

# Off-pump bilateral internal thoracic artery grafting

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We read with interest the article by Dr. Lytle on bilateral internal thoracic artery (BITA) grafting (1). We congratulate him for an excellent review on the subject. We would like to take this opportunity to humbly express our opinion regarding off-pump use of BITA grafting. Our limited experience contradicts his opinion that off-pump CABG (OPCAB) may have negatively influenced the use of BITA and sequential ITA grafting (1). We have reported a simple technique to use BITA with aortic no touch (2) that can be performed off-pump by surgeons even with limited OPCAB experience. Sequential grafting using LITA-RITA y graft technique off-pump has been in practice for a while. Intra-myocardial blood vessels had been successfully grafted during OPCAB (3). We feel that in the absence of the stress of increasing clamp or bypass time, a perfect anastomosis can be performed even in severely diseased arteries. Moreover, the absence of cardiopulmonary bypass-induced inflammatory response may have a favorable impact on the vulnerability of deep mediastinal infection after BITA use. OPCAB is associated with less use of blood and blood product which is known to reduce immunity. We would argue that immunity may be better preserved after OPCAB because of the absence of inflammatory response and less use of blood and blood product. In addition to routine use of skeletonised ITA, these factors may explain the very low incidence of major infection in our OPCAB patients with BITA grafting.

Stroke after CABG is probably the major drawback in all the recent trials comparing CABG with percutaneous coronary intervention (PCI). Even with the improvement in technology, it would be difficult to reduce the incidence of stroke to less than 2% after on-pump CABG. Even OPCAB (where aortic side clamp had been used) can be complicated by postoperative incidence of stroke. Stroke

after CABG is probably the worst complication. OPCAB with aortic-no-touch can reduce the incidence of stroke to the minimum (4). OPCAB with aortic-no-touch which has the lowest incidence of stroke compares favorably with PCI.

We have successfully adopted OPCAB use of BITA grafting in more than 90% of unselected consecutive cases of isolated CABG (5). It is well known that coronary artery disease in the Asian population has a very aggressive pattern affecting the younger generation. Moreover, while PCI is preferred for younger patients with low syntax score, our surgical patients have become more complex with higher syntax scores. By using OPCAB with aortic-no-touch and BITA grafting, we have been able to provide an alternative to PCI which has not only better graft patency rates, and provides complete revascularization but also the incidence of stroke is comparable or lower than PCI (even passing coronary angioplasty catheters through diseased aorta can produce stroke). Our limited experience has proved that BITA grafting can be successfully used during OPCAB (5). I congratulate Dr. Lytle for highlighting the superiority of BITA grafting in improving long-term patient outcomes. It will require a change in mindset toward BITA grafting to successfully provide a better alternative to PCI in patients with coronary artery disease.

## Acknowledgements

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