Clinical vignette

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Left main coronary artery aneurysm revealed by syncopal ventricular tachycardia in a 28-year-old woman

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A 28-year-old woman was referred to our department with a syncopal sustained ventricular tachycardia with right bundle branch morphology. She was diagnosed with a pericarditis when she was 2 years old, and related an episode of palpitations five years ago. After electrical cardioversion of ventricular tachycardia, her 12-lead electrocardiogram revealed a normal sinus rhythm at 70 beats/min without any sign of myocardial ischaemia, no sign for arrhythmogenic right ventricular dysplasia or Brugada disease, or long QT interval. A chest radiograph showed an enlarged cardiac shadow without evidence of congestive heart failure. Transthoracic echocardiography showed an enlarged left ventricle with global hypokinesis, a calculated left ventricular ejection fraction of 40%, and akinesis of inferior and lateral walls. Delayed gadolinium-enhanced cardiac magnetic resonance imaging (Panels A and B) demonstrated hyperenhancement of a large subendocardial area. This area was limited to 50% of the ventricular wall thickness and located in the inferolateral wall at basal and mid-ventricular levels. The enhancement pattern was characteristic of a coronary artery distribution in the circumflex artery territory. On a subsequent coronary angiography (Panels C and D), the angiogram revealed a 12 mm fusiform aneurysm that involved the entire left main coronary artery and extended into the proximal circumflex coronary artery. She was treated with warfarin and aspirin and underwent a radiofrequency catheter ablation for the ventricular tachycardia. She was then scheduled for surgical treatment consisting of an aneurysm exclusion with bypass of both left anterior descending and circumflex arteries.

Left main coronary artery aneurysms are rare lesions, encountered in approximately 0.1% of adult patients who undergo routine coronary angiography. Over 50% of them are of atherosclerotic origin. Other aetiologies include congenital malformations, Kawasaki disease, Marfan and Ehlers-Danlos syndromes, Takayasu arteritis, syphilitic or infectious arteritis, and fibromuscular dysplasia. The aetiology of this case was not elucidated although sequelae of Kawasaki disease could be suspected because of a history of pericarditis in infancy. However, the coronary angiography was not typical of Kawasaki disease, as it showed no other associated abnormality.

The main complication of coronary aneurysms is thrombus formation within the aneurysm leading to distal embolization and myocardial infarction. Treatment still remains controversial as patients can be managed either medically with anticoagulation and antiplatelet therapy, surgically, or percutaneously using a covered stent.

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