Unique case of acquired pulmonary arteriovenous malformation developed by calcific constrictive pericarditis

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DESCRIPTION
A 58-year-old woman admitted to evaluate the symptoms of right-sided heart failure with slight ascites and peripheral oedema lasting more than 6 months. Her medical history revealed that she had been affected by pleuritis when she was 34 years old, and be diagnosed as constrictive pericarditis documented by right ventricular pressure tracings showing dip-and-plateau pattern at 50 years. The chest x-ray (lateral view) demonstrated extensive pericardial calcifications from the anterior to inferior side of the heart (figure 1) and newly visible mass in distal site of right middle lobe of lung. The mass had not been detected 2 years before. Three-dimensional reconstruction of CT showed the pulmonary arteriovenous malformation (PAVM) that measured 42×33 mm diameter in distal site of segment 5 (figure 2 and video 1).

PAVM was first reported by Churton in 1987.1 More than of PAVMs are congenital, and 60% of congenital have been associated with Osler-Weber-Render disease or hereditary haemorrhagic telangiectasia. Meanwhile many of acquired PAVMs are associated with the mitral stenosis, of which high pulmonary vascular resistance seems to contribute to the developing of PAVM. Killian reported that pulmonary hypertension was present more than 50% in constrictive pericarditis after cardiac surgery.2 Pulmonary artery pressure in PAVM is generally normal or low, so PAVM works as a function of low-resistance circuit to evacuate high blood pressure in pulmonary vascular resistance with constrictive pericarditis.

To the best of our knowledge this case is the first literature describing acquired PAVM secondary to constrictive pericarditis.
Learning points

▸ Constrictive pericarditis could be a cause of acquired pulmonary arteriovenous malformation.
▸ The presence of pulmonary arteriovenous malformation (PAVM) should be evaluated in the constrictive pericarditis.
This case describes a link between PAVM and constrictive pericarditis.

Video 1  The newly developed pulmonary arteriovenous malformation was animated in distal site of right middle lobe of lung.

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REFERENCES