Clinical vignette

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Unruptured left main coronary artery aneurysm presented with acute cerebral infarction

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A 72-year-old male with a history of chest pain presented to the ER with left-side motor weakness. Brain MRI revealed acute infarction of right anterior cerebral artery territory, and echocardiography showed normal ejection fraction and no visible thrombus. However, coronary angiography revealed left main coronary artery saccular aneurysm (8 × 10 mm²) originating at the distal segment of the left main between LAD and LCX. IVUS examination showed similar size and appearance of aneurysm at the left main bifurcation site without thrombus formation. For more precise anatomical details, we used a 16-channel MDCT with ECG gating, which showed the saccular aneurysm of the left main but not involving the LAD or LCX. The patient was conservatively managed with dual antiplatelets, including aspirin 100 mg and clopidogrel 75 mg, and with anticoagulation. At 6 months’ follow-up, coronary angiography showed no significant interval change in size and shape of the left main aneurysm without any complication or clinical event.

Left main aneurysm is rare and occur in ~0.1% of the population. Common causes of coronary aneurysm are coronary atherosclerosis, ectasia, Kawasaki disease, and arteritis. Although the management of coronary artery aneurysm is not well established yet owing to the rarity and unpredictable natural history, these dilated sections of coronary artery are not benign entities because they are subject to spasm, thrombosis, and spontaneous dissection and can be a potential cause of myocardial infarction. In the selective case of left main coronary artery aneurysm, adequate medical management including antiplatelets and/or anticoagulation may confer an optimal management without surgery with a careful periodic follow-up.

Panel A. Initial coronary angiography showed left main saccular coronary artery aneurysm.

Panel B. Intravascular ultrasound at LAD ostium (os) showed a huge aneurysm in the 5-to-9 o’clock direction in the left main bifurcation site at the index procedure.

Panel C. Three-dimensional coronary MDCT showed left main coronary artery aneurysm at the left main bifurcation site.

Panel D. Six month follow-up coronary angiography showed unruptured left main coronary artery aneurysm, and the size was not different compared with the index.

See online Supplementary material for a colour version of this figure available at European Heart Journal online.