

Contents lists available at [SciVerse ScienceDirect](http://SciVerse.Sciencedirect.com)

European Journal of Vascular and Endovascular Surgery

journal homepage: www.ejves.com

Invited Commentary

Comments regarding 'Infringuinal Bypass for Peripheral Arterial Occlusive Disease: When Arms Save Legs'

B.M. Egan*

The Adelaide and Meath Hospital, Department of Vascular Surgery, Tallaght, Dublin, Ireland

Despite advances in endovascular management of critical limb ischaemia (CLI) there remains a cohort of patients which will ultimately require a bypass for limb salvage. Great long saphenous (GSV) remains the conduit of choice for infringuinal revascularisation.^{1–3} However it may not always be available owing to previous surgery or may not be suitable owing to a small calibre, phlebitis or the presence of varicosities. Concerns have previously been raised about the long term patency of prosthetic grafts to infrapopliteal vessels⁴ and the associated risk of graft infection.

A number of studies have reported arm vein graft patency rates and leg salvage rates at 3 years ranging between 40%–73% and 62%–92% respectively. The 3 year primary patency rate in this study of 47% compares favourably with other reported series in the literature.^{5,6} The primary assisted patency rates of 96%, 96% and 82% at 1, 2 and 3 years respectively and the secondary patency rates of 92%, 88% and 88% at 1, 2 and 3 years are superior to previous reports. The authors report a limb salvage rate of 88% at 3 years. In all patients the authors chose arm veins as the most suitable conduit even if the GSV was available. In this analysis vein diameter was shown to be an important factor in assisted primary patency rates but did not exert a statistically significant effect on secondary patency rates.

The authors had an aggressive approach to graft surveillance and subsequent intervention commencing in the operating room at the time of the primary procedure. Sixteen (28.5%) patients required an intervention for >70% graft stenosis. Again this compares favourably with Arvela et al. who report a 27% graft intervention rate while a higher rate of 48% has been reported by Armstrong et al.^{5,6} The preferred choice of intervention varies between open patch angioplasty and balloon angioplasty taking

into consideration the risk of vein rupture in the early post operative period. All patients were anticoagulated after day 7.

Overall the results from the series are impressive and reiterate that arm veins even when spliced should be considered in patients undergoing bypass for critical lower limb ischaemia in the absence of a suitable GSV. These cases are time consuming and can be technically challenging as they are often involve patients having redo surgery but the results that can be achieved are superior to that from prosthetic grafts. However these are 'high risk grafts' and the need for surveillance and appropriate intervention beginning in the operating room and continuing at regular intervals for the first year and annually thereafter with duplex ultrasound needs to be emphasized.

References

- 1 Klinkert P, Post NP, Breslau PJ, van Bockel JH. Saphenous vein versus PTFE for above-knee femoropopliteal bypass. A review of literature. *Eur J Vasc Endovasc Surg* 2004;**27**:357–62.
- 2 Carlos Eduardo Perreira CE, Albers M, Romiti M, Francisco CBN, Pereira CAB. Meta-analysis of femoropopliteal bypass grafts for lower extremity arterial insufficiency. *J Vasc Surg* 2006;**44**:510–7.
- 3 Faries PL, LoGerfo FW, Arora S, Hook S, Puling MC, Akbari CM, et al. A comparative study of alternative conduits for lower extremity revascularization: all-autogenous conduit versus prosthetic grafts. *J Vasc Surg* 2000;**32**:1080–90.
- 4 Kashyap MS, Ahn SS, Quinones-Baldrich WJ, Choi B, Dorey F, Reil TD, et al. Infrapopliteal-lower extremity revascularization with prosthetic conduit: a 20-year experience. *Vasc Endovasc Surg* 2002;**36**:255–62.
- 5 Armstrong PA, Bandyk DF, Wilson JS, Shames ML, Jonson BL, Back MR. Optimising infringuinal arm vein bypass patency with duplex ultrasound surveillance and endovascular therapy. *J Vasc Surg* 2004;**40**:724–31.
- 6 Arvela E, Söderström M, Albäck A, Aho PS, Venermo M, Lepäntalo M. Arm vein conduit vs prosthetic graft infringuinal revascularization for critical leg ischemia. *J Vasc Surg* 2004;**40**:724–31.

DOI of original article: [10.1016/j.ejvs.2011.08.007](https://doi.org/10.1016/j.ejvs.2011.08.007).

* Tel.: +353 87 2610970; fax: +353 1 4142212.

E-mail address: bridget.egan1@gmail.com.