

The patency of sequential and individual vein coronary bypass grafts: a systematic review.

Li, J; Liu, Y; Zheng, J; Bai, T; Liu, Y; Wang, X; Liu, N; Cheng, L; Chen, Y; Zhang, H

Ann. Thorac. Surg. 92, 12920 (2011)

Department of Cardiac Surgery, Beijing Anzhen Hospital, Capital Medical University, Beijing, China.

Abstract

BACKGROUND: Saphenous vein grafts continue to be the backbone of daily coronary revascularization practice, but controversy still exists about whether to use them as an individual or sequential graft. We undertook a systematic review and meta-analysis of cohort studies to compare the midterm or long-term patency of sequential vein coronary bypass grafts with those of vein grafts. **METHODS:** A comprehensive search strategy was run in PubMed, Embase, the Cochrane Library, and the Chinese Biomedical Literature Database. Inclusion criteria were the following: (1) two cohorts of patients received sequential and single saphenous vein coronary bypass grafting, respectively; (2) prospective or retrospective cohort design; and (3) graft patency examined by angiography or ultrafast computed tomography. Two researchers independently performed the literature search, data extraction, and quality assessment. **RESULTS:** We identified 1,385 titles, reviewed 38 articles for inclusion criteria, and included 12 studies in the meta-analysis. The risk of occlusion in sequential grafts was lower (risk ratio [RR] = 0.67, 95% confidence interval [CI] 0.60 to 0.74) than that in single grafts. The risk of occlusion in side-to-side anastomoses was lower (RR = 0.52; 95% CI, 0.34 to 0.80) than that of end-to-side anastomoses for sequential vein grafts. There was no difference in occlusion between the distal end-to-side anastomoses of sequential vein grafts and those of single vein grafts (RR = 0.85; 95% CI, 0.68 to 1.06). **CONCLUSIONS:** The midterm and long-term patency of sequential vein grafts appears to be better than that of single vein grafts and the patency of side-to-side anastomoses appears to be better than that of end-to-side anastomoses for sequential vein grafts.