7. Clinical bottom line

In general, the use of pedicled BITA grafts carries increased risk for mediastinitis after CABG and this is even higher among diabetic patients, thus rendering many surgeons reluctant in using BITA grafting in this subgroup of patients. However, the use of skeletonized BITA grafts can reduce this risk and both non-diabetics and diabetics can be operated on without increased risk of mediastinitis. The current available evidence shows that skeletonized BITA grafting can be safely applied in almost every patient. All cardiac surgeons should be trained efficiently in using skeletonized BITA.

References


eComment: Bilateral internal thoracic artery harvesting: which harvesting technique is preferred?

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I read with great interest the paper by Toumpoulis et al. [1] that raised the question of whether bilateral internal thoracic artery (BITA) harvest for coronary artery bypass grafting (CABG) increases the risk of mediastinitis (also deep sternal infection). They stated that skeletonized BITA grafting can be performed with acceptable risk in all patients including higher risk group such as diabetics. The single ITA has been used almost exclusively as a pedicled graft with construction of one or two (sequential) distal anastomoses. Nearly all publications report that bilateral pedicled ITA grafting increases the risk of mediastinitis. Therefore, in recent years there has been an increasing popularity of bilateral use of the skeletonized ITA for CABG. In order to gain the additional length, increase the number of arterial anastomoses and decrease the occurrence of deep sternal infections.

Skeletonized harvesting of the ITA together with a better glucose control in diabetic patients may significantly reduce the incidence of mediastinitis. I strongly believe that the ITA, if used bilaterally, should always take in the full skeletonized technique in obese and diabetic patients.

Skeletonized harvesting of the ITA can be performed either with small scissors and hemoclips or with an ultrasonic Harmonic scalpel [2, 3]. Higami et al. reported that the Harmonic scalpel causes minimal charring and thermal injury to the surrounding tissues of the ITA.

Apart from the study by Boodhwani et al. [4], up to date, there have been no randomized studies describing the role of skeletonized harvesting of the ITA in the prevention of mediastinitis. All these studies are observational findings. Previous observational published studies and Boodhwani et al.’s randomized, double-blinded, within-patient comparison study confirm that skeletonized harvesting of the ITA should be indicated in diabetic patients undergoing BITA grafting.
Lastly, I believe that careful skeletonized harvesting of the ITA offers many advantages with an acceptable risk of complications compared to pedicled harvesting of the ITA. Hence, I agree with the authors that all cardiac surgeons should be trained efficiently with regard to skeletonized harvesting of the BITA.

References