No-Touch Saphenous Veins in Coronary Artery Bypass Grafting.
Long-term Angiographic, Surgical, and Clinical Aspects.

av

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Akademisk avhandling

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Abstract


Ischemic heart disease is currently the leading cause of death globally. Coronary artery bypass grafting (CABG) is considered the best treatment for many patients and its success depends on the long-term patency of the conduits. Greater use of arterial grafts has been advocated because of their higher long-term patency compared to saphenous vein grafts (SVGs). Despite this, SVGs account for up to 80% of all grafts used in CABG. Consequently, the long-term patency of the saphenous vein (SV) is one of the most crucial challenges in cardiovascular surgery. The no-touch (NT) SV in CABG has shown a superior patency rate, slower progression of atherosclerosis, and better clinical outcome compared to conventional veins up to 8.5 years postoperatively. The aim of this thesis was to study the long-term angiographic, echocardiographic, and clinical aspects of CABG patients receiving either NT or conventional vein grafts and to investigate the health-related quality of life (HRQoL) in this patient group. Studies I-II report a randomized trial between NT and conventional veins where 74 patients were followed-up at a mean of 16 years postoperatively. Study III is a prospective cohort trial in which 97 patients with NT vein grafts anastomosed to the left anterior descending artery (LAD) were included and followed-up at a mean of 6 years postoperatively. Study IV included 257 patients in whom HRQoL and graft patency were studied during the same follow-up visit. Overall, NT vein grafts showed a higher patency compared to conventional veins at a mean of 16 years, 83% vs. 64% (p=0.03), which was similar to the patency of the left internal thoracic artery, 88%. The NT group had a better left ventricular ejection fraction compared to the conventional group, 57.9% vs. 49.4% (p=0.011). After a mean of 6 years, the patency rate of NT SVs to the LAD was 95.6% and to non-LAD targets, 93.9%. Graft patency was an independent predictor of HRQoL in CABG patients. These patients reported a function and wellbeing similar to that of the Swedish population and clearly higher health status than those in the same disease group in the general population.

Keywords: Computed tomography angiography, coronary artery bypass grafting, left internal thoracic artery, no-touch harvesting technique, patency, saphenous vein.

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