Coronary sinus dilatation in an elderly patient with dyspnoea

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A 75-year-old man was referred to our institution due to dyspnoea on exertion in the past 2 years. He had been previously healthy and was only being treated for arterial hypertension.

During physical examination, a continuing murmur was heard over the left sternal border. ECG showed incomplete right bundle branch block.

Echocardiography (Panels A and B) showed severe dilatation of right cardiac chambers, moderate tricuspid regurgitation, and a pulmonary artery systolic pressure of 60 mmHg. A turbulent flow existed in the coronary sinus, the coronary sinus, which was severely dilated (Panels A and B, arrows). In transoesophageal echocardiography (Panels C and D), left main coronary artery (LMCA) also showed turbulent flow and dilatation (11 mm diameter). Coronary fistula to coronary sinus was therefore suspected.

MRI was performed, showing phase-contrast calculated ratio of pulmonary to systemic blood flow of 1.65 (Panel E: systemic flow and Panel F: pulmonary flow; 1: modulus image, 2: phase image; 3 flow curve).

CT scan revealed a large coronary fistula communicating left circumflex artery (LCx) and coronary sinus, with severe dilatation of both structures and LMCA (Panel G: LCx, curved MPR; Panel H: 3D volume rendering); left anterior descending coronary artery diameter was normal.

Conservative management was decided due to preference of the patient. He has remained clinically stable for 2 years since the diagnosis.

Coronary artery fistulas are infrequent congenital malformations which consist of vascular connections from a coronary artery to a cardiac chamber or major central blood vessel without capillary bed. Though large fistulas are diagnosed during childhood, smaller fistulas may remain clinically silent during many years, as was the case of our patient.