
Extra thoracic Pulmonary Sequestration

To the Editor:

I am writing to clarify the anatomic location allocated to the above extralobar pulmonary (ELP) sequestration as described by Ke et al1 in the July, 1993, issue of Chest. The authors describe it and locate it in the anterior mediastinum. Figure 2 from the article shows the lesion to be located posterior to the superior vena cava and anterior antero-superior to the origin of the right main bronchus. This places the lesion truly in the visceral or middle mediastinal compartment.

The classic divisions of the mediastinum are anterior, middle (visceral), and posterior. All compartments extend from the thoracic inlet above, to the diaphragm below, and the lateral limits of the compartments are the mediastinal surfaces of the parietal pleura bilaterally.

The classic anterior mediastinum is bounded in front by the undersurface of the sternum and posteriorly by an imaginary line that follows the anterior surface of the pericardium and then the anterior surface of the great vessels upwards to the thoracic inlet.

If the classic anatomic compartments are respected, then the differential diagnosis of this retrocardiac structure is not immediately thymoma or teratoma as cited by the authors. Commonly mediastinal lymphadenopathy presents in this location and the differential diagnosis includes lymphoma, carcinoma, or granulomatous node enlargement or Castleman’s disease (giant lymph node hyperplasia). A parabronchial carcinoid tumor is another possibility.

I commend the complete and careful work-up including exploratory surgery as indicated. Given the retrocardiac and para-tracheal location of this lesion, a case could have been made for mediastinoscopy, but it might well have resulted in a serious hemorrhage if undertaken to investigate a vascularized ELP sequestration.

The authors strongly make the point that ELP sequestration is rarely found in the anterior mediastinum. I would argue that this lesion is in the middle mediastinum, receiving its aberrant arterial supply from the adjacent aorta.

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REFERENCE


To the Editor:

I would like to reply to Dr. Conlan’s comments on my article (Chest 1993; 104:303-04). Dr. Conlan argues that a retrocardiac lesion (the location of extralobar pulmonary [ELP] sequestration in our reported case) would appear to lie in the middle mediastinum instead of in the anterior mediastinum.

By and large anatomic subdivisions of the mediastinum are based on lateral roentgenograms of the chest. Certain arbitrary divisions of the mediastinum have been made for convenience in locating specific types of lesions.

Classic anatomy divides the mediastinum into superior and inferior compartments by an imaginary line extending from the sternal angle to the fourth intervertebral disc; the inferior compartment is further subdivided into anterior, middle, and posterior compartments. The superior mediastinum has been excluded recently, since it contains structures that are for the most part continuous with the compartments below; thus this division is of little predictive or diagnostic value.

In this modified traditional classification, the anterior (prevascular) mediastinum is bounded anteriorly by the sternum and posteriorly by the pericardium, aorta, and brachiocephalic vessels. The posterior (postvascular) mediastinum is bounded anteriorly by the pericardium and posteriorly by the bodies of the thoracic vertebrae. The middle (cardiovascular) mediastinum lies between the anterior and the posterior compartments.

A classification of mediastinal anatomy is used in popular textbooks of thoracic surgery.2,3 The anterior (anterosuperior) mediastinum is bounded anteriorly by the sternum, inferiorly by the diaphragm, and superiorly by the first rib. Posteriorly, it is bounded by the anterior vertebral bodies above the base of the heart and by the anterior pericardium below the base of the heart.

A classification of mediastinal anatomy is used in popular textbooks of chest radiology.4 In this classification, the anterior and the middle mediastinum are divided by a line that extends along the back of the heart and the front of the trachea.

Whether a lesion located posterior to the superior vena cava and anterior to the trachea is allocated in the anterior (or anterosuperior) or in the middle mediastinum is dependent on what classification is used. Notice that this lesion resides in the anterior (anterosuperior) mediastinum of two of these classifications but is in the middle mediastinum of the third. I do agree with Heitzman5 that a more anatomically accurate classification of mediastinal anatomy should be used.

Clinically, I do agree with Dr. Conlan that the differential diagnosis may include mediastinal lymphadenopathy resulting from lymphoma, metastatic tumor, or granulomatous inflammation in addition to thymoma and teratoma with regard to a retrocardiac lesion. I like to emphasize that ELP sequestration, however, is rarely found in the anterior mediastinum or even in the middle mediastinum.

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