The right coronary artery: which graft and how to use it?

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Achieving survival benefit and freedom from cardiac death with a third arterial graft, hitherto only a hope of many, is herein reported but not for the first time [1, 2]. The authors are widely recognized for technical excellence and critical analysis of determinants of conduit patency [1].

Use of both internal thoracic arteries (ITAs) for the left coronary system is widely practiced, whereas the optimal graft for the right is uncertain. Some clarity is provided by these reports with the in situ right gastroepiploic artery (GEA) [1, 2]. Recognizing the importance of competitive flow, they have rigorously insisted on...
a minimal lumen diameter (MLD) of less than 1.0 mm to qualify for GEA use which likely contributed to conduit patency and their success. This stringent approach might also be translated to the radial artery but is unproven [1].

As stated, the GEA is a fourth-order aortic branch which limits inflow [1]. Therefore, use of the GEA as a free aortic graft may improve flow and patency just as the free right ITA has proven eminently useful with patency approximating that of the left ITA. However, experience with the free GEA is minimal except for one report where patency to 77 months was 95.7% [3]. Should we not consider this approach and might it not compensate in some measure for competitive flow?

The authors have utilized quantitative coronary angiography to determine MLD [1]. I have concern that most of us may not have this technology and, even with it, the vagaries of lumen encroachment by a geographically complex lesion may best be assessed physiologically using fractional flow reserve with perhaps a lower number than 0.8 as a threshold [4]. This of course would require further trial and analysis.

REFERENCES