Azygos lobe as an incidental finding
Published on 06.03.2016

DOI: 10.1594/EURORAD/CASE.13436
ISSN: 1563-4086
Section: Chest imaging
Area of Interest: Thorax
Procedure: Diagnostic procedure
Special Focus: Congenital Case Type: Clinical Cases
Authors: Benitez-Rivero, Sonia; Eiroa Gutierrez, Daniel; Vazquez Sanchez, Victor; Nuñez Vila, Nimar; Bello Baez, Adan

Patient: 68 years, male

Clinical History:
A 68-year-old man presented with a medical history of diabetes mellitus and high blood pressure. He was admitted in November 2015 to the ER as a code stroke, after developing a few hours before an acute episode of left sensorimotor deficit. Apart from the brain CT, he underwent a routine chest radiography.

Imaging Findings:
In the chest radiography the mediastinum and the pleuro-parenchymal space were normal, except for the presence of a calcified pulmonary nodule in the medium lobe. We incidentally noticed the presence of an azygos lobe.

Discussion:
The azygos lobe is a congenital variant which has been described in 1% of subjects and in about 0.4% of chest radiographs [1-3]. This variant is the result of a failure in the migration of the posterior cardinal vein, a precursor of the azygos vein, from the thoracic wall to its normal location in the tracheobronchial angle. When this migration does not occur, the azygos vein remains inside the right upper lobe, which expands upwards, surrounding the ectopic vein and leaving a deep lung fissure containing the azygos vein at its caudal region. Given that the vein is initially extrapleural, when it penetrates the apex, both the parietal and visceral pleural layers are carried along and cover both sides of the fissure. The consequence is the entrapment of a portion of the right upper lobe by the azygos vein, which is called ‘azygos lobe’. As it has no bronchi, veins and arteries of its own, it is not a true pulmonary lobe, but rather an anatomically separated part of the upper lobe [1,2].

On the chest radiograph, 4 structures can be noticed in the right upper pulmonary field: 1) the shadow of the azygos vein; 2) the previously mentioned fissure that crosses the apex of the right lung, constituted by the apposition of the two layers of visceral pleura and by the two layers of parietal pleura (these two internal layers are known as mesoazygos); 3) the azygos lobe, which represents the portion of the right upper lobe trapped by the previously mentioned structures; 4) a triangular area in the upper portion of the fissure (trigonum parietale) near the thoracic wall, where the mesoazygos continues with the costal pleura [1] (Figure 2).

The azygos lobe is usually an incidental finding on chest x-ray or computed tomography. In the chest radiograph, it is usually well limited by the azygos fissure, represented as a fine, convex line that crosses the apex of the right lung. CT images give a more accurate representation of this lobe and its relations with the mediastinum. Although the azygos lobe is not associated with any morbidity, its presence may compromise the success of thoracoscopic
operations or sympathectomy and increase the risk of these procedures. Recognition of the anomaly is, therefore, important [3].

**Differential Diagnosis List:** Incidental finding of azygos lobe, Right Upper Lobe Atelectasis, Enlarged Paratracheal Lymph Nodes, Tortuous Supraaortic Vessels

**Final Diagnosis:** Incidental finding of azygos lobe

**References:**


Description: Presence of an azygos lobe. Origin: Radiology Department, Nuestra Señora de Candelaria University Hospital, Tenerife, Spain.
Figure 2

Description: Presence of an azygos lobe. Note the trigonum (arrowhead), the fissure (arrows) and the azygos vein (open arrow). 

Origin: Radiology Department, Nuestra Señora de Candelaria University Hospital, Tenerife, Spain.