INTERVENTIONAL CARDIOLOGY

DREAMS of a bioabsorbable stent coming true

The drug-eluting absorbable metal scaffold (DREAMS; Biotronik, Bülach, Switzerland) has a good safety profile and a low rate of target-lesion failure, according to data from the BIOSOLVE-I trial, and is a promising potential alternative to bare-metal or drug-eluting stents and polymeric absorbable scaffolds. DREAMS allows the controlled release of the antiproliferative agent paclitaxel, after which the polyactic-coglycolic acid drug carrier layer is absorbed. After 9–12 months, structural disintegration of the stent, and bioabsorption of the magnesium-alloy scaffold is complete.

The prospective, nonrandomized, BIOSOLVE-I was a first-in-man trial to assess the safety and performance of the second-generation DREAMS in patients with *de novo* coronary lesions. A total of 46 patients with 47 lesions (34% left anterior descending coronary artery, 34% left circumflex artery, 32% right coronary artery) were enrolled in five centres throughout Europe. All patients were

prescribed dual antiplatelet therapy for ≥ 12 months after intervention.

The device and procedural success rate was 100%.

The primary end point was target lesion failure—a composite of cardiac death, target-vessel myocardial infarction, and clinically driven target-lesion revascularization. The end point occurred in two patients after 6 months (both target-lesion revascularization), and in a third patient by 12 months of follow-up (a periprocedural target-vessel myocardial infarction during angiography at the 12-month visit). No cardiac death or scaffold thrombosis was observed.

The investigators note that the study suffers from “the absence of a direct comparison with other permanent stents or scaffolds”. Furthermore, it “included only a few patients with simple lesions ... thus the results cannot be generalized to other types of lesions, and findings need to be confirmed in larger studies”.

Nevertheless, in an accompanying editorial published in the *Lancet*, Yuri B. Pride and Donald E. Cutlip, from Harvard Medical School, Boston, MA, USA, highlight “the potential benefits afforded by a successful bioabsorbable scaffold: restoration of normal vasomotor function to the stented segment; reduction of the duration of dual antiplatelet therapy without increasing the risk of stent thrombosis; avoidance of a stimulus for inflammation and risk of associated neoatherosclerosis; and avoidance of late complications associated with stent fracture”.

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Original article Haude, M. et al. Safety and performance of the drug-eluting absorbable metal scaffold (DREAMS) in patients with *de-novo* coronary lesions: 12 month results of the prospective, multicentre, first-in-man BIOSOLVE-I trial. *Lancet* doi:10.1016/S0140-6736(12)61765-6