hypertension and diabetes, using modern therapies that may confer additional cardiovascular benefit (ie, GLP1 inhibitors, SGLT2 inhibitors). Although Taggart and colleagues¹² provide compelling early anatomic results, the long-term reduction in SVG failure brought on by vesting remains unknown, and subsequent clinical outcomes will need to be ascertained. We are nonetheless grateful and better informed as a result of their mechanistic findings and look forward to longer-term outcomes from the VEST III trial.

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Commentary: A device solution for the saphenous vein graft's infamous foible?

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The choice of graft in coronary artery bypass grafting (CABG) beyond the sturdy left internal mammary artery

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Brittany A. Zwischenberger, MD (left), and Mario Gaudino, MD, PhD, MSCE (right)

CENTRAL MESSAGE

In patients undergoing coronary artery bypass grafting with saphenous vein grafting, external stenting of the vein grafts may reduce late degeneration.

remains a challenge as surgeons weigh the risks, benefits, and scientific evidence surrounding radial artery, right

internal thoracic artery (RITA), and saphenous vein grafts (SVG). Although SVG graft patency is disappointing (9% to 26% at 1 year, 40% at 10 years), it remains the most commonly used additional graft.¹⁻⁵ Confounders abound as investigators attempt to control for the patient factors and surgical techniques contributing to SVG failure, straining statistical methodology and the clinical application of results. The opportunity to simultaneously use patients as test subjects and controls provides valuable insight into any intervention focused on graft patency in CABG.

We congratulate Taggart and colleagues⁶ for undertaking the tenacious problem of late SVG failure through a well-designed prospective, within-patient, controlled, randomized, multicenter trial evaluating external stenting. The authors included patients (n = 183) who received 2 aorto-coronary SVGs and randomized to an external stent to a right or left SVG, leaving the remaining nonstented SVG as an internal control. The endpoints focused on measurements of chronic degeneration, including the Fitzgibbon Patency Scale (FPS) and intravascular ultrasound to assess intimal irregularities (percentage of estimated intimal surface) and degree of intimal hyperplasia, respectively, at 2-year follow-up. Of the patent grafts, the primary outcome of FPS grade was significantly different; stented grafts were less likely to demonstrate intimal irregularities (odds ratio, 2.02; $P = .03$). Similarly, intimal hyperplasia area and thickness were significantly different between the stented and nonstented grafts (−22.5% and −23.5%, respectively; $P < .001$), yet the 2-year patency rate was similar in the 2 groups (78.3% vs 82.2%; $P = .432$).

The authors also focus on the role of harvest technique as a contributor to patency at 2 years, with an open technique (n = 193) demonstrating significantly improved patency compared with an endoscopic technique (n = 101) (88.6% vs 65.3%; $P < .001$). Readers should note that the effect of harvest technique does not appear to be a pre-specified effect modifier. The large-scale VA REGROUP randomized controlled trial comparing the 2 harvest techniques demonstrated no difference in the composite endpoint of major adverse cardiac events at a similar 2-year follow-up, but no imaging evaluation of graft status was performed.⁷

We emphasize that the minimal lumen diameter of SVGs, as reflected by the FPS, is not predictive of future graft failure and is not a significant clinical event. Long-term follow-up is essential to validate the role of external stenting in SVG patency. A cogent discussion about SVG patency parallels that of a second arterial graft (radial or RITA) in CABG. Should we change practice patterns based on graft patency, a surrogate for long-term patient outcome? Almost 2 decades ago, a randomized-controlled trial using within-patient controls demonstrated a significantly reduced rate of occlusion on angiography at 1 year in the radial graft group compared with the SVG group (8.2% vs 13.6%;

$P = .009$).⁸ The positive clinical impact of radial artery grafting in CABG was recently highlighted in a meta-analysis of randomized-controlled trials at a 10-year follow-up with a statistically significant reduction in the incidence of the composite outcome of death, myocardial infarction, or repeat revascularization (hazard ratio, 0.73; 95% confidence interval, 0.61-0.88; $P < .001$).⁹ However, despite decades of supportive evidence, we continue to debate the utility of the radial artery.

Taggart and colleagues have introduced a novel device to optimize SVG patency, but will the dissemination and implementation of external stents realize its full potential in the mercurial climate of bundled reimbursements and economic pressure? Can external stenting overcome the challenges faced in multiarterial grafting and attain widespread adoption? The external stent is relatively easy to apply to the SVG. In contrast, radial artery and RITA harvest require surgical expertise and may add to the overall operating room time.¹⁰ Furthermore, the radial artery and RITA are at risk of spasm and may warrant an adjustment in postoperative patient management, minimizing inotropes and adding oral calcium-channel blockers.¹¹ The simplicity of the external stent is enticing and may facilitate adoption in the surgical community, although cost will be an important issue. The study by Taggart and colleagues is an example of an innovative, simple device solution for a pervasive limitation of SVGs in CABG, and we look forward to future studies inVESTigating the external stent.

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