

Commentaries

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Invited commentary on 'Infrainguinal bypass using varicose veins with external scaffolding', by N. Montelione, et. al.

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Despite advances in the endovascular management of critical limb ischemia (CLI), there remains a cohort of patients who will ultimately require limb-saving bypass. The great saphenous vein (GSV) remains the conduit of choice for infrainguinal revascularization¹⁻². However, autologous material may not be of good quality, exhibiting varicosities and ectasias that may affect bypass patency¹. The use of varicose vein grafts for bypass conduits has traditionally been discouraged due to the risk of immediate rupture or long-term aneurysmal change³⁻⁴. Although some case studies with positive results of autologous varicose vein grafts have been reported, it is difficult to draw definitive conclusions about varicose vein grafts at this time^{5,6}. The use of arm veins or the small saphenous vein has been proposed when the GSV is not available or is not suitable, in which case they should be harvested for bypass grafts as they lead to satisfactory short- and long-term patency rates^{7,8}. The same results are obtained when an autologous composite vein is used⁹. To find solutions that allow the use of autologous material despite its low quality, numerous animal studies have been conducted to

evaluate the efficacy of external stents of various materials and structures placed around the vein graft¹⁰. Following this evidence, human studies have also been conducted, involving the use of an external varicose vein support with good results and acceptable short-term patency¹¹.

infrainguinal venous bypasses for chronic limb-threatening ischemia (CLTI) with varicose or ectatic vein were collected from September 2005 to January 2023. autologous using external vascular support. The reported aim of the twenty-year retrospective study was to report the technical feasibility and efficacy of infrainguinal bypasses performed with two types of external support (Provena, Bbraun Aesculap, Tuttlingen, Germany and Frame TM, Vascular Graft Solutions LTD, Tel Aviv, Israel) on an isolated section or for the entire ectatic or varicose vein^{1,12}.

This study demonstrated that in patients with autologous varicose material it is possible to avoid the use of prosthetic material, which generally presents a higher risk of infection, while maintaining good long-term patency (76.3%) and a satisfactory limb salvage rate (78%), considering the severity of the underlying pathology. Furthermore, no dilations or infections of the veins arterialized with external scaffolds were observed during the follow-up¹.

The authors rightly underline that the conservation of autologous venous material, even if varicose, through a "saphenous-sparing" surgical approach (conservative surgery), is essential during corrective surgery for superficial venous insufficiency¹³.

We conclude that autologous resurfacing of the greater saphenous veins can help save the limbs and often the lives of patients with critical ischemia. Because an underestimated percentage of patients presenting with varicose tributaries have normal or completely normal saphenous veins, the caliber of the greater saphenous veins should be carefully measured before treating varicose veins. All greater saphenous veins suitable for arterial bypass should be preserved with the understanding that one or more dilations may be resurfaced if the greater saphenous veins are used as an arterial substitute.

Patients must be informed of the reasons for this choice.

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