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RIGHT INTERNAL THORACIC ARTERY OR SAPHENOUS VEIN FOR GRAFTING THE RIGHT CORONARY ARTERY?

To the Editor:

We read with great interest the article by Benedetto and colleagues¹ and would like to take part in this ongoing debate regarding the choice of grafts for coronary artery bypass grafting. The authors report that right internal thoracic artery (RITA) to right coronary artery (RCA) grafting is associated with improved late survival compared with saphenous vein grafting, and this beneficial influence on survival appears around 9 years.

In principle we agree with the authors¹ that arterial grafts should be considered for the anterolateral wall as the first choice, as shown in their cohort (RITA-left anterior descending artery [n = 273] and RITA-circumflex [n = 414]) and grafted to the inferior wall only when the right coronary branches are critically stenosed (ie, >75%).

We find that the patency of each conduit is invariably connected to the runoff and the ventricular mass supplied by the anastomosed coronary artery. This is why grafts to the left anterior descending artery exhibit the best patency rates. Shah and colleagues² reported on the factors affecting the late patency of the internal thoracic arteries (ITAs). They showed that grafts to the RCA and posterior descending artery (PDA) had worse patency and higher failure rates than left-sided grafts. Schmidt and colleagues³ concluded that using an arterial conduit to treat right coronary artery disease is not beneficial. These authors demonstrate a significant improvement in survival of patients who received ITA grafts to left-sided arteries compared with patients who had an ITA grafted on the right side.

We also need to focus on the article's subgroup analysis, which showed evidence toward better results with in situ configuration rather than the free RITA. This comes as no surprise.

It is widely recognized that an in situ RITA may not always reach the PDA, even when harvested in a skeletonized fashion, and it is difficult to use even as a free graft due to technical considerations arising from the proximal anastomosis to the aorta. Moreover, we think the average RCA is not clinically equivalent to the left-sided branches. The RCA is often a small, calcified, and hence suboptimal target.

The choice of location for the second arterial graft should be individualized according to the dominance of the circulation; the size of the branches arising from the RCA; and, most importantly, the runoff and myocardial mass supplied by each target vessel. The importance of this last criterion is highlighted by the fact that even saphenous veins exhibit better patency rates when grafted to the left anterior descending artery compared with the RCA.⁴ In general, the lateral wall constitutes a better potential second target due to the fact that the PDA usually supplies only one-third of the interventricular septum. This was advocated by Gaudino and colleagues in a recent article.⁵ Ultimately, location of the second arterial graft should be guided by the extent of viable myocardium at risk in each territory.

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TO SKELETONIZE THE INTERNAL THORACIC ARTERY OR NOT TO SKELETONIZE? TO BE OR NOT TO BE!

Reply to the Editor:

Karangelis¹ has contributed insightful comments to the debate of choice of grafts in coronary surgery. He states that arterial grafts should be considered for