Unusual cause of acute coronary syndrome

A 55-year-old man with a history of cutaneous psoriasis was admitted to the intensive care unit for chest pain. He had no history of cardiovascular disease. His blood pressure was 135/45 mmHg and his heart rate was 75 beats/min. Physical examination revealed diastolic murmur but normal body temperature.

An electrocardiogram showed type one atrioventricular block associated with T-wave inversion in the anterior leads (Fig. 1). Bedside transthoracic echocardiography showed anterior wall akinesis and severe aortic valve regurgitation. The aortic root and annulus were dilated and the three cusps were slightly thickened and retracted, forming a central regurgitant jet. Cardiac troponin I concentration was increased, at 10 ng/mL. Other laboratory tests were normal. Computed tomography (CT) scan showed no sign of aortic dissection but a 50 mm aneurysm of the sinus of Valsalva with increased vascular wall thickness (Fig. 2). No significant coronary stenosis was detected on angiography or CT scan.

During Bentall aortic reconstruction, coronary bypass graft was performed because of the macroscopic narrowing and inflammatory aspect of the left coronary ostium. Pathology confirmed aortitis showing adventitial nodular lymphoid infiltration (arrows on Fig. 3) and diffuse lymphocytes in the media. A complementary diagnostic procedure showed HLA-B27 gene and radiographic sacroiliitis (Fig. 4).

Comment

If atrioventricular block is common, acute coronary syndrome is an exceedingly rare presentation of spondylarthropathy. Multiple factors could account for the features of myocardial ischaemia including aortic regurgitation, inflammatory narrowing of the coronary ostia and eventual microvascular dysfunction.
Figure 1. Electrocardiogram showing type-1 atrioventricular block associated with T-wave inversion in the anterior leads.

Figure 2. CT scan showing a 50 mm aneurysm of the sinus of Valsalva with increased vascular wall thickness.

Figure 3. Histology showing aortitis with adventitial nodular lymphoid infiltration (arrows) and diffuse lymphocytes. Hemalun-Eosin-Safran stain ($\times 25$).

Figure 4. A complementary diagnostic procedure showed HLA-B27 gene and radiographic sacroiliitis.