Pulmonary Sequestration
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Section: Chest imaging
Technique: CT
Technique: MR
Case Type: Clinical Cases
Authors: T. Weits, A.M.G. Hendriks
Patient: 22 years, female

Clinical History:

Short history of recurrent pulmonary infections, progressive dyspnea and cough. No asthma, allergy or tuberculosis in the past. Smoked 25 cigarettes per day for several years.

Imaging Findings:

The patient, with a short history of recurrent pulmonary infections, progressive dyspnea and cough was admitted to the hospital. No asthma, allergy or tuberculosis in the past was reported, but she had smoked 25 cigarettes per day for several years. On physical examination no abnormalities were found. Laboratory tests revealed a slightly increased sedimentation rate and a normal white blood cell count. Further investigation included chest radiograph, CT scan of the chest, and digital subtraction angiography (DSA).

Discussion:

Pulmonary sequestration is a congenital pulmonary malformation in which a portion of nonfunctioning bronchopulmonary tissue is separated from the rest of the lung parenchyma. It always has an anomalous blood supply arising from the systemic arterial circulation. The anomaly may be intralobar or extralobar. A pulmonary sequestration is intralobar when its pleural envelope is in continuity with that of the rest of the lung. This type of sequestration is usually located above the diaphragm, in the posterior segment of the left lobe. In exceptional cases it can be found in the anterior segment of the right upper lobe. The anomaly is seldom bilateral. Radiologically, it manifests as single or multiple air-filled cavities or partially filled cystic lesions at the base of the lung. It is usually discovered on a routine chest radiograph, or when complications occur such as infection or hemoptysis. Sequestration, regardless of the type, almost invariably derives its arterial supply from the systemic circulation, most often from lower thoracic and upper abdominal aorta, or its branches. The diagnosis is confirmed by demonstrating an abnormal artery arising from the aorta or its branches, supplying the involved segment. The venous return is pulmonary in intralobar sequestrations.

Differential Diagnosis List: Pulmonary sequestration

Final Diagnosis: Pulmonary sequestration

References:

**Description:** Chest radiograph (PA - view), shows large thin-walled cavities in the left lower lobe, sharply demarcated from the adjacent normal parenchyma. In some of the cavities fluid levels are seen.

**Origin:**
Description: CT scan (section through the lower lobes), demonstrates multiple thin and thick-walled cysts occupying the left lower lobe. Several air-fluid levels are seen within the cysts. Origin:
Description: Arterial DSA of the lower thoracic and upper abdominal aorta, shows the celiac trunk with an aberrant artery on the left side running superiorly and to the left. Origin:
Description: Selective injection of the aberrant arterial branch arising from the celiac trunk, penetrating the diaphragm, and supplying the left lower lobe. Subsequently bronchoscopy was performed. Endobronchial biopsies revealed no malignancy. Consecutively the patient underwent lobectomy of the left lower lobe. An intralobar sequestration of 12 cm diameter was removed. Pathohistology confirmed the diagnosis. Origin: