

Commentary: What Is the Optimal Graft Strategy for Coronary Bypass Grafting with Concomitant Aortic Valve Replacement?

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The optimal graft strategy in coronary artery bypass grafting (CABG) remains questionable despite long-lasting debates and various studies on the topic. Arterial grafts, especially internal thoracic artery grafts, showed better long-term patency than venous grafts [1]. However, despite the theoretical advantages, a recent randomized study did not prove the survival benefits of using bilateral internal thoracic artery (BITA) grafts [2].

There are several disadvantages to using BITA grafts. It is technically demanding to handle these vessels during harvesting or anastomosis due to their fragility and small size. Simultaneously harvesting 2 grafts is impossible, which leads longer harvesting time. Additionally, high risks of wound complications have been reported [3]. Accordingly, BITA grafts have not been popular for use in CABG [4].

Nonetheless, using BITA grafts has several advantages. These grafts can be harvested with a single incision, and their long-term patency has been proven [5]. Several observational studies have also demonstrated better long-term survival [4]. An aortic no-touch strategy is possible to reduce the risk of stroke [6]. Additionally, wound complications can be reduced by skeletonization [7]. Therefore, some surgeons have favored BITA grafts [8].

Choosing an optimal graft strategy for CABG with con-

comitant aortic valve replacement (AVR) is more complex due to the considerable surgical risks and technical complexity. No studies have conclusively established the proper graft strategy for CABG with concomitant AVR.

The study by Heo et al. [9] demonstrated favorable outcomes of BITA grafts for CABG with AVR. Although the overall survival was not significantly different between the BITA and single internal thoracic artery (SITA) groups, beneficial effects of BITA grafts were demonstrated in low-risk group (left ventricular ejection fraction >45%).

A cautious interpretation is certainly required because the study included a small number of patients and mixed valve types. Furthermore, different surgical strategies were applied in both groups (the cardiopulmonary bypass time and aortic cross-clamp time were longer in the SITA group, while the off-pump coronary bypass strategy was applied in the BITA group). In addition, it is difficult to interpret the better early results of the BITA group (lower rates of renal failure, low cardiac output syndrome, and prolonged ventilation, shorter intensive care unit stays, and a lower incidence of early death) as solely reflecting the use of a different graft strategy.

Despite several limitations, this study provides insights into graft selection for CABG with AVR. Since excellent long-term survival of AVR has been reported [10], graft se-

lection concerning long-term patency and survival benefits has become more important in CABG with AVR. The study is valuable because it opens a discussion on the optimal graft strategy for CABG with AVR. A well-designed multi-center randomized controlled trial would provide clearer answers regarding this difficult clinical decision.

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