

Infection Associated with Reoperation of Lower Extremity Bypass Grafts: When Is the Worst Time to Reoperate?

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Purpose

The purpose of this study was to compare postoperative infectious complications in patients who underwent early versus late revisional surgery of lower extremity arterial bypass grafts.

Methods

Between 1992 and July 2004, 424 revisional procedures were performed on 148 lower extremity bypass grafts. The grafts were divided into two groups based on when the first revisional procedure was performed: less than 30 days after the primary bypass (ER, n = 81) or reoperation more than 30 days after bypass (LR, n = 67). Graft infection was defined as cellulitis with graft exposure or purulence in continuity with a graft, requiring antibiotics and operation for infection control. Mean follow-up was 48 months. The graft infection rate was compared between groups using the student t-test.

Results

The ER group included 54 autogenous and 27 prosthetic grafts, the LR group 35 autogenous and 32 prosthetic grafts. A total of 13 graft infections occurred (8.8%). The ER group had a significantly higher graft infection rate (10 of 81, 12.3%) compared with the LR group (3 of 67, 8.5%, $p = .037$). Within the ER group, there was a significantly higher risk of infection for prosthetic grafts compared with autogenous grafts (8 of 27, 29.6% vs 2 of 54, 3.7%, respectively; $p = .0046$). One vein graft and two prosthetic grafts developed infection in the LR group ($p = ns$). For prosthetic graft revisions only, infection risk was 8 of 27 (29.6%) in the ER group and 2 of 32 (6.3%) in the LR group ($p = .011$).

Conclusions

Early revision of lower extremity arterial bypass grafts carries a significantly higher risk of graft infection compared with revision later than 1 month after surgery. The infection risk for prosthetic grafts approaches 30% for early revision. If feasible, reoperation should be delayed beyond 1 month for prosthetic grafts needing revision. Endovascular or extra-anatomic interventions should be considered if early revision is mandated in this group.