Spontaneous coronary artery dissection and bicuspid aortic valve

A 53-year-old man with no cardiovascular risk factors had sudden retrosternal chest pain. ST-segment elevation in the inferior and anterior leads was present on electrocardiography (Fig. 1A). Thrombolysis was initiated and the patient was transferred to our institution. Upon arrival, the chest pain had disappeared completely. Electrocardiography showed regression of the ST-segment elevation. Transthoracic echocardiography (TTE) showed a dyskinetic apical segment and a bicuspid aortic valve (Fig. 1B), without stenosis or regurgitation associated with an enlarged proximal aorta (48 mm) (Fig. 1C). Coronary angiography showed spiral dissection of the distal left anterior descending (LAD) coronary artery (Fig. 1D). The other coronary arteries were normal. We opted to follow a conservative management approach. The patient was discharged from hospital under treatment with atenolol, aspirin, clopidogrel and ramipril. Eight weeks later, the patient was asymptomatic. A new TTE demonstrated a persistent dyskinetic apical segment. Systematic cardiac multislice computed tomography showed complete healing of the LAD arterial wall and lumen.

Spontaneous coronary artery dissection is a rare disease, mainly associated with the following pathophysiological conditions: peripartum period, severe hypertension, atherosclerosis or abnormal tissue fragility such Marfan syndrome or Ehler-Danlos syndrome. The optimal management of coronary artery dissection remains controversial. Possible options include invasive therapy (percutaneous transluminal coronary angioplasty or surgical revascularization), thrombolysis (at the risk of deleterious effects with extension of the dissection) and medical therapy. The medical approach was reported to be...
appropriate for stable patients, with resolution of symptoms and limited infarction. Bicuspid aortic valve is associated with medial abnormalities, including fragmentation of elastin, matrix disruption and loss of smooth muscle cell integrity, suggesting a degenerative process that may result in structural weakness of the aortic wall. These lesions are similar in the fibrillin-1-deficient aorta of patients with Marfan syndrome, and may constitute a potential link between coronary artery dissection and bicuspid aortic valve.

**Conflict of interest**

None.