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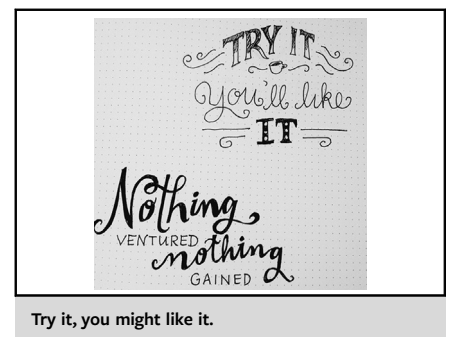


Commentary: Radial artery—Try it; you might like it, and your patients will love it

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This report¹ represents the multidecade experience with radial artery (RA) in coronary artery bypass grafting (CABG) by a pioneer and expert in this field. It is an excellent summary of the technical and practical aspects of RA use as a coronary conduit. It will serve both as an excellent guide for surgeons beginning their RA journey as well as a valuable reference for experienced surgeons.

The last decade has seen an explosion of high-quality data on the value of the RA as a second arterial conduit in internal thoracic artery (ITA)-based CABG, with documentation of both its long-term clinical benefits and safety compared with saphenous vein grafts (SVGs). In a patient-level analysis of 6 randomized prospective RA versus SVG trials, each of which individually was likely underpowered to detect clinically meaningful differences, Gaudino and colleagues² found a significantly lower rate of adverse cardiac events and a greater patency rates at 5 years postoperatively. In a 10-year follow up,³ RA use was associated with decreased risk of the composite of death and myocardial infarction. In another study,⁴ the 20-year RA patency was 75%, significantly greater than SVG and equivalent to the left ITA. In a statewide analysis,⁵ the use of a second arterial graft (right ITA or RA) was associated with significantly lower 7-year risk of mortality, myocardial infarction, and repeat revascularization, with no differences in outcomes between right



CENTRAL MESSAGE

Radial artery should be used more frequently in CABG.

ITA and RA. The safety of RA was also documented in a large nationwide analysis of the Society of Thoracic Surgeons Database of more than 1.3 million patients undergoing CABG between 2004 and 2015.⁶ Importantly, in contradistinction to single arterial CABG, only multiarterial RA-based CABG was associated with improved long-term survival compared with percutaneous coronary intervention.⁷ These data cumulatively, as well the absence of any data documenting inferior outcomes of RA versus SVG, have led to a Class I recommendation for RA use in CABG.⁸ Despite this evidence, the national RA use in the United States has remained persistently low, being 6.3% in the 2019 Society of Thoracic Surgeons Database.

It is hard to understand this disconnect between evidence and practice. The specific barriers to a more routine use of RA remain undefined and warrant further analysis. In the only survey of cardiac surgeons on this subject,⁹ the reservations expressed by surgeons were concerns of greater mortality and morbidity, prolonged operative times, and a steep learning curve. Despite this, however, only 27% of surveyed surgeons would elect to undergo a traditional single arterial-based CABG should they require a coronary revascularization. Although medical innovation proceeds at a glacial pace, cardiac surgeons have always been at its forefront. It is time for current cardiac surgeon to build on that tradition of innovation, particularly in an era of constrained medical resources and the enhanced intense search for value in health care. Our professional societies must play a more active role in this process and help facilitate the transition away from single arterial CABG to multiarterial CABG.

Dr Tatoulis's report should certainly serve as a trusted guide on this journey.

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