

POST CABG SURGERY PAIN WITH THE USE OF SKELETONIZED VERSUS PEDICLED TECHNIQUE OF INTERNAL THORACIC ARTERY HARVESTING

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Dear Prof. Hafizullah, we read the interesting article by Asad Khan and colleague entitle "POST CABG SURGERY PAIN WITH THE USE OF SKELETONIZED VERSUS PEDICLED TECHNIQUE OF INTERNAL THORACIC ARTERY HARVESTING". Coronary artery bypass grafting (CABG) remains the gold standard for the treatment of left main coronary artery disease and multi-vessel diseases.¹ Left internal mammary artery (LIMA) graft to the left anterior descending (LAD) artery has been shown to be the most important factor for survival and minimization of cardiac events in any patient undergoing coronary artery bypass grafting.² There are two common methods to harvest IMAs: skeletonization and pediculation. The method of skeletonization, originally described in 1987 by Keeley.³

Skeletonization of the IMAs has been proposed as a solution for many problems related to the IMA harvest. Recent evidence suggests that skeletonization of the left internal mammary artery (LIMA) can improve the flow and length of the flow, reduce deep sternal infections and postoperative pain.⁴

We have conducted a similar study on 84 patients, after the inclusion and exclusion criteria were applied, 60 isolated CABG cases were studied. In the S group (n = 30), harvested LIMA was performed according to skeletonization technique, and in group P (n = 30), the pedicled technique was used. Patients' demographic information and cardiovascular risk factors are recorded in table 1. Mean (\pm SD) age of the study participants was 63.9 (\pm 8.9) and 62.9 (\pm 9.7) in the skeletonized and pedicled groups. As the table shows, there was no statistically significant difference between the groups regarding age, gender, cardiovascular risk factors, number of grafts, cross clamp time, and pump time. As illustrated in table 2 (showing early mean bleeding volume, and mean early and midterm postoperative pain scores), there were no significant differences between the two groups in the early and mid-term pain scores (postoperative and after one year of follow-up). However, there was a significant difference in LIMA length between the groups (17.96 ± 0.50 vs. 17.27 ± 0.33 , $p < 0.001$).

Table 1: Comparison of Demographic and Cardiovascular Perioperative Risk Factors in the Patients^a

Variable	Skeletonized	Pedicled	P Value ^b
Age,	63.93 ± 8.99	62.90 ± 9.76	0.67
Gender	55	55	100
Number of distal anastomoses	4.3 ± 0.70	4.2 ± 0.66	0.57
Cross Clamp time, min	74.566 ± 12.08	68.833 ± 16.33	0.12
CPB time, min	121.93 ± 25.2	114.83 ± 21.77	0.43
Risk Factors			
DM	43.3	46.6	0.79
DLP	36.6	23.3	0.26
HTN	63.3	46.6	0.19
COPD	3.3	3.3	0.99
CVA	0	3.3	0.31
Smoking	16.6	13.3	0.72

Abbreviations: COPD, chronic obstructive pulmonary disease; CVA, Cerebral vascular accident; DLP, dyslipidemia; HTN, hypertension; DM, diabetes mellitus. ^a Values are expressed as mean ± SD or %. ^b P values were calculated using Students' T-test or Mann-Whitney Test as appropriate.

Table 2: Comparison of Early Postoperative Bleeding and Early and Mid-Term Pain Scores Between the two Groups

Variable	Skeletonized	Pedicle	Value ^a
Drainage, cc	782.2 ± 453.0	903.1 ± 518.2	0.65
Early pain score	2.77 ± 0.43	2.87 ± 0.34	0.32
Mid -term pain score	1.17 ± 0.37	1.17 ± 0.37	1.00
LIMA length	17.96 ± 0.05	17.27 ± 0.33	< 0.001

^a P values were calculated using Students' T-test

Our study did not have a large sample size. Nevertheless, all the operations are carried out by the same surgeon and the same technique at one single center, reducing operation technique and skills bias. In addition, potential detrimental factors to the study were eliminated as far as possible since the two groups were

matched for age, gender, cardiovascular risks and coagulation conditions. In conclusion, given the increased conduit length and reduced early post-operative pain in patients in the skeletonization technique, this technique can be preferred over the pedicled technique.

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