Letter Regarding Article by Sawhney et al, “Treatment of Left Anterior Descending Coronary Artery Disease With Sirolimus-Eluting Stents”

To the Editor:

Sawhney et al describe a superior adverse cardiac event rate of 9.8% with sirolimus-eluting stents (SES) versus 24.9% with bare metal stents in left anterior descending coronary artery (LAD) disease after 1-year follow-up. Their subgroup analysis of patients with isolated proximal LAD lesions (29.3%) shows similar results because of a reduced in-stent restenosis rate after SES. They conclude that long-term SES results might be similar to those of surgically treated LAD lesions.

Until now, the major randomized SES studies (RAVEL and SIRIUS) reported superior results after SES compared with bare metal stents in less complex lesions. Being a SIRIUS substudy, the article by Sawhney et al reports the results of mainly tubular type B lesions (69.7%). Recently, a nonrandomized SES study showed a 9.7% major adverse real-world cardiac event rate at 1 year if SES were applied in consecutive de novo lesions. In addition, an angiographic 6-month follow-up study evaluating restenosis after SES deployment identified in-stent restenosis, ostial location, diabetes mellitus, total stent length (per 10 mm increasing), reference diameter (per 1.0 mm increasing), and LAD location as independent multivariate predictors for restenosis. Thus, it can be assumed that SES may be an alternative for bypass surgery in patients with type A and B lesions of the proximal LAD in the short term; long-term results of SES in complex lesions of the proximal LAD have not yet been reported.

Patients with complex lesions in the proximal LAD may have an excellent alternative in off-pump coronary surgery. At the 4-year follow-up of a randomized trial, we found a cardiac and cerebrovascular event rate of only 9.8% after off-pump arterial grafting of the LAD in this patient subset. Therefore, we conclude that off-pump arterial grafting of these lesions is still an excellent treatment option. Whether SES provides the same long-term results as bypass surgery in this patient subset remains to be proven by a study designed for this comparison.

We agree with Sawhney et al that SES are a major breakthrough in PCI technology. Whether these stents can approach the excellent long-term results of arterial grafting remains to be seen.

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Response

We thank Dr Drenth and colleagues for their comments on our article. We agree that the majority of patients enrolled in the SIRIUS trial had type B lesions; however, 24% had type C lesions. These patients had results similar to the entire SIRIUS cohort with 99% procedural success, a binary in-stent restenosis rate of 5.3%, and a survival free of target lesion revascularization (TLR) rate of 91% at 1 year. Furthermore, 3-year follow-up data have been presented from the RAVEL trial with a sustained 95% rate of survival free from TLR. The 2-year SIRIUS data found similar sustained benefit, with a 94% rate of survival free from TLR.

Numerous randomized controlled trials and registries designed to study outcomes of sirolimus stenting in various complex lesion subsets are ongoing or have been completed recently. Each patient and lesion subset will need careful short- and long-term evaluation. We agree that surgery is always an option for patients. Although it has theoretical advantages, the benefit of off-pump surgery has failed to be conclusively demonstrated in several randomized clinical trials. We therefore maintain our assertion that sirolimus-eluting stents have narrowed the reintervention gap between surgery and percutaneous intervention.

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