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Images in Congenital Cardiac Disease

Kinking of the main stem of the left coronary artery in the setting of Eisenmenger syndrome: an unusual cause of angina pectoris

Patrice Guérin, Karine Warin-Fresse, Dominique Crochet

Institut du Thorax, Centre Hospitalier Universitaire Nantes, France

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A 48-YEAR-OLD WOMAN, PREVIOUSLY DIAGNOSED with a ventricular septal defect and Eisenmenger syndrome, presented with a history of chest pain suggestive of angina pectoris, which was present both at rest and on exercise. Thallium scintigraphy showed a large and reversible area of ischaemia in the anterior wall (Fig. 1 – arrow). Cardiac catheterization confirmed Eisenmenger

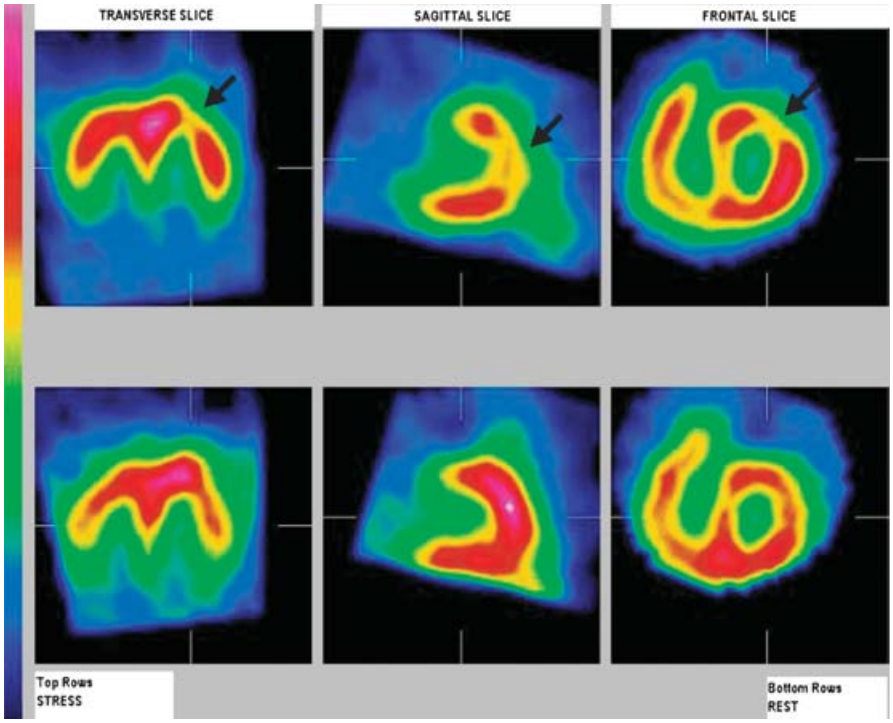

Figure 1.

Correspondence to: Patrice Guérin, Centre Hémodynamique, Institut du Thorax, Centre Hospitalier Universitaire de Nantes. Hôpital Guillaume et René Laënnec, Boulevard Jacques Monod, 44093 Nantes, France. Tel: +33 2 40 16 55 89; Fax: +33 2 40 16 55 73; E-mail: patrice.guerin@chu-nantes.fr

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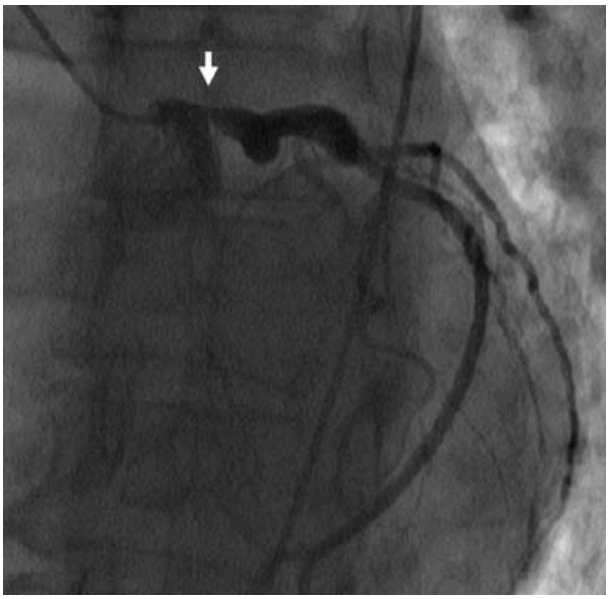

