Giant Pulmonary Hamartoma Causing Acute Right Heart Failure
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Giant pulmonary hamartomas are rare. We describe a case of a 59-year-old female patient with a giant chondroid hamartoma in the lower lobe of the right lung presenting with acute right heart failure. To the best of our knowledge such a unique presentation has not been previously described in the literature.

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Chondroid hamartomas are rare benign neoplasms of the lung [1]. They are usually small, solitary, circumscribed nodules with average dimensions of 2 cm, commonly found in the periphery of the lung. They are virtually always asymptomatic lesions incidentally discovered on routine chest radiography [2]. We present a case of large-sized pulmonary chondroid hamartoma with unique clinical presentation and operative findings.

A 59-year-old female banker presented with acute shortness of breath and bilateral ankle swelling of approximately 2 weeks’ duration; she reported no cough, hemoptysis, chest pain, weight loss, or fever. Her past medical history was unremarkable, and she was not on any regular medications. Examination revealed signs and symptoms of right heart failure with raised respiratory rate, elevated jugular venous pulse, bilateral ankle edema, hepatomegaly, and ascites. No palpable cervical or axillary lymph nodes were felt. Chest auscultation revealed absent breath sounds on the right side with wheezes and rhonchi on the left side. Arterial blood gases showed carbon dioxide retention and moderate hypoxia on air.

Chest radiograph and computed tomographic scan (Fig 1) demonstrated a large mass in the right hemithorax measuring 18 × 16 cm. The mass was thought to arise above the diaphragm and was displacing the liver inferiorly. It was also significantly displacing the heart and compressing the right atrium and the inferior vena cava. There was a small, left-side pleural effusion but no other abnormalities.

We proceeded directly to surgery. Bronchoscopy showed external compression of the distal bronchus intermedius with no endobronchial abnormality. A right thoracoabdominal incision was performed through the fifth intercostal space, where an approximately spherical, lobulate, gray-white mass with a maximal diameter of 20 cm was found; dissection showed it to be arising from within the right lower lobe and indeed replacing it (Figs 2, 3). It was adherent to but not invading all the surrounding structures, and the remainder of the hemithorax appeared normal.

The tumor was separated from surrounding structures using a combination of sharp and blunt dissection. The oblique fissure was well formed, and an uneventful right lower lobe resection was carried out.

Pathologic examination revealed a mass weighing 3.2 kg. Histologic sections revealed a blend of cartilage with focal calcification separated by fibrous bands in which mature adipose tissue and cleftlike structures lined by flattened respiratory epithelium were found, giving the features of chondroid hamartomas. There was no evidence of malignancy. She made an excellent recovery;

Fig 1. Preoperative computed tomographic scan shows mass in the right hemithorax significantly displacing the heart and compressing the right atrium and the inferior vena cava.

Fig 2. Right thoracoabdominal incision showing a massive, lobulated, gray-white mass replacing the right lower lobe.
the features of right heart failure disappeared immediately, and she was discharged home 6 days after surgery.

Comment

Pulmonary hamartomas are rare. Giant hamartomas are extremely rare. The size of these lesions ranges from 1 to 8 cm, and there have been only two published reports of a hamartoma more than three times the size of previously published data [3, 4]. Our tumor is almost three times the size of the usual range. Pulmonary hamartomas can be parenchymal (80%) or endobronchial (10% to 20%) in location, and this can affect the manner in which they present [5]. Parenchymal lesions are usually an incidental radiologic finding in the periphery, whereas endobronchial lesions are usually associated with hemoptysis and obstructive pneumonia [6]. Although pathologists commonly encounter tumorlike conditions, such as granulomas, infarcts, lymph nodes, and organizing pneumonia, a set of unusual proliferations encompassing inflammatory and fibrosing lesions also occur, and their clinical and radiologic overlap with malignant lesions sometimes necessitate resection. However, the distinct radiologic appearance of a pulmonary hamartoma (lobulated, “popcorn” calcification) can be diagnostic, therefore avoiding the need for resection. There is no evidence that the lesions undergo malignant transformation, so although follow-up could be considered, the likely radiation associated with this does not justify it [7, 8].

There have been no reports of hamartomas of any size or location causing symptoms of heart failure in the literature.

The symptoms caused by this hamartoma make it a unique presentation with potentially life-threatening consequences. Pulmonary hamartomas are benign lesions that can present with life-threatening conditions.

References