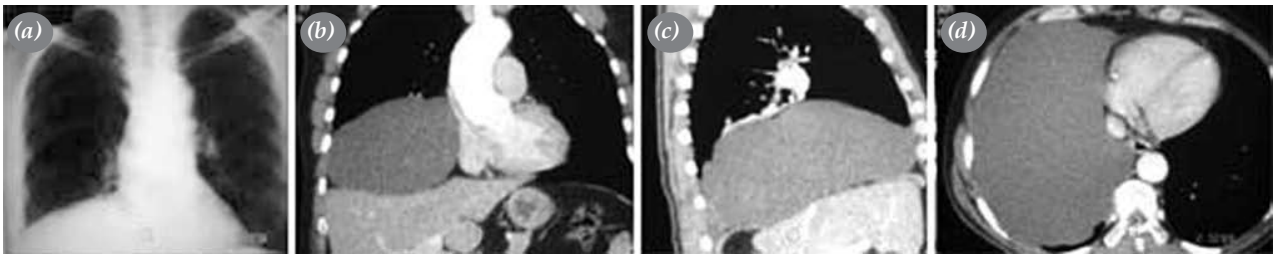

Fig. 1. (a) Plain chest X-ray shows right lower lobe atelectasis. Appearance of the cyst on **(b)** coronal, **(c)** sagittal, and **(d)** axial images of multislice computed tomography.

DISCUSSION

Pleuropericardial cysts are usually diagnosed in the fourth and fifth decades.[2] Their incidence was reported as 1/100,000.[1,3] More than 50% of pericardial cysts are usually asymptomatic and present no findings on physical examination unless they reach a considerable size to cause symptoms.[4] They are usually diagnosed incidentally on a chest X-ray obtained for other reasons. Various symptoms have been reported due to extremely large dimensions and varying localizations.[5] Symptoms that are not associated with compression may also be seen in the presence of infection, rupture, or intracystic hemorrhage. Erosion to the right ventricle wall and vena cava wall was reported in two separate cases, as well.[3,6] Thoracic CT scans usually show a well-defined, thin-walled, and fluid-filled cystic lesion with a density of 0-20 HU.[2] Although the classical anatomic localization is the right cardiophrenic angle, different intrathoracic localizations can be seen. Approximately 51-70% of the cysts are localized in the right and 22-38% are localized in the left cardiophrenic angle, while 8-11% may be found in the posterior mediastinum and hilar, right paratracheal, and paraaortic regions.[5]

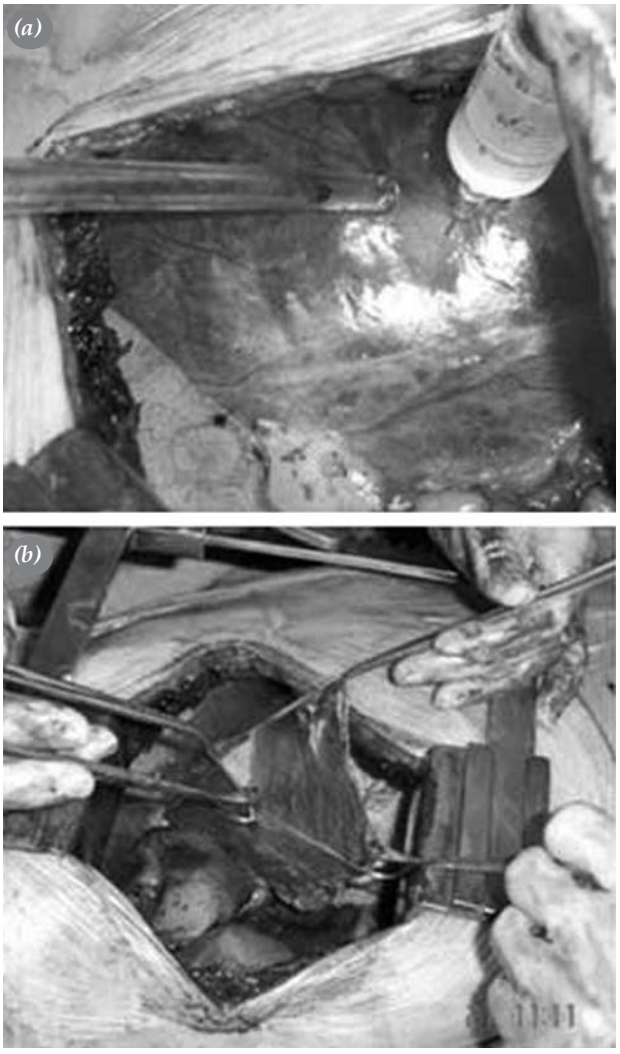

Fig. 2. (a) Intraoperative macroscopic appearance of the intact pericardial cyst and **(b)** its elevation from the pericardial cyst wall after fluid drainage.

In the differential diagnosis of these cysts, Morgagni hernia, pericardial fat pad, and tumors originating from the mediastinum, diaphragm, heart, or pericardium should be considered.[3]

The main surgical procedure for pericardial cysts is surgical resection by thoracotomy.[1-3] Videothoracoscopic resection may also be used for typical pericardial cysts that are not large.[7,8] In the presence of any life-threatening condition such as cardiac tamponade, heart insufficiency, or shock caused by extremely large cysts, needle aspiration may be lifesaving.[6]

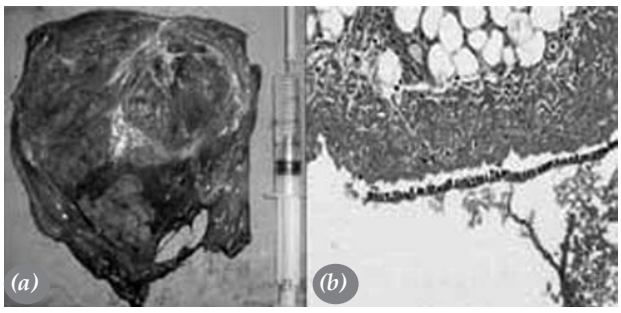

Fig. 3. (a) Postoperative macroscopic appearance of the cyst wall and cyst fluid. **(b)** Histopathological examination showed typical features of a pericardial cyst (H-E x 25).

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