

Endoscopically assisted in situ lower extremity bypass graft: a preliminary report of a new minimally invasive technique

Suggs WD, Sanchez LA, Woo D, Lipsitz EC, Ohki T, Veith FJ

Division of Vascular Surgery, Montefiore Medical Center, New York, New York, USA

Objective: Lower extremity arterial reconstructions with in situ greater saphenous vein (GSV) are an important component of limb salvage surgery. Initially, the procedure was performed through continuous skin incisions for side branch occlusion and valve lysis with a wound complication rate of 5% to 25%. To decrease these complications, endoscopic GSV harvest equipment was used in 25 in situ vein bypass grafts in 25 patients performed over 24 months.

Methods: The procedures were performed with three skin incisions: two for arterial access and a 2-cm incision above the knee to insert the Endopath device (Ethicon) to locate and clip the GSV side branches. After completion of the proximal anastomosis, the valves were lysed through the distal end of the vein with a flexible valvulotome. Completion cineangiography was performed to confirm side branch occlusion and evaluate the entire reconstruction. The results of this technique were compared with the

researchers' last 25 in situ bypass grafts done with standard long incisions.

Results: In the endoscopic group there was one (4%) minor wound complication (cellulitis). No postoperative arteriovenous fistulas were detected by means of duplex examination, and the average hospital stay was 6.2 + 1 days. One graft closed at 9 months as a result of distal vein hyperplasia, but the other grafts remained patent, with follow-up from 6 to 30 months (mean, 18 months). Patients with the standard in situ bypass grafts had significantly ($p < .05$) more wound complications (20%) and longer average hospital stay (9.2 + 2 days) than the endoscopic group. Patency rates were comparable for both groups.

Conclusion: These results show that less invasive endoscopic in situ bypass grafting minimizes wound complications and reduces the need for hospitalization without decreasing patency or increasing operative time.

Journal of Vascular Surgery. 2001;34:668-672.