

Distal bypass grafts in patients with critical limb ischemia with poor pedal arch

Purpose:

To evaluate the impact of pedal arch quality on the amputation-free survival and patency rates of distal bypass grafts in patients with severe leg ischemia (SLI).

Methods:

A retrospective analysis of all patients with SLI undergoing distal bypass between January 2004 and August 2010. All patients were recruited in a post-operative duplex graft surveillance programme for 1 year. Kaplan-Meier analysis was used to assess patency rates at 12 months and amputation-free survival at 48 months.

Results:

One hundred and fifty-two consecutive patients. Underwent 167 distal bypasses. The Incidence of diabetes mellitus, renal failure and Ischaemic heart disease was 68.3%, 29.9% and 44.3% respectively. 93% had vein conduit and 7% had PTFE + Miller cuff.

Out of 144 bypasses, 31(18.6%) had complete pedal arch (CPA), 48(28.7%) had dorsal pedal arch (DPA) only, 56(33.5%) had plantar pedal arch (PPA) only, 32(19.2%) had no pedal arch (NPA).

In-hospital mortality was 1.2%. The, primary, assisted primary and secondary patency at 1 year as well as the amputation-free survival at 48 months for all 4 pedal arch groups were.

CPA: 60.2%, 87.6%, 87.6% and 67.2%

DPA: 64.5%, 89.1%, 91.3% and 63.3%

PPA: 50.0%, 74.4%, 81.1% and 77.4%

NPA: 67.0%, 89.8%, 89.8% and 45.9%

Conclusions:

The quality of the pedal arch did not influence the patency or the amputation-free survival rates. The authors would therefore advocate distal bypass grafts in patients with SLI in the presence of complete or incomplete pedal arch.