

Multiple Coronary Cameral Fistulas

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The coronary fistula is a coronary circulation defect characterized by an abnormal communication between the main coronary arteries or some of their branches, and the cardiac chambers, the coronary sinus, the pulmonary arteries, or the systemic veins. (1)

The most frequent etiology is congenital, but it may also be acquired.

The congenital fistulas are attributed to the persistence of embryonic myocardial sinusoids or thebesian veins directly communicated to the ventricular chamber. (2)

They constitute 4% of the congenital heart defects, with an incidence of 0.15% in adults who have undergone coronary arteriography. (3)

In 55% of the cases, the fistulas originate in the right coronary artery; in 35%, in the left coronary artery; and in less than 5%, in both coronary arteries. (4)

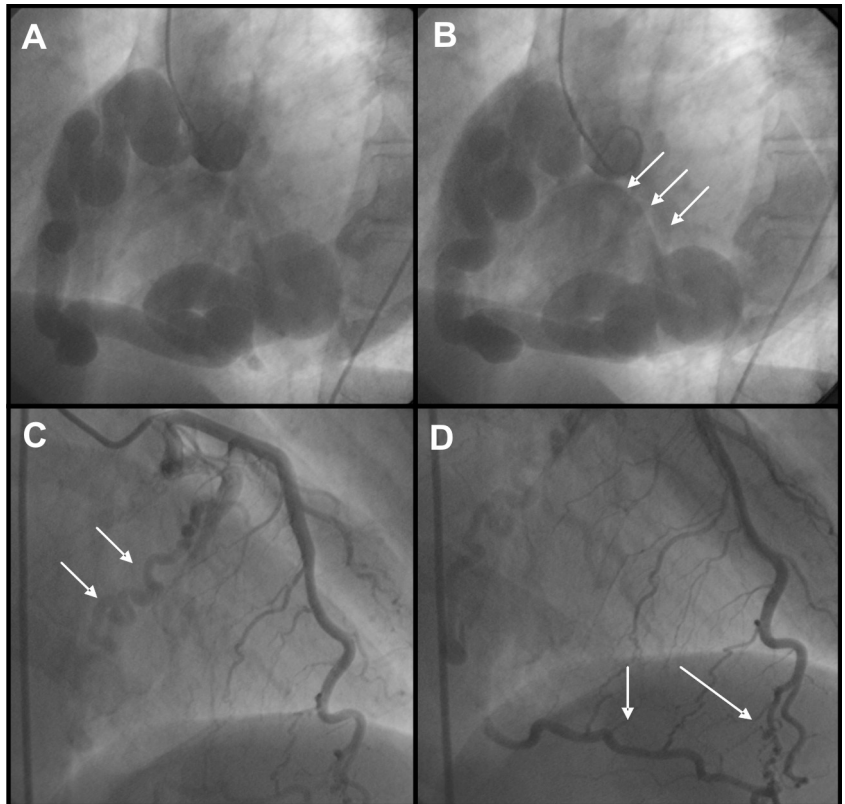
Symptoms are directly related to the shunt magnitude and to the period of malformation evolution. (1)

Most patients are asymptomatic until the fifth or the sixth decade of their life, when they may present myocardial ischemia due to coronary steal, or develop pulmonary hypertension and congestive heart failure if a significant short circuit occurs. Other complications include thrombosis or rupture of the fistula, aneurysm of the fistula, and infective endocarditis. (4)

The natural long-term evolution is unknown.

Large coronary fistulas are diagnosed through bi-dimensional echocardiogram with Doppler. The coronary arteriography determines the fistula's size and anatomic characteristics. (5) The coronary arteriography shows that the coronary artery involved is elongated and dilated, although its size varies according to the shunt magnitude. The dilation spreads only towards the fistula point of origin; the diameter appears normal in the distal part of the vessel. Oximetric samples in right and left circuits should be performed, in order to assess the presence of protuberance and determine the shunt magnitude. (6)

It is extremely important to include clinical, anatomic and functional information to assess the hemodynamic significance of the coronary fistula in therapeutic decisions.



A. Right coronary (RC) significantly dilated and tortuous. **B.** Opacity of right chambers (arrows) in late phase. **C.** In the same patient, the circumflex artery presents a fistula to the left ventricle (arrows). **D.** The presence of heterocoronary collateral circulation is observed in the RC due to coronary blood flow steal (arrows).

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