

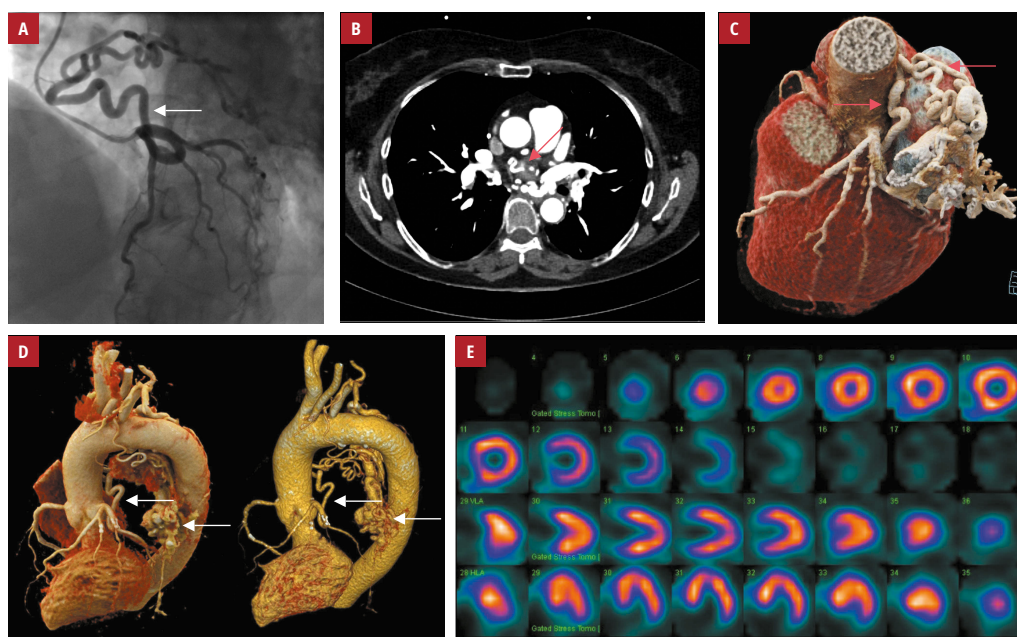
# Uncommon giant fistula in the circumflex coronary artery

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**FIGURE 1** **A** – coronary angiography showing the fistulous path originating in the circumflex artery (arrow); **B** – axial computed tomography angiography at the level of large vessels showing tortuous coronary fistula (arrow); **C** – a 3-dimensional reconstruction of computed tomography angiography; **D** – a 3-dimensional reconstruction of computed tomography angiography showing the long fistulous path to the bronchial arteries (arrows); **E** – single-photon emission computed tomography showing normal perfusion at stress

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Congenital coronary fistulas are an unusual anomaly with an estimated prevalence between 0.002% to 0.3% of the population, according to a series of studies.<sup>1-4</sup> However, its incidence and real prevalence are unknown due to its, in general, asymptomatic nature.<sup>1-4</sup> They consist of a communication between the coronary arteries and one of the great vessels (arteries or veins) or a cardiac chamber.<sup>3</sup> We report the case of a 74-year-old woman with

long-standing hypertension and diabetes mellitus who underwent invasive coronary angiography due to the presence of oppressive chest pain on exertion. No significant obstructive lesions were detected, but a circumflex artery-dependent fistula was found (FIGURE 1A). At that time, no functional tests were performed. Transthoracic echocardiography excluded structural cardiac abnormalities and electrocardiogram at rest was unpecific. For a better characterization

of the fistula (its course and anatomy) and of the drainage mode, cardiac computed angiography with a 3-dimensional reconstruction was performed (FIGURE 1B, 1C, and 1D). A large, very tortuous, fistula was observed from the circumflex artery to the bronchial arteries of the left lower lobe. Due to the high number of diagnostic procedures, the casual finding of these malformations is increasing.<sup>1-4</sup> The fistula's origin, which is usually unique, can be in any of the coronary arteries, with the right coronary artery being the most common.<sup>1,4,5</sup> Nevertheless, in the case series from Verdini et al<sup>1</sup>, the circumflex artery was the least frequent.<sup>1</sup> Typically, the fistulas are small and they do not require treatment, but the clinical decision depends on the severity of the blood shunt. Most cases in the series are left-right shunts.<sup>1,2</sup> A phenomenon of coronary steal can occur, most noticeable when draining into the right circuit (lower pressure), with the consequent imbalance in the supply and demand responsible for ischemia and even, in some cases, myocardial necrosis.<sup>1-3</sup> Because the scientific evidence is based on case series, the therapeutic decision remains difficult. Nowadays, several factors are still under discussion.<sup>2-3</sup> When it generates persistent symptoms or there are high risk factors, for example, myocardial damage, arrhythmias, pulmonary hypertension, or ventricular dysfunction, the fistula can be closed, either surgically<sup>5</sup> or by a more novel approach, that is, percutaneously, as described by other authors.<sup>2,4</sup> In our case, since the ischemia detection test, perfusion study (single-photon emission computed tomography), was negative (FIGURE 1E), it was decided to follow the patient, who currently remains asymptomatic and takes anti-anginal drugs ( $\beta$ -blocker).

## ARTICLE INFORMATION

**CONFLICT OF INTEREST** None declared.

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