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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2008, 25(6):836–837

Thoracic Surgery Quiz – Case 4

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A 68 year-old man was admitted to the hospital for non productive cough for the last 8 months. He denied having any chest pain or fever.

On physical examination there were no abnormal findings. There were no palpable lymph nodes and the rest of the examination was normal. Chest X-ray revealed a persistent area of opacity paravertebral on the left.

His medical history included diabetes mellitus and hypertension under treatment with hypoglycemic drugs and an ACE inhibitor, respectively. Eight months before, he was admitted to another hospital with the same symptoms. He underwent a chest CT scan, which showed dense collapse on the left lung paravertebrally (figures 1, 2). He was given antibiotics for 2 weeks and the CT scan was repeated 8 weeks later, with the same findings and no clinical improvement, as the cough persisted. An MRI scan was then suggested. The images suggested pulmonary embolism.

On bronchoscopy an ectopic bronchus was found with a carina at the membranous part of the left main bronchus (fig. 3). Thus, in the thought of pulmonary sequestration the patient underwent a three dimensional dynamic contrast-enhanced MR angiography in order to reveal the abnormal blood supply and the origin of the supplying vessel from the aorta (fig. 4).

Treatment consisted of left thoracotomy and segmental resection of the pulmonary sequestration (fig. 5). Pathologic examination of the specimen confirmed the diagnosis.

Comments

Pulmonary sequestrations are masses of lung parenchyma that arise through abnormal budding of the caudal embryonic foregut and consequently have no bronchial communication with

