Left Main Coronary Artery to Left Atrial Fistula Causing Mild Pulmonary Hypertension

Dimitris Tousoulis, MD, PhD; Stella Brilli, MD; Konstantina Aggelli, MD; Costas Tentolouris, MD; Christodoulos Stefanadis, MD; Kostantinos Toutouzas, MD; Alexandra Frogoudaki, MD; Pavlos Toutouzas, MD

A 73-year-old man with a 6-month history of exertional chest tightness and dyspnea was referred for evaluation. No risk factors for coronary atherosclerosis were present. Left cardiac catheterization revealed coronary arteries without significant stenoses and mildly impaired left ventricular function (ejection fraction, 55%). A fistula from the main stem of the left coronary artery to the left atrium was visualized during coronary arteriography (Figure 1). Right cardiac catheterization showed the following: pulmonary artery pressure of 45/22 mm Hg (mean, 30 mm Hg), right ventricular pressure of 45/8 mm Hg, and mean pulmonary capillary wedge pressure of 14 mm Hg (V wave, 30 mm Hg). Echocardiography showed an increased left atrial diameter (49 mm) and normal thickness and dimensions of the left ventricle (end-diastolic diameter of 50 mm and end-systolic diameter of 35 mm). A transesophageal echocardiogram in the short-axis projection revealed abnormal flow across the aortic wall into the left atrium (Figure 2). Pulsed Doppler revealed continuous flow at the left atrial end of the fistula (Figure 3). In this case, the symptoms were controlled with a diuretic and an ACE inhibitor, and a follow-up echocardiogram was arranged.

Figure 1. Angiogram with catheter tip in left coronary artery. Fistula (arrows) from main stem of left coronary artery (arrow A) to the left atrium (arrow B) is evident.
Figure 2. Transesophageal echocardiogram in short-axis projection shows abnormal flow across aortic wall into left atrium (arrows).

Figure 3. Pulsed Doppler reveals continuous flow at left atrial end of fistula.
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