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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2020, 37(2):286–287

Medical Imaging Quiz – Case 60

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A 39-year-old woman presented with a history of chest discomfort and persistent cough for a week and fever for the last two days. Past medical history included hypercholesterolemia. Clinical examination revealed body temperature 39.5 °C, $SatO_2$ 94%, and pathological auscultatory sounds. Chest x-ray revealed consolidation of the upper lobe of the left lung. Computed tomography (CT) scan confirmed atelectasis of the upper left lobe and after contrast medium enhancement pathological appearance of the left pulmonary artery was recognised.

Comment

Pulmonary arterial aneurysm (PAA) is considered a rare entity and infrequently diagnosed (1 in 14,000 to 100,000). PAAs generally occurred in a younger age group than aortic aneurysms. Most of all PAAs were located in the main PA, whereas only 12% were located in the pulmonary branches with left PA being the most common.

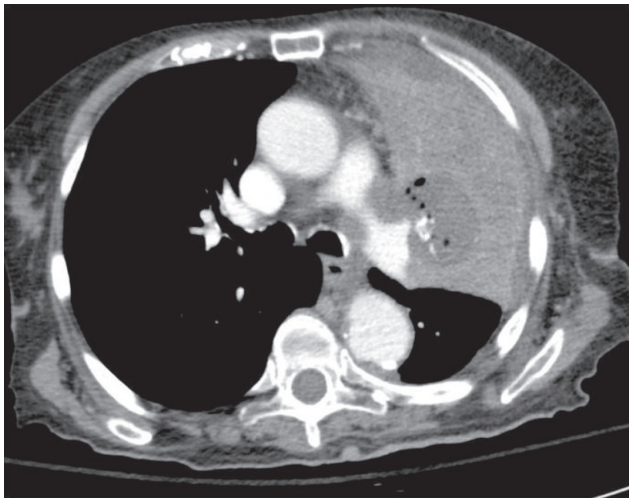
An aneurysm refers to a focal dilatation of the pulmonary arterial system. A true pulmonary artery aneurysm results from dilatation of all three layers of the vessel wall while a pulmonary artery pseudoaneurysm does not involve all layers of the arterial wall. In CT, the upper limit for adults of the main PA diameter is 29 mm, and the upper limit of the interlobar PA is 17 mm.

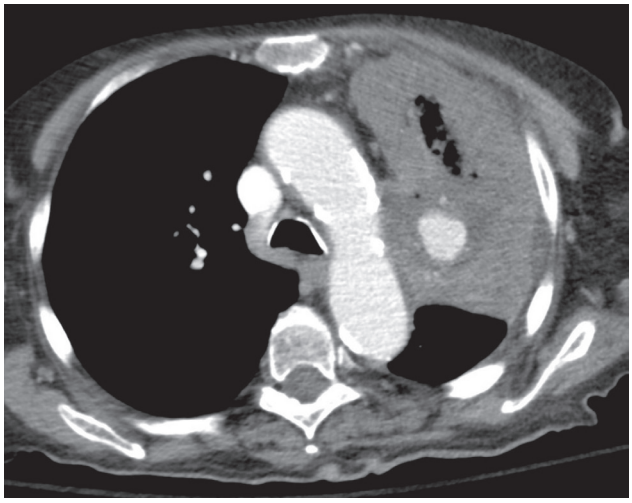
Various origins of PAA have been described, including congenital causes, acquired causes (vascular, infectious, traumatic, autoimmune), and idiopathic PAA.

Idiopathic PAA formation is rare, but an increasing number of cases are being reported in the literature. Four pathological criteria have been defined for idiopathic PAA: Simple dilatation of the pulmonary trunk with or without involvement of the rest of the arterial tree, the absence of intracardiac or extracardiac shunts, the absence of chronic cardiac or pulmonary disease, and the absence of arterial disease such as syphilis or more than minimal atheromatosis or arteriosclerosis of the pulmonary vascular tree.

Clinical manifestations are non-specific and most patients remain asymptomatic. Clinical symptoms include dyspnea, chest pain, hoarseness, palpitation, and syncopal episodes. Bronchus compression may be responsible for cyanosis, cough, and increasing dyspnea, pneumonia, fever, and bronchiectasis.

During auscultation, a systolic heart sound is generally present. Plain radiographic features are non-specific and PAA may appear as a hilar enlargement, a lung nodule, or a pulmonary mass. Diagnosis is confirmed by contrast-enhanced CT and provides useful information on size, number, location, and extent of the PAA.





Figures 1, 2. Contrast enhanced computed tomography (CT) scan showing atelectasis of upper left lobe and left pulmonary artery aneurysm.

Optimal treatment of PAA remains uncertain. There is no clear guideline for the best therapeutic approach, and there is limited experience because of the infrequency of the disease.

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