

Bioresorbable vascular scaffold in chronic total occlusions



Jiang Ming Fam, MD; Roberto Diletti*, MD, PhD

Department of Interventional Cardiology, Thoraxcenter, Erasmus MC, Rotterdam, the Netherlands

We recently published acute angiographic, six-month CT scan and 12-month clinical results after everolimus-eluting bioresorbable vascular scaffold (BVS) implantation in complex coronary chronic total occlusions¹.

Dr Gerbay and Dr Isaaz highlighted the fact that, CTO being a complex lesion subset, a higher rate of reocclusion could be observed after BVS implantation compared with latest-generation drug-eluting stents. They also mentioned that reocclusion often remains clinically silent and it would be difficult to infer angiographic outcomes only from clinical symptoms. However, patency of bioresorbable devices can also be assessed by non-invasive imaging^{2,3}. In our study, we reported computed tomography (CT) data in a subgroup of 34 patients at six-month follow-up, thus informing on the reocclusion rate in those lesions. Restenosis was observed in two cases: one patient was symptomatic and underwent target lesion revascularisation, while the other patient was asymptomatic, with no inducible ischaemia and was managed conservatively¹. All patients were treated with dual antiplatelet therapy, consisting of aspirin plus P2Y₁₂ inhibitors, as detailed in the study, for at least 12 months.

In addition to the CT scan, a long-term angiographic follow-up study with invasive imaging of the treated vessel is currently in preparation and will provide further information on the performance of bioresorbable devices in complex CTO lesions.

Finally, Dr Gerbay and Dr Isaaz commented that a randomised trial including a control group treated by latest-generation drug-eluting stents with a routine angiographic follow-up and long-term clinical outcome evaluation is necessary before extending the indication of BVS in CTOs. Such a statement is well accepted, but it should also be mentioned that randomised trials are often preceded by feasibility studies. As we concluded in our report, our results

support the feasibility of BVS implantation in CTO lesions given an appropriate implantation technique and justify further research, including direct comparison with current-generation drug-eluting stents¹.

Conflict of interest statement

The authors have no conflicts of interest to declare.

References

1. Fam JM, Ojeda S, Garbo R, Latib A, La Manna A, Vaquerizo B, Boukhris M, Vlachojannis GJ, van Geuns RJ, Ezhumalai B, Kawamoto H, van der Sijde J, Felix C, Pan M, Serdoz R, Boccuzzi GG, De Paolis M, Sardella G, Mancone M, Tamburino C, Smits PC, Di Mario C, Seth A, Serra A, Colombo A, Serruys P, Galassi AR, Zijlstra F, Van Mieghem NM, Diletti R. Everolimus-eluting bioresorbable vascular scaffolds for treatment of complex chronic total occlusions. *EuroIntervention*. 2017;13:355-63.
2. Ojeda S, Pan M, Romero M, Suárez de Lezo J, Mazuelos F, Segura J, Espejo S, Morenate C, Blanco M, Martín P, Medina A, Suárez de Lezo J. Outcomes and computed tomography scan follow-up of bioresorbable vascular scaffold for the percutaneous treatment of chronic total coronary artery occlusion. *Am J Cardiol*. 2015;115:1487-93.
3. Onuma Y, Dudek D, Thuesen L, Webster M, Nieman K, Garcia-Garcia HM, Ormiston JA, Serruys PW. Five-year clinical and functional multislice computed tomography angiographic results after coronary implantation of the fully resorbable polymeric everolimus-eluting scaffold in patients with de novo coronary artery disease: the ABSORB cohort A trial. *JACC Cardiovasc Interv*. 2013;6:999-1009.

*Corresponding author: Department of Cardiology, Thoraxcenter, Room Ba-581, Erasmus University Medical Center, 's-Gravendijkwal 230, 3015 GE Rotterdam, the Netherlands. E-mail: r.diletti@erasmusmc.nl