

"Idiopathic" pulmonary artery aneurysm. An unusual chest X-ray finding of parahilar opacity

Clinical Case Portal

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Abstract

A 62-year-old man was admitted for investigation of an unusual chest X-ray finding of parahilar opacity. Echocardiographic and angiographic examinations detected huge aneurysm of the pulmonary artery. Other examinations did not find any primary disorder that could cause this aneurysm. The diagnosis of idiopathic pulmonary artery aneurysm was made. On the basis of current knowledge with the absence of straightforward guidelines regarding therapy of this unique pathology we did not indicate surgical correction of this clinically asymptomatic aneurysm.

Case Report

Patient history prior to current observation :

A 62-year-old man was admitted after a chest X-ray finding of parahilar opacity.

In 1963 he was treated for pulmonary tuberculosis. In 1969, he underwent left-sided nephrectomy because of tuberculosis. He had no other manifestation of tuberculosis during a 20 year follow-up. He never experienced any kind of trauma. In February 2002 he was admitted to the district hospital for acute heart failure due to rapid atrial fibrillation. The signs of heart failure disappeared after diuretics and heart rate control with beta-blockers. Electrical cardioversion was repeatedly unsuccessful. The chest X-ray revealed a huge (6-7cm) left parahilar opacity of unknown origin. Due to this finding the patient was referred for investigation to our department.

Clinical findings on admission, evolution and outcome :

At admission the patient was asymptomatic. Physical examination revealed a blood pressure of 160/80mmHg, respiratory rate of 16 breaths per minute, and irregular cardiac rhythm at a rate of 80 bpm. No cyanosis was present. Lung auscultation was normal. Cardiac auscultation confirmed arrhythmic but otherwise normal heart sounds, with no murmurs. ECG revealed atrial fibrillation and left anterior hemiblock. Chest X-ray showed a non-significant left sided pachypleuritis, and confirmed the above mentioned left parahilar opacity (fig. 1).

Transthoracic and transesophageal echocardiography showed the aneurysmatic dilatation of pulmonary artery with maximal diameter of 7,7 cm (fig. 2). There were no signs of pulmonic stenosis, and only mild pulmonic regurgitation with end-diastolic pressure gradient of 8 mmHg, suggesting normal or slightly elevated pulmonary pressure. Both ventricles were non-dilated, with normal wall motion. Both atria were dilated. Only mild mitral regurgitation was present. There were no signs of intracardiac shunt.

On cardiac catheterization, pulmonary artery pressures were 24/20 mmHg. Pulmonary capillary wedge pressure was 15 mmHg, most probably as a result of atrial fibrillation, and right atrial pressure was 6 mmHg. No gradient was found on pulmonic valve. Coronary angiography was normal. No signs of left-to-right shunt were found. Right ventricular angiography showed a huge aneurysm of the pulmonary artery (fig. 3). This finding was also confirmed by CT scan (images not available).

Further investigations did not show any disorder that could lead to the aneurysmatic dilatation of the pulmonary artery. We did not find any sign of systemic disease, vasculitis, significant pulmonary disease or shunt lesion. Therefore, the diagnosis of idiopathic aneurysm of the pulmonary artery was made. As the aneurysm was asymptomatic, we decided not to refer the patient for surgical correction. We started oral anticoagulation therapy. The patient is now under regular 6-months follow-up, still asymptomatic. CT exams do not show any progression of the aneurysm.

Conclusion

The aneurysm of the pulmonary artery is a rare clinical finding. It usually develops in consequence of pulmonary hypertension of various origin – congenital or acquired cardiac disorders. Most patients with secondary pulmonary artery aneurysm die because of the rupture of the aneurysm. Other factors that could lead to the aneurysmatic dilatation of the pulmonary artery are various infections (syphilis, pneumonia), systemic diseases, connective tissue disorders, Marfan syndrome and chest trauma. However, in some cases the underlying pathology cannot be identified and these aneurysms are called idiopathic.

Surgical correction is the method of choice in the treatment of symptomatic pulmonary artery aneurysm. However, there is no consensus regarding the treatment of asymptomatic aneurysms in current literature. There are some case reports suggesting conservative approach to such affected patients especially in cases without pulmonary hypertension and in the absence of the underlying left-to right intracardiac shunt lesion. Therefore we decided to manage our patient conservatively with regular follow-up by using CT scans.

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Fig. 1 :

[Idiopathic pulmonary artery aneurysm Chest X-ray](#)

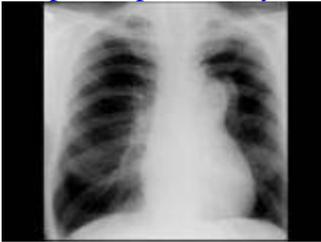


Fig. 2 :

[Idiopathic pulmonary artery aneurysm TOE](#)



Fig. 3 :

[Idiopathic pulmonary artery aneurysm Right ventricular angiography](#)

