

## Coronary-Pulmonary Artery Fistula

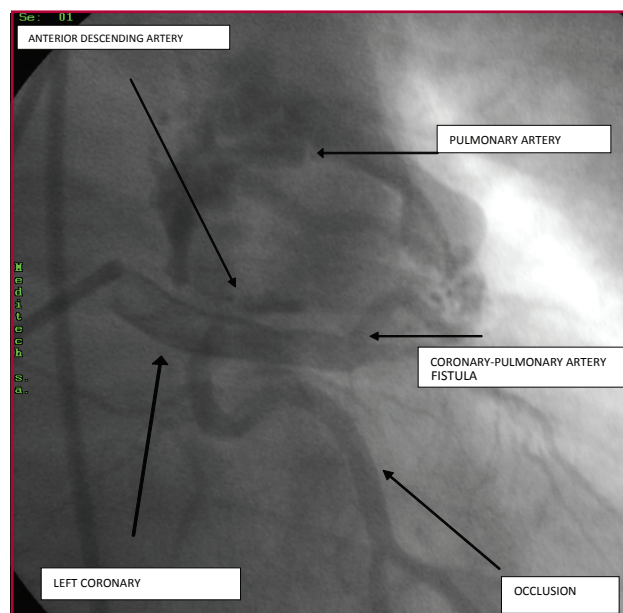
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It is presented the case of a 46 years old man who was admitted with a diagnosis of myocardial infarction. The patient reported that since 16 years old, he has experienced episodes of sweating, and syncope feeling in times of emotional stress.

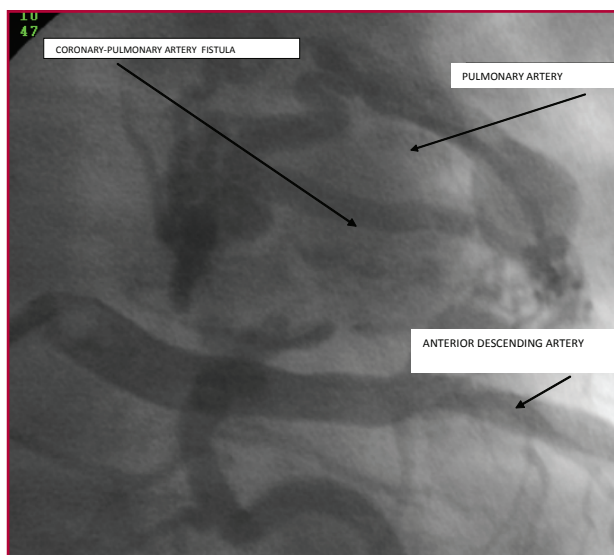
He consulted by, intensity 8/10, more than 30 minutes with BP 96/54 mmHg, HR 90/mim. The echocardiogram shows ST elevation in DI, AVL, V2 to V6, so it is carried out coronary angiography and angioplasty with endograft to left anterior descending artery in the middle third and it is evidenced as finding the presence of coronary-pulmonary artery fistula (2).

Coronary artery fistula was first described by Krause in 1865, but it was Trevor who in 1912 published about the subject for the first time, describing the findings at autopsy, where the right coronary artery was connected with the right ventricle (1).

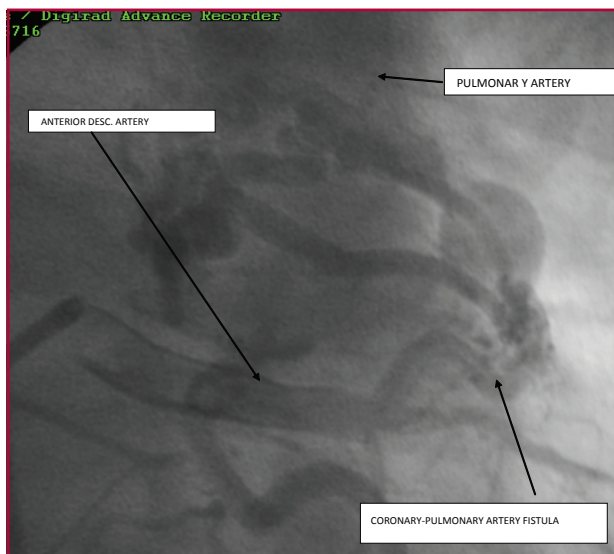
This is an abnormality of the coronary circulation in which one of the coronary arteries communicates through one or more branches, the trunk of the



**Fig. 1.** Coronary-pulmonary fistula out of left anterior descending artery, left anterior descending artery occlusion.



**Fig. 2.** Coronary-pulmonary artery fistula. Reopening of the anterior descending artery.



**Fig. 3.** Notice how it fills the pulmonary artery through the coronary-pulmonary artery fistula

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pulmonary artery, pulmonary veins, vena cava, the coronary sinus or cardiac chambers. (1) It is a rare entity, with an incidence of 0.1 to 0.2% of the adult population subjected to coronary angiography. The male-female ratio is 1.9: 1. From 5 to 30% of coronary fistulas are associated with a congenital anomaly.

Fistulas may be congenital (the majority) or acquired (invasive procedure, septal myomectomy, chest trauma, by the guide catheter during angioplasty). (4).

Approximately 50% of the fistulas are originated in the right coronary artery, 45% in the left coronary artery and less than 5% in both. (5,6) 92% drains into the right ventricle and 8% into the left ventricle. 3% of congenital artery fistulas is associated with absence of contralateral coronary artery. Most of it drains into the right ventricle (40%), right atrium (25%), pulmonary artery trunk (15%), coronary sinus (7%), left atrium (5%) and left ventricle (less than 3%). (7-10).

Coronary artery fistulas are divided into five types, according to the chamber or vessel that they drain: (11)

- I: Right atrium
- II: Right ventricle
- III: Pulmonary artery
- IV: Left atrium
- V: Left ventricle

The symptomatology is directly related to the magnitude of the shunt or the time evolution of the malformation. Most patients are asymptomatic or have clinical manifestations such as chest pain (7%), dyspnea (40%), myocardial infarction (3%) or surgery by selective ligation of the fistula tract or transcatheter closure using devices such as spiral (coil), (12) inflatable balloon, poly foam and double umbrella device (13).

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