Coronary Artery Fistula With a Huge Aneurysm Formation Presenting as Heart Failure

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An 82-year-old man suffering from shortness of breath for more than 10 days, was diagnosed with acute heart failure, New York Heart Association functional class IV. Grade IV systolic murmur at the apex as well as grade II diastolic murmur over the left second intercostal space and engorged jugular veins were noted on presentation. Transthoracic echocardiography showed an incomplete closure of mitral and tricuspid valve with profound left ventricular chamber dilatation. Lobulated cystic lesions between the left atrium and aorta (Fig. 1A, white arrow) with continuous Doppler flow were also noted (Fig. 1B). Transesophageal echocardiogram disclosed left circumflex coronary artery (LCX) to right atrium fistula (Fig. 1C) with a very large circumflex aneurysm measuring 4.3×4.3×6.5 cm in size. Multidetector computed tomography coronary angiography detailed a markedly dilated and tortuous vessel from middle to distal part of the LCX via the route of sinoatrial nodal branch and draining into the sinus venosus of right atrium (Fig. 1D, white arrow indicates the calcified aneurysm and black arrow indicates the tortuous fistulae). Because of severe heart failure and risks of aneurysm rupture, surgical intervention was suggested. Unfortunately, a sudden collapse and aneurysm rupture was encountered in the patient on the preceding day of the planned surgery.

Coronary artery fistulae with a huge aneurysm are infrequent congenital anomalies, which may contribute to the progression of heart failure.¹⁾ Lobulated cystic lesions on echocardiogram could be the cross-sections of a single highly tortuous vessel. We present a case of a huge LCX aneurysm and fistula draining into the right atrium with heart failure since it serves as a reminder of the need to intervene aggressively.²⁾³⁾

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Fig. 1