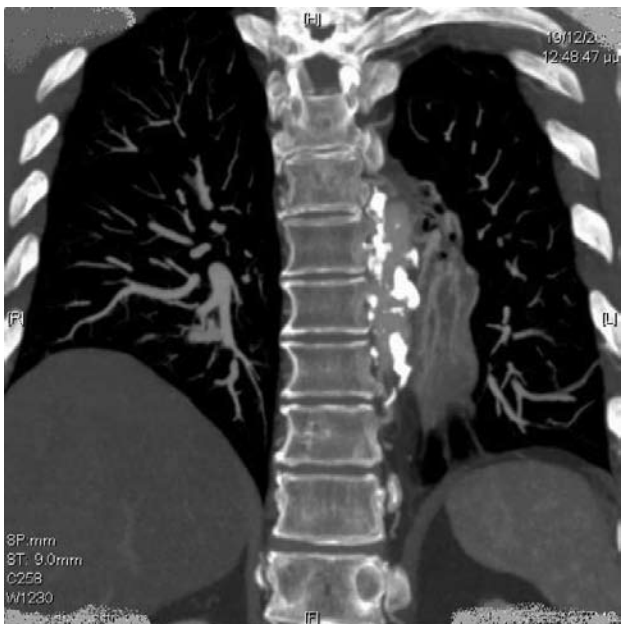

Figure 1

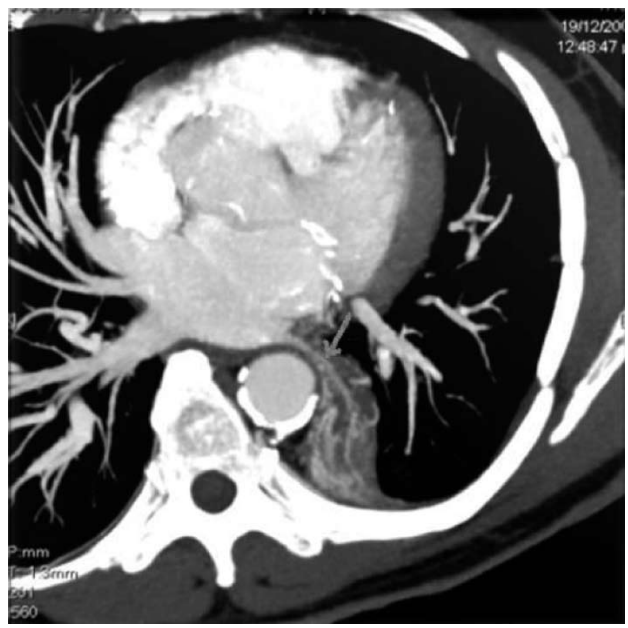

Figure 2

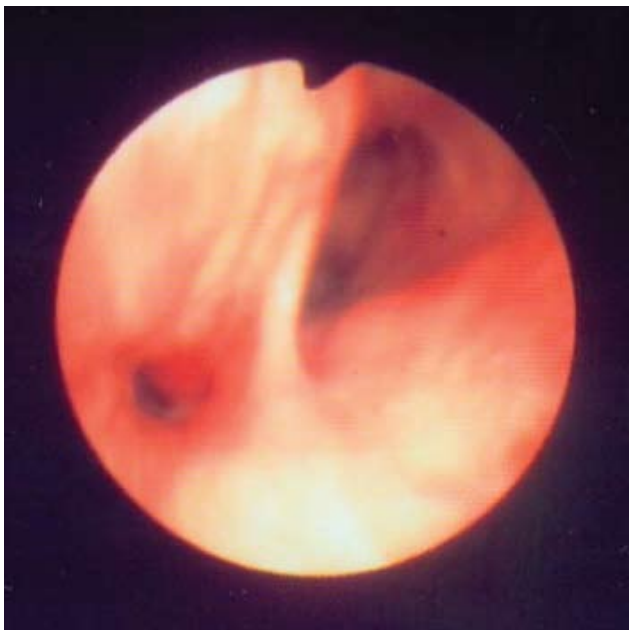

Figure 3

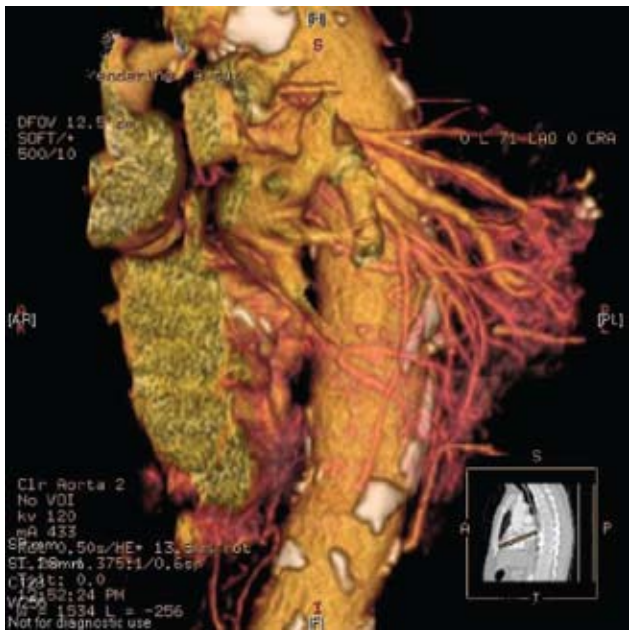

Figure 4

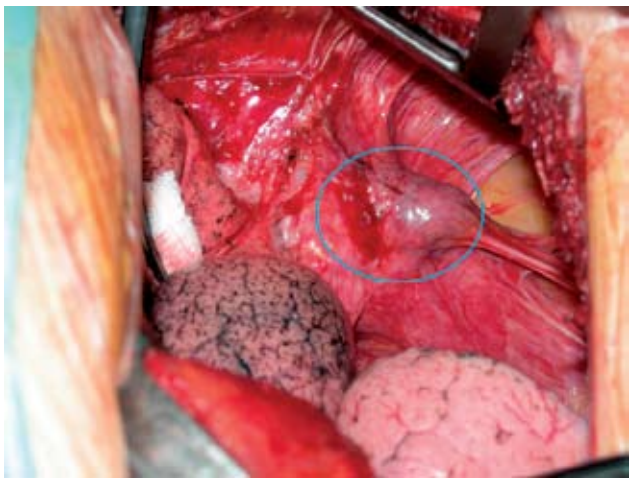

Figure 5

the otherwise normal tracheobronchial tree. Sequestration occurs in the lower chest, most often on the left, adjacent to the mediastinum. Rarely may it occur in the upper or middle lobes or even below the diaphragm. Pulmonary sequestrations have ectopic blood supply from the systemic arteries, aorta, rather than pulmonary arteries.

There are two different types of sequestration, intralobar and extralobar. Intralobar lesions drain through the pulmonary veins, are in communication with the tracheobronchial tree and are prone to infection and lung abscess formation. Extralobar lesions drain to the azygous venous system, do not communicate with the airways and are asymptomatic. Rarely patients may present with hemoptysis or congestive heart failure from left-to-right shunts through the sequestration.

The diagnosis is identified in uterus via an abnormal artery in ultrasound. It is usually suspected on chest x-ray and confirmed with chest CT scan. The gold standard for diagnosis is pulmonary angiography. Nowadays a three dimensional dynamic contrast-enhanced MR angiography is used to determine the blood supply as a less invasive procedure.

Treatment consists of segmental resection, or if necessary, lobectomy. Following successful resection, the prognosis is perfect.

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Diagnosis: *Pulmonary sequestration on the left lower lobe*