Giant aneurysm arising from the left atrial branch of the left circumflex artery and rupturing into the right atrium

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A 52-year-old woman presented with exertional dyspnoea NYHA class III and chest pain for 15 days. The clinical examination revealed an irregular pulse and a continuous precordial murmur. The ECG was suggestive of atrial fibrillation. The chest X-ray revealed significant cardiomegaly (Panel A). The 2D echocardiography and colour Doppler (Panel B) showed a dilated left main and the left circumflex artery (LCX) (Panels B–F, arrow) and a giant aneurysm of 8×8 cm size (Panels B–F, star) arising from LCX communicating with the right atrium (Panel B, arrowhead, see Supplementary material online, Movie S1) with a normal left ventricular (LV) ejection fraction and with moderate mitral regurgitation and moderate pulmonary hypertension. The CT coronary angiogram (Panels C and D) showed a giant 86 mm sized saccular aneurysm arising from the distal segment of first branch of the LCX artery possibly left atrial (LA) branch, with the sac located in the interatrial groove causing mass effect and displacing the right atrium anteriorly and the left atrium posteriorly and causing congestion of the superior vena cava and the inferior vena cava. On cardiac catheterization there was a large aneurysm whose communication with any cardiac chamber could not be exactly demonstrated although contrast opacified the right atrium (Panel E, arrowhead shows retrograde IVC filling). The pulmonary to systemic blood flow ratio (Qp/Qs) was 3:1. Giant coronary artery aneurysm is rare arising most commonly from the right coronary artery. With a large associated fistula, the involved artery is dilated and tortuous. A large and haemodynamically significant fistula should be closed by surgical ligation to prevent complications such as spontaneous rupture, heart failure, myocardial ischaemia, and thromboembolic events. Our patient underwent surgery (Panel F, intra-operative image) with ligation of the LA branch, aneurysmectomy, and closure of the right atrial opening and is asymptomatic post-surgery.

Supplementary data are available at European Heart Journal – Cardiovascular Imaging online.

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