Coronary angioplasty in coronay left circunflex anomaly. Case report and discussion of literature

Angioplastia coronaria de arteria circunfleja con arteria coronaria izquierda anómala y nacimiento desde el seno de Valsalva derecho. Reporte de un caso

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ABSTRACT

We present a clinical case of infrequent finding in which the patient presents association of abnormal left coronary artery and obstructive atherosclerotic injury on the circumflex artery. Based on this condition we carry out a search on the existing bibliography.

Key words: *coronary anomaly, coronary angioplasty, stents.*

RESUMEN

Presentamos un caso clínico de hallazgo infrecuente en el cual el paciente presenta asociación de arteria coronaria izquierda anómala y lesión aterosclerótica obstructiva sobre la arteria circunfleja. En base a esta condición realizamos una búsqueda sobre la bibliografía existente.

Palabras claves: *coronaria anómala, angioplastia coronaria, stent.*

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INTRODUCTION

The origin of the left circumflex coronary artery from the right sinus of Valsalva a rare coronary anomaly with a rate between 0.2% and 1.2%. It usually does not have any clinical repercussions and its diagnosis is often an incidental finding. However,it can be associated with myocardial ischemia and even sudden death, especially in young people while doing physical activity. Atherosclerotic cardiovascular disease does not usually develop on an anomalous coronary trajectory. This is the case of a patient with obstructive coronary disease of circumflex artery andorigin of the left main coronary artery from right coronary sinus treated with a coronary angioplasty with stent.

Clinical case.

Sixty-six year-old-male patient with positive cardiovascular risk factors for arterial hypertension, smoking, and dyslipidemia. His past clinical history revealed the presence of an ST-segment elevation acute coronary syndrome 2 years ago treated with a percutaneous transluminal coronary angioplasty of the right coronary artery. The patient has remained asymptomatic until 6 months ago prior to his consultation when he started showing signs of angina pectoris NYHA FC II. The SPECT performed confirmed the presence of moderate ischemia in the apical lateral, apical anterolateral, and anterolateral medial territory. The patient was referred to the interventional cardiology unit to be treated with a percutaneous coronary intervention.A cine coronary angiography was performed via femoral access using the 6-Fr Super Sheath introducer sheath (Boston Scientific) and 6-FR Judkins Left 3.5 and Judkins Right 3 Impulse diagnostic catheters (Boston Scientific). No significant angiographic lesions were found on the right coronary artery and the left main coronary artery originated from the right coronary sinus. At this level the presence of a significant occlusion from the middle segment of the circumflex artery was confirmed (**figures 1 and 2**).Using the femoral access (**figures 3 and 4**), a 6-Fr Super Sheath introducer sheath and a 6-Fr Convey Left guide catheter (Boston Scientific) were inserted through a Choice Floppy 0.014 in x 180 cm guidewire (Boston Scientific). The wire was positioned with difficulties given the severe tortuosityof the vessel in the distal segment of the circumflex artery. Dilatation with a 2.5 mm x 15 mm Emerge balloon (Boston Scientific) was attempted followed by the implantation of a 3.0 mm x 16 mm Promus Premier everolimus-eluting stent(Boston Scientific).

Discussion.

The anomalies of coronary arteries found on the cine coronary angiography are a rare finding (**1**). Among these, the origin of the left main coronary artery from the right sinus of Valsalva is a very rare patternwhose rateis between 0.2%and 1.2% according depending on the series(**5**). Patients who are carriers of this anomaly are usually asymptomatic unless the anomalous trajectory of the vessel is located between the aorta and the pulmonary artery, which can lead to sudden death especially during physical activity(**2**). Here the rate of serious symptoms reported is around 20%.
The association between this anomaly and atherosclerotic cardiovascular disease is not a common finding. However, when it is present it rarely affects the anoma-

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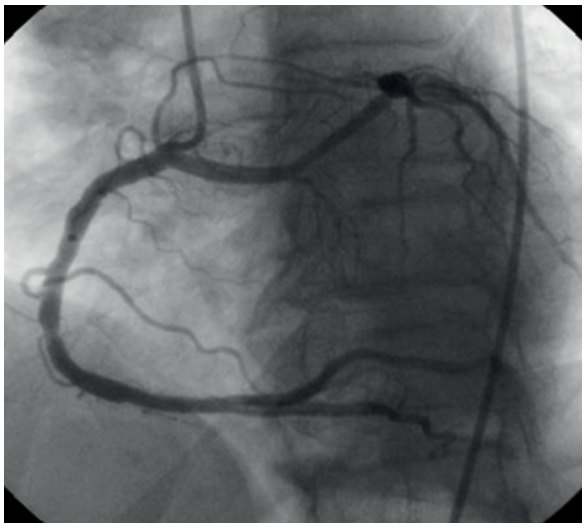

