Drug-eluting balloon angioplasty for bifurcated chronic total coronary occlusion

Angioplastia con balón farmacoactivo para una oclusión coronaria total crónica en bifurcación

Marcel Almendárez,a,b,* Rut Álvarez-Velasco,a,b Alberto Alperi García,a,b Pablo Avanzas,a,b,c Cesar Morís de la Tassa,a,b,c and Isaac Pascual,a,b,c

To the Editor,

This is the case of a 67-year-old woman admitted due to a 6-month history of exertional angina. Stress echocardiography showed severe anterior wall ischemia. The patient was referred for coronary angiography that revealed the presence of a chronic total coronary occlusion of the proximal left anterior descending coronary artery. The patient signed the written informed consent, and a chronic total coronary occlusion recanalization was performed 6 months after the index angiography.

The main reasons to avoid stenting were the size of both vessels, the possibility of side branch occlusion using provisional stenting, and the high probability of in-stent restenosis with a 2-stent technique considering the localization of the lesion. Arguably, good mid-term results were expected if a TIMI grade-3 flow was obtained in both branches, thus avoiding multiple layers of stents. For this reason, we corroborated this hypothesis in a 6-month angiographic and optical coherence tomography follow-up.

Several studies have evaluated different approaches to DEB in bifurcations. However, no randomized control trial has ever compared the use of DEB for the left main coronary artery and side branches to another strategy. Observational analyses of 39 and 127 patients conducted by Shulz et al. and Bruch et al., respectively, concluded that a DEB-only approach was safe and effective to treat selected bifurcations (namely a side branch ≥ 2 mm) with low rates of restenosis and target lesion revascularization. Stenting as a bailout strategy was advised when flow-limiting dissection or excessive recoil occurred.

Only a few cases describe the treatment of complex lesions such as a chronic total coronary occlusion with a DEB. Our case seems especially relevant considering that the occlusion involved a bifurcation and a small distal bed. This case highlights the feasibility of treating a bifurcated chronic total coronary occlusion when a narrow vessel is found with a DEB.

FUNDING

None whatsoever.

* Corresponding author.

E-mail address: marcel.almendarez@gmail.com (M. Almendárez).

Online 8 June 2023.

REC Interv Cardiol. 2023;5(4):302-310

https://doi.org/10.24875/RECICE.M23000390

© 2023 Sociedad Española de Cardiología. Published by Permanyer Publications. This is an open access journal under the CC BY-NC-ND 4.0 license.
AUTHORS’ CONTRIBUTIONS
Operator: I. Pascual. Original drafting of the manuscript: M. Almendárez, and R. Álvarez-Velasco. Revision and editing: P. Avanzas, and C. Morís de la Tassa. Figure edition: A. Alperi García.

CONFLICTS OF INTEREST
None.

SUPPLEMENTARY DATA
Supplementary data associated with this article can be found in the online version available at https://doi.org/10.24875/RECICE.M23000390.

REFERENCES