

Safety and Effectiveness of Multiple Reoperations after Two or More Failed Lower Extremity Bypasses

NOTES

Evan C. Lipsitz, MD, New York, NY; Frank J. Veith, MD, New York, NY

Purpose

Lower extremity bypass is the standard treatment for limb-threatening lower extremity ischemia. Even with close monitoring there is a significant failure rate with many patients experiencing recurrent symptoms. A subset of patients may require multiple re-interventions and/or bypasses for limb salvage. The optimal treatment of such patients facing imminent amputation after two or more failed bypasses is not well known. Many authors believe that primary amputation is better than another bypass in this setting while other reports have supported multiple bypass attempts for limb salvage after the failure of two previous bypass grafts.^{1,3} Moreover, one might suspect that patients undergoing a lower extremity bypass after two or more previous failures would have a poorer outcome on the basis of disease severity and progression and the difficulties associated with reoperation. These difficulties include complicated redo dissections, increased risk of subsequent graft and/or wound infection, lack of a suitable autogenous conduit, and the need for more proximal inflow and/or more distal outflow. Our policy has been to avoid amputation in patients with imminent limb threat by further attempts at limb revascularization even when patients have failed two or more previous bypasses.^{4,5} This report analyzes the outcomes of this approach.

Methods

From January 1988 to December 2002, 105 surgical revascularization procedures in 55 limbs of 54 patients performed for imminently limb-threatening lower extremity ischemia after failure of two or more prior ipsilateral infrainguinal bypasses were identified from our database. Patients were divided into 2 groups. Group A included all third procedures and consisted of 55 operations in 54 patients. Group B included all fourth or higher reconstructive arterial procedures and included 50 operations in 26 patients. Group A and group B were then compared with regard to primary patency, secondary patency, and limb salvage rates according to SVS/AAVS criteria. To assess demographic differences between the group of patients undergoing three procedures only and those undergoing four or more procedures, the subgroup of 28 group A patients who had only three operations (group Aa) was compared to the 26 group B patients.

Results

There was no statistically significant difference between the groups with regard to medical comorbidities. The 1- and 3-year primary patency rates for group A procedures were 24% and 24%, whereas for group B

procedures they were 35% and 19%, respectively. The 1- and 3-year secondary patency rates for group A procedures were 76% and 71%, whereas for group B procedures they were 76% and 70%, respectively. The 1- and 3-year limb salvage rates were 62% and 58% for group A and were 65% and 61%, respectively, for group B procedures. None of these differences were statistically significantly different.

Discussion

In our series, the likelihood of success of repetitive limb revascularization was unrelated to the number of previous failures and the expected incremental failure rate with each successive bypass was not found. These results, coupled with the 3-year limb salvage rate of over 50% in patients who otherwise would have required amputation, lend support to aggressive use of limb revascularization even after two or more failed bypasses. Over the past several decades we have maintained an aggressive approach to revascularization and limb salvage even in patients with multiple previous bypass failures even when the use of prosthetic grafts is required.⁴ Other authors have also advocated such an approach.^{1,3} Another interesting finding in this cohort of patients having advanced peripheral vascular disease, confirmed in other studies, was a surprisingly low mortality rate, with a 3-year mortality of 62% in group A and 73% in group B.^{1,2} Additionally, there was no significant increase in mortality in the subset of patients having four or more bypasses.

References

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