Invited Commentary

Comments regarding ‘Infrainguinal Bypass for Peripheral Arterial Occlusive Disease: When Arms Save Legs’

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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 infrainguinal 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