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Letter to the Editor

Radial artery or saphenous vein, a graft of second choice in coronary artery bypass surgery

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With great interest we have read a recent meta-analysis from Cao and colleagues[1] on patency outcomes comparing the radial artery (RA) and saphenous vein (SV) following coronary artery bypass graft surgery (CABG). The extracted data suggest superiority of the RA compared with the SV at midterm angiographic follow-up, while considering the increased incidence of string sign associated with the RA as a potential clinical concern. We wish to point out a major issue that needs to be taken into consideration when comparing RA and SV patency rates.

Intraoperative graft management is a crucial determinant for the long-term results of SV patency. We believe the 'no-touch' harvesting technique of the SV graft imposes the pivotal role in its patency. This method provides a pedicled graft that has little similarity with a venous graft harvested conventionally, but a patency rate comparable to ITA. [2] It preserves normal vessel architecture with intact adventitia, preserved vasa vasorum, maintained medial blood flow and endothelial integrity. The perivascular fat provides a cushion support that protects the vein against arterial hemodynamics and kinking as well as providing a source of factors beneficial to graft performance. Superior long-term patency rate can be explained by a slower progression of atherosclerosis in these vein grafts. [3] The conventional harvesting technique damages vein structure. Early vein graft failure is associated with distension-induced endothelial denudation. The damage of the outermost layers has adverse long-term effects on graft performance and its patency. Complete 'bedside to bench' situations of mechanisms underlying the improved performance of 'no-touch' SV graft are reported in a recent review[4].

In spite of the benefits clearly shown by the 'no-touch' technique its use is still limited to only a few centers worldwide, as is often the case with all new interventional techniques. What should be of a real concern, particularly in the light of

unequivocal scientific evidence on graft quality obtained in such manner[5] is the ever-increasing popularity of the SV grafts harvested endoscopically. This contributes to a substantial heterogeneity of the extracted data with questionable comparability. We consider that the information regarding the prevalence of SV grafts harvested endoscopically is of great importance when assessing SV patency.

The existing evidence on 'no-touch' SV makes us question why this technique should have been excluded from this paper, or at least discussed. An ongoing multicenter randomized controlled clinical trial (SUPERIOR SVG Trial, NCT01047449) aims to provide strong evidence whether the new technique of a pedicled SV graft improves its patency in CABG.

The study results favor mid-term patency rates of the RA over SV in CABG. Although the scientific data are inconsistent on the matter, we believe that the preservation of normal vein architecture using the 'no-touch' technique is crucial for its improved patency. Based on the long-term follow-up data we hope to encourage trainee surgeons and established cardiac surgeons to convert to this technique. Further research comparing 'no-touch' SV with RA is needed in order to corroborate evidence on the graft of second choice in CABG.

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