Optical coherence tomography imaging of everolimus-eluting bioresorbable vascular scaffold implanted into coronary vein graft at 3-month follow-up

Tomasz Rolde**er**, Zofia Parma, Grzegorz Smolka, Andrzej Ochała, and Wojciech Wojakowski

Medical University of Silesia in Katowice, 45/47 Ziolowa Street, Katowice 40-055, Poland

* Corresponding author. Tel: +48 323598942, Fax: +48 323598942, Email: tomaszrolde@gmail.com

A 54-year-old male with stable angina, hypertension, and dyslipidaemia, as well as a history of coronary artery bypass grafting with implantation of two saphenous vein grafts to left anterior descending artery (LAD) (Ao-LAD) and diagonal branch (Ao-D1) 23 years ago. Coronary angiography done because of recurrent angina revealed a chronic total occlusion of the right coronary artery, occlusion of Ao-LAD, and significant stenosis of Ao-D1. Quantitative coronary angiography (QCA) showed 92% stenosis of Ao-D1 with its reference lumen diameter of 3.7 mm, minimal lumen diameter (MLD) of 0.3 mm, and lesion length of 11 mm. After pre-dilatation with semi-compliant balloon 2.5 × 8 mm, an everolimus-eluting bioresorbable vascular scaffold (BVS) ABSORB 3.5 × 12 mm (Abbott, Santa Clara, CA, USA) had been implanted with good angiographic results. Acute angiographic results and QCA post-implantation showed MLD of 3.1 and 15% residual stenosis of SVG. Afterwards, the patient had been scheduled for an intravascular optical coherence (OCT) imaging 3 months after the intervention to monitor Ao-D1 healing. OCT revealed complete apposition, no edge dissection or an excessive neointima in the BVS. The minimal lumen area was 6.2 mm² and the minimal BVS area was 6.7 mm². Moreover, 136 BVS struts were analysed and 71 (52%) of them had been already covered by the neointima. No signs of BVS absorption were detected (Panels A–D, Supplementary material online, Video S1).

This report presents favourable vessel healing after ABSORB implantation to VG in a short-term follow-up. However, further observations are required to monitor the influence of BVS absorption on the VG morphology in a long-term follow-up.

Optical coherence tomography imaging of bioresorbable vascular scaffold implanted into coronary vein graft. Optical coherence tomography (OCT) imaging of ABSORB performed 3 months post its implantation into the Ao-D1, the dashed lines are labelled with numbers that correspond to presented OCT cross sections, dark lines indicate the position of the ABSORB in Ao-D1.

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