

## Congenital Anomaly of the Left Coronary Artery

MARCELO R. EGUINO, ADRIÁN HRABAR, ERNESTO TORRESANI<sup>MTSAC</sup>

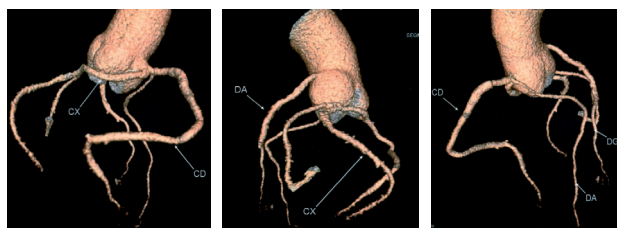
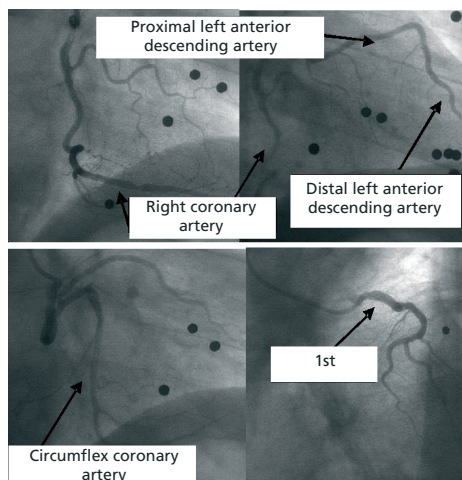
Coronary artery anomalies are rare, affecting between 0.2% and 1.4% of the general population according to international registers. (1) A coronary anomaly is defined as that presenting with a frequency < 1%, and as an anatomic variation occurs in > 1% of the population studied. (2) Greenberg classified coronary artery anomalies in anomalies of origin, course and termination. (3) The clinical manifestations are variable and can pass unnoticed during lifetime or can cause acute coronary syndromes and even sudden death.

The images here presented are interesting because the independent origin of most vessels and coronary artery branches is very uncommon.

These images belong to a 52 year-old man, current smoker, with a family history of ischemic heart disease and without history of previous cardiovascular disease. The patient was hospitalized due to non-ST-segment elevation myocardial infarction and underwent coronary angiography and multi-slice CT-coronary angiography, which showed absence of the left main coronary artery, anomalous origin of the left anterior descending coronary artery and left circumflex arising from the right coronary sinus, and severe stenosis of the right coronary artery which was the infarct-related artery.

The images show a dominant right coronary artery (culprit vessel) with normal origin and course but with a severe stenosis and another obstruction in the proximal posterior descending artery. The left coronary artery branches have three different origins: a) the proximal left anterior descending coronary artery with the first septal branch and the first diagonal branch arises from the left coronary sinus, has a normal course and ends in the mid-segment; b) the mid and distal left anterior descending coronary artery arises from the right coronary artery, courses behind the pulmonary artery into the septum and then courses along the anterior interventricular groove to the apex; c) the circumflex artery arises from the right coronary sinus (its ostium is separated from the origin of the right coronary artery) and takes a retroaortic course in contact with the non-coronary cusp, passes behind the left atrium and the aortic valve and reaches the left ventricular lateral wall.

Stents were implanted in the right coronary artery and posterior descending coronary artery with favorable outcome.



### Conflicts of interest

None declared

### REFERENCES

1. Angelini E, Velasco J, Flamm Scott. Coronary anomalies incidence, pathophysiology, and clinical relevance. *Circulation* 2002;105:2449-54. <http://doi.org/bh8phc>
2. Angelini P. Coronary artery anomalies. An entity in search of identity. *Circulation* 2007;115:1296-305.
3. Rodríguez M, Bernal H. Anomalías congénitas de las arterias coronarias. Hallazgos en TAC multicorte de 64 canales. *Rev Colomb Radiol* 2007;18:2165-72.
4. Cardenal R, Díaz J, Sánchez C, Gómez A. Anomalías congénitas infrecuentes en el origen de las arterias coronarias. *Cardiocre* 2010;45:123-26. <http://doi.org/dzs5x5>
5. Barriales R, Moris C. Anomalías congénitas de las arterias coronarias con origen en el seno de Valsalva contralateral: ¿Qué actitud se debe seguir? *Rev Esp Cardiol* 2006;59:360-70. <http://doi.org/b7n8m6>