Figure 2.

syndrome, with systemic pressures in the pulmonary arteries. On coronary angiography, there was a stenosis in the proximal part of the main stem of the left coronary artery, apparently due to kinking (Fig. 2 – arrow). Multislice computed tomography (Fig. 3a: multiplanar reconstruction in frontal view) confirmed that the main stem was kinked under the right pulmonary artery. An axial view (Fig. 3b), with transverse sections (white arrows) across the stenosis (3c), and reference segments (3d), further characterized the unusual stenosis. In the three dimensional reconstruction (Fig. 3e), a massively dilated right pulmonary artery (RPA) is seen to be compressing the main stem of the left coronary artery (black arrow).

We believe this is the first demonstration, using multislice computed tomography, of compression of the left coronary artery by the right pulmonary artery causing myocardial ischaemia in the setting of Eisenmenger syndrome. We suggest that

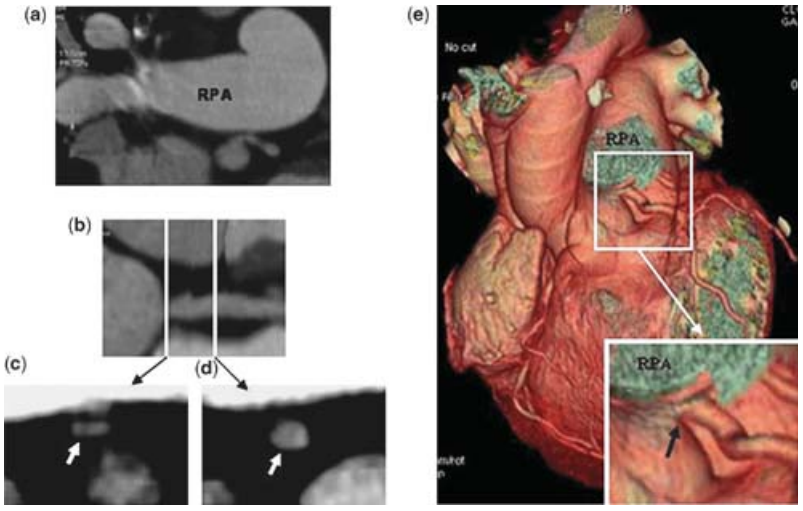

Figure 3.

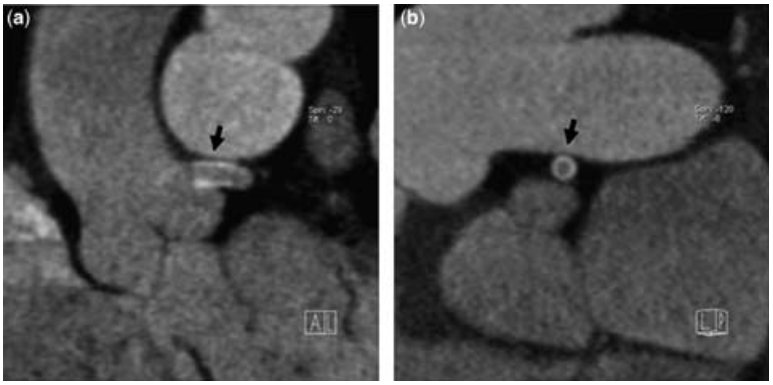

Figure 4.

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displacement of the left ventricle by the enlarged right ventricle causes rotation of the aorta, bringing the left coronary artery to lie below the origin of the enlarged right pulmonary artery. After angioplasty, with stenting of the left coronary artery, the chest pain disappeared. Thallium scintigraphy and multislice computed tomography (Fig. 4a, b) were both normal one month later, with no residual compression of the left coronary artery (black arrow).

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