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Letters to the Editor

Reply to Liu et al.—The ReABSORB Registry

To the Editor:

We thank Dr Liu and colleagues for their interest in our ReABSORB registry.[1] The major conclusion of our study was that technical factors including use of a "predilation-sizing-postdilation" strategy and longer inflation times were predictive of event-free survival, which reflects the importance of using specific implantation techniques with bioresorbable vascular scaffolds (BVS). In our study, patients with acute coronary syndromes (ACS) presentation had event-free survival comparable with patients with stable angina (92.7% vs 86.0%, respectively; $P = 0.239$).

Although we recognize the potential risks of postdilation in ACS patients, the studies cited by Liu et al. evaluated permanent metallic stent platforms. The biophysical properties of permanent devices and their effects on the coronary arteries might not be generalizable to BVS, such as ABSORB (Abbott Vascular, Santa Clara, CA). Because of the greater risk of underexpansion and recoil of BVS in resistant lesions, our data suggest that the benefits of postdilation to reduce scaffold thrombosis and restenosis likely outweigh the potential risks in an ACS population. To this point, we found that complex lesions in ACS patients appeared to benefit from a predilation-sizing-postdilation-compatible implantation technique when BVS were used. In addition, our results are in line with a pooled analysis from BVS STEMI First and BVS EXPAND registries in which postdilation alone had no negative effect on clinical outcomes in an ACS population.[2] Large prospective randomized trials are nevertheless necessary to confirm the safety of postdilation in patients with ACS treated with BVS or permanent stents.

Liu et al. also questioned the appropriateness of the composite end point used in ReABSORB, suggesting that safety could not be distinguished from efficacy. We would first argue that cardiac death and nonfatal myocardial infarction might be considered as efficacy and safety outcomes. This philosophical stance notwithstanding, the safety of BVS was defined in terms of the rate of nonoccurrence of stent thrombosis in the ABSORB II trial.[3] Also, measuring efficacy as a composite end point of cardiac death, nonfatal myocardial infarction, or ischemia-driven target lesion revascularization is supported by the Academic Research Consortium.[4] Choosing a composite end point limited to death and nonfatal infarction alone, as suggested by Liu et al., would necessarily reduce the statistical power of the analysis.

Of note, reanalyzing our data using a composite end point of death and myocardial infarction at 3 years did not reveal a significant independent effect for postdilation in the ACS subgroup. In fact, as is shown in Table 1, no univariate factor was predictive of the more restrictive composite outcome.

Table 1. Independent predictors of myocardial infarction or cardiac death at 3 years of follow-up in the subgroup of patients with ACS

Possible predictors	Univariate OR (95% CI)	*P*
Postdilation	0.39 (0.03-4.65)	0.460
Total inflation time ≥ 60 seconds	0.25 (0.02-2.83)	0.260
OCT/IVUS use	2.46 (0.21-29.08)	0.474
BVS length ≥ 20 mm	3.72 (0.32-42.83)	0.291
BVS diameter ≥ 3.0 mm	0.52 (0.04-6.02)	0.597
ACC/AHA type C lesion	4.17 (0.34-50.66)	0.263
Diabetes	5.39 (0.47-62.33)	0.177
HTN*		
eGFR ≤ 50 mL/min†		
DAPT ≥ 12 months	0.10 (0.01-1.33)	0.081
DAPT ≥ 18 months‡		

ACC/AHA, American College of Cardiology/American Heart Association; ACS, acute coronary syndromes; BVS, bioresorbable vascular scaffold; CI, confidence interval; DAPT, dual antiplatelet therapy; eGFR, estimated glomerular filtration rate; HTN, hypertension; OCT/IVUS, optical coherence tomography/intravascular ultrasound; OR, odds ratio.

*All patients with myocardial infarction or cardiac death had HTN.

†No patients with myocardial infarction or cardiac death had an eGFR < 50 mL/min.

‡No patients with myocardial infarction or cardiac death had DAPT ≥ 18 months.

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Disclosures

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