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Bilateral versus unilateral internal thoracic artery revascularization in patients with multivessel coronary artery disease

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Aim: The Bilateral Internal Thoracic Artery (BITA) use for revascularization in patients with multivessel coronary artery disease showed advantages over single Left Internal Thoracic Artery (LITA) with Saphenous Vein Grafts (SVG) use for coronary artery bypass grafting in such a complicated group of patients. However harvesting BITA can be associated with higher incidence of blood-loss, wound complications and major cardiac events (such as perioperative myocardial infarction, stroke and all cause death) in early postoperative period. The aim is to compare incidence of bleeding, wound complications and major cardiac events among patients underwent coronary artery bypass grafting procedure using BITA vs LITA harvesting.

Method: The study included 43 patients who underwent surgery in the department of cardiac surgery from October 2016 to December 2018 at the Republican Research Center for Emergency Medicine. All patients were divided into two groups: The first group consisted of 25 patients who underwent coronary bypass with the use of the left internal thoracic artery and venous grafts (LITA+SVG), the second group—18 patients underwent CABG using both internal thoracic arteries for myocardial revascularization (BITA+SVG). The age of the patients ranged from 47 to 66 years (the average-55 years). In both groups, all patients were male.

Results: In the first group, 14 patients had stable angina, the remaining 11 patients had unstable angina. In the BITA+SVG group, all patients had unstable angina. All patients had also history of previous myocardial infarction. On coronary angio—18 patients had-3x vascular lesion and seven had-stenosis of the left main and the right coronary artery (LITA+SVG). Among BITA+SVG patients 15 patients had-three vessel disease and three patients had a left and right main stem stenosis. The revascularization index was 3.1 for the patients of LITA+SVG group and 3.1 for the BITA+SVG group. In the early postoperative period, acute myocardial infarction, stroke and mortality were not observed in any case. The average blood-loss in drainage tube during first postoperative day was 280±15 ml and 305±23 ml for the LITA+SVG and BITA+SVG groups, respectively. It should be noted that in the first and second groups, were not observed any wound related complications.

Conclusion: This comparative study showed that BITA and LITA harvesting doesn't influence early postoperative period. Both methods accompanied by satisfactory results regarding to bleeding, wound healing and major cardio-cerebral events in patients with multivessel coronary artery disease.

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