Revista Portuguesa de Cardiologia 41 (2022) 353–354

Revista Portuguesa de
Cardiologia
Portuguese Journal of Cardiology
www.revportcardiol.org

IMAGE IN CARDIOLOGY

Angina pectoris in a patient with prior coronary artery bypass graft and carotid-subclavian bypass grafting

Angina *pectoris* num doente com cirurgia de revascularização miocárdica prévia e *bypass* carótido-subclávio

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Received 4 May 2021; accepted 22 June 2021
Available online 21 December 2021

A 51-year-old man was admitted with exertional chest pain. Eleven years ago, he underwent myocardial revascularization consisting of a left internal mammary artery (LIMA) graft to the first diagonal artery. Seven years ago, he underwent carotid-subclavian bypass surgery due to subclavian artery stenosis. After the second surgery, he was stable, but he developed exertional chest pain last year. His physical examination was remarkable for the presence of weak left radial and brachial pulses, with a significant difference in blood pressure between the right (130/85 mmHg) and left (90/60 mmHg) arms. Electrocardiogram showed normal sinus rhythm without ischemic changes. Contrast injection into the left main coronary artery showed chronic total occlusion of the circumflex artery and demonstrated a striking retrograde flow from the coronary tree through the graft (Figure A; Video 1). A left subclavian artery angiography revealed total occlusion proximal to the origin of the LIMA (Figure B; Video 2). A left common carotid artery angiography showed the total occlusion of the carotid-subclavian bypass graft (Figure C; Video 3). We decided on percutaneous intervention of the left subclavian artery, and the patient was successfully treated with subclavian balloon angioplasty and stent placement (Figure D; Video 4-8).

In this case, we illustrated coronary subclavian steal syndrome in a patient with prior coronary artery bypass graft (CABG) despite carotid-subclavian bypass grafting. Percutaneous intervention with stent implantation was successful. Angina pectoris and differential blood pressure readings in

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https://doi.org/10.1016/j.repc.2021.06.015

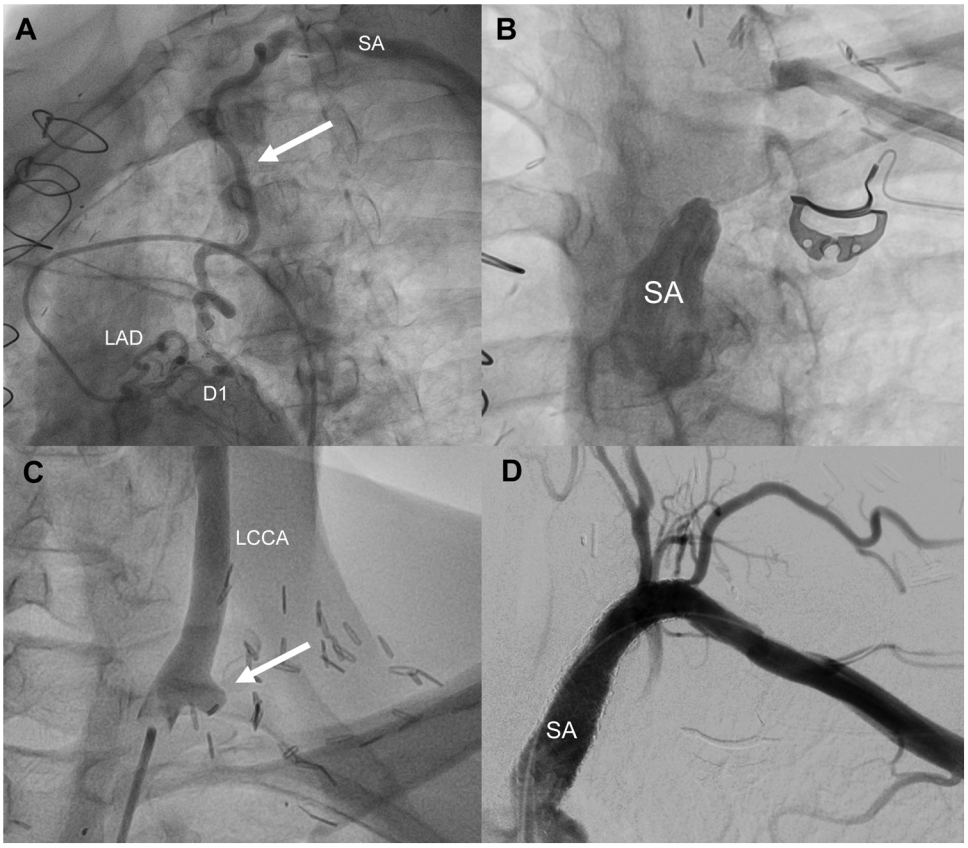

Figure **A.** Left coronary angiography showing retrograde flow from the coronary tree through the mammary artery bypass graft (arrow). **B.** Left subclavian angiography revealed total occlusion proximal to the left internal mammary artery graft to the first diagonal artery. **C.** Left common carotid angiography demonstrated the total occlusion of the carotid-subclavian bypass graft (arrow). **D.** Digital subtraction angiography of the left subclavian artery after stent placement showed successful treatment of the subclavian occlusion.
D1: first diagonal artery; LAD: left anterior descending artery; LCCA: left common carotid artery; SA: subclavian artery.

a patient with prior CABG should alert attending physicians to the possibility of this syndrome.

Conflicts of interest

The authors have no conflicts of interest to declare.

Appendix A. Supplementary material

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.repc.2021.06.015.