Open Coronary Endarterectomy to LAD in CABG Surgery: The Impact of Surgical Grafting Technique of LIMA-To-LAD on Early Clinical Outcome and Mid-Term Angiographic Patency

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Objective:

Muhammed Tamim et al, To evaluate the impact of the technique used to perform the LIMA-to-LAD anastomosis following open coronary endarterectomy (CEA) to the left anterior descending artery (LAD).

Patients and methods:

Between 2010 and 2022, 100 consecutive patients underwent CABG with open CEA to LAD utilizing cardiopulmonary bypass and cardioplegic arrest. These patients were divided in two groups: In Group A (n=68) the LIMA was directly anastomosed to LAD; in Group B (n=32) the LIMA was anastomosed to a saphenous vein graft (SVG) patch that was first placed on the endarterectomized LAD. A postoperative coronary angiogram was performed in 88 patients (61 group A and 27 group B) at a mean time of 3 years.

Results:

The groups had similar preoperative demographic/clinical characteristics ($p>0.05$). Hospital mortality (2%), ITU/hospital stay, and major morbidity rates were comparable ($n>0.05$). However, graft failure rate (stenosis at the LIMA-to-LAD anastomosis of at least 50%) was significantly lower in group A (3%, 2 out of 66) than in group B (70.3%,19/27), $p<0.0001$). In the multivariate analysis, anastomosis of LIMA to the SVG patch (to LAD) was the only independent adverse predictor of LIMA-to-LAD patency $p<0.0001$).

Conclusions:

Open CEA to LAD is safe regardless of the grafting LIMA-to-LAD technique. However, direct anastomosis of LIMA to LAD provides significantly superior patency than the anastomosis of LIMA to the SVG patch (placed to the endarterectomized LAD.