Figure 1. *During the catheterization of the right coronary artery, the origin of the left main coronary artery from the same sinus can be seen.*

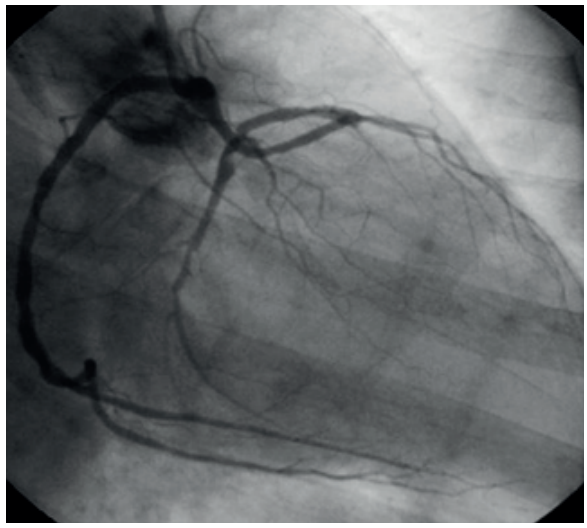

Figure 2. *Identification of a significant lesion in the distal segment of the anomalous circumflex artery.*

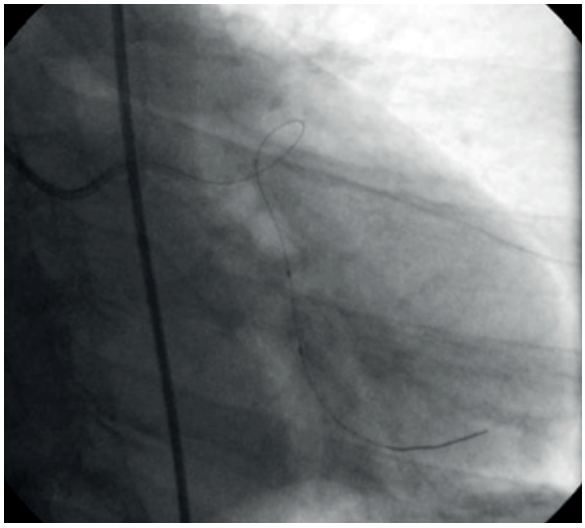

Figure 3. *Lesion crossed using a 0.014 in Floppy guidewire. Predilatation with a 2.5 mm x 15 mm balloon followed by the implantation of a 3.0 mm x 16 mm drug-eluting stent.*

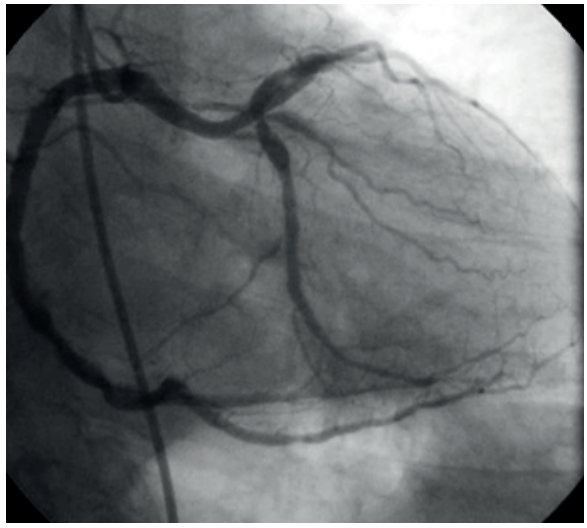

Figure 4. *Final result with resolution of the pre-existing lesion. No residual lesion is seen on the coronary angiography.*

lous segment. Obstructive atherosclerotic plaques located on the anomalous territory are often more aggressive and they occur in earlier stages from the pathophysiological point of view(**3**).

The coronary angiography is the imaging modality of choice to identify atherosclerotic lesions (**4**). However,it can cause some diagnostic problems during the 3D identification of the trajectory of the anomalous artery. In this sense, the multi-slice computed tomography (MSCT) can be useful because it provides a better view of the proximal portion, size, trajectory, and relation of the anomalous vessel to the surrounding structures.

In our case, the patient was in his sixth decade of life with a probably benign anomalous trajectory and a past medical history of atherosclerotic disease in the right coronary artery and additional studies that confirmed the presence of ischemia. For all these reasons, it was decided to perform a coronary angioplasty on the lesion found (**6**).

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