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Post-stenting chronic saphenous graft perforation: a seldom-reported condition

Perfuração crônica de enxerto de veia safena após implante de stent: uma condição raramente relatada

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Figure 1. (A) Diagnostic saphenous vein graft angiography performed in 2020 with pseudoaneurysm of the saphenous vein graft (dotted sign). (B) Result of saphenous vein graft percutaneous coronary intervention to the marginal artery, performed in 2015, showing sign of Ellis I perforation (dotted sign). (C) Coronary tomography confirmation of the angiographic images (dotted sign).

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A 69-year-old male with hypertension, dyslipidemia, and coronary artery disease (CAD) was admitted to the emergency room in December 2020 reporting chronic angina, with slight limitation to ordinary activities (Canadian Cardiovascular Society angina grade II) and described worsening of symptoms in the past 20 days, with episodes of prolonged angina (over 20 minutes) and mild dyspnea.

An initial 12-lead electrocardiogram showed no signs of acute ischemia, and the cardiac biomarkers were negative for myocardial infarction (troponin 9ng/L; upper limit of normality: 58ng/L). No other relevant results in his laboratory tests.

Previously, he underwent coronary artery bypass graft in 2000, and percutaneous coronary intervention (PCI) of the left circumflex artery with a bare-metal stent (brand and size information not available) in 2005. Later, he was submitted to PCI of the saphenous vein graft (SVG) to a marginal artery with a bare-metal stent (MGuard 3.0x39mm), in 2015.

Coronary angiography by right femoral approach demonstrated a non-dominant right coronary artery with no obstructive lesions; a total ostial occlusion of left anterior descending artery with a patent left internal mammary artery; pervious stents in the left circumflex artery; a total occlusion of the first marginal branch with pervious SVG; and an occluded SVG at its ostium.

After the first injection in the SVG to the marginal artery, we noticed retention of contrast in the medium segment of the artery, suggesting a pseudoaneurysm (Figure 1A). We compared the images of an angiogram performed 5 years before and noticed an Ellis I perforation of the SVG (Figure 1B).

On the next day, the patient underwent cardiovascular magnetic resonance imaging, which showed delayed non-transmural myocardial enhancement in the anterior segment, and no pericardial effusion.

Coronary tomography was also performed during the hospital stay, which showed signs of a contained perforation in the SVG graft (Figure 1C).

Since cardiovascular magnetic resonance imaging showed no pericardial effusion, and the computed tomography confirmed the perforation was contained, we maintained medical treatment only. The patient was later discharged for outpatient clinic follow-up and reported no symptoms after medical treatment optimization for angina.

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CONFLICTS OF INTEREST

The authors declare there are no conflicts of interest.

CONTRIBUTION OF AUTHORS

Conception and design of the study: MFSM, CMC e HOS; data collection: MFSM and CMC; data interpretation: GDGP; text writing: MFSM and CMC; approval of the final version to be published: MHR and AB.