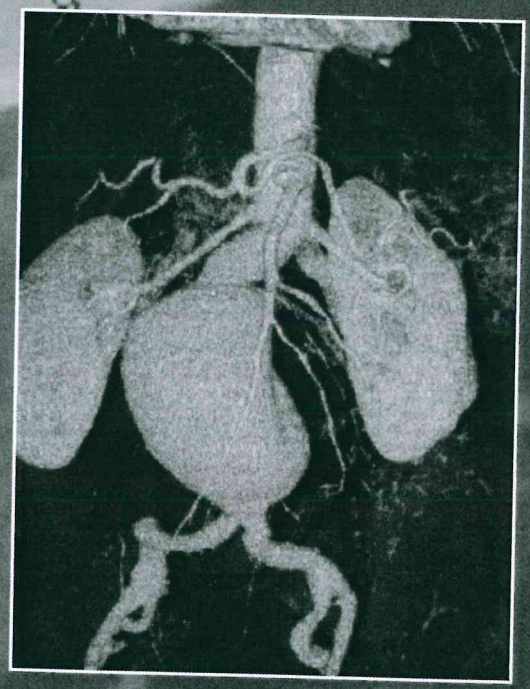
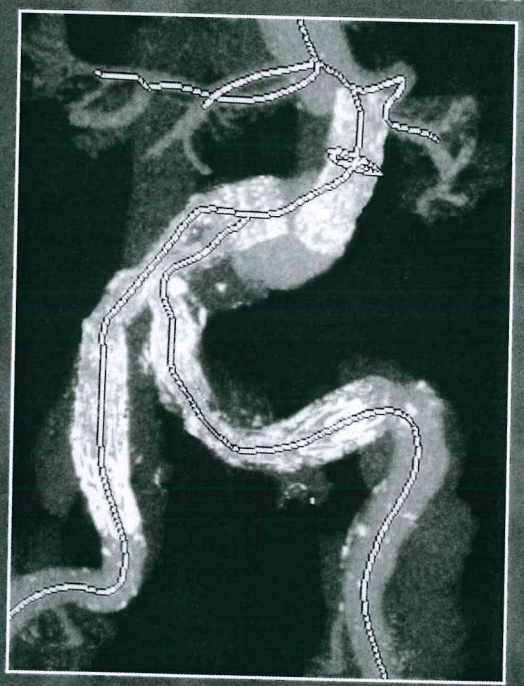
CONTROVERSIES AND UPDATES IN VASCULAR SURGERY

EDITORS
Jean-Pierre Becquemin
Yves S. Alimi





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ties may vary amongst treating clinicians. Recent advances in ultrasound, radiofrequency and laser technology have made Endothermal Vein Ablation (EVA) a new exciting alternative to traditional ligation and saphenectomy for the treatment of varicose veins and superficial venous insufficiency. This treatment modality with a relatively easy learning curve, plus an overwhelming patient satisfaction has combined to make EVA very appealing to many clinicians. Early results utilizing this minimally invasive modality have demonstrated equal to or better efficacy to treatment than traditional ligation and saphenectomy. Despite these encouraging results, there has been mounting concerns by clinicians over the incidence of Deep Vein Thrombophlebitis (DVT) following EVA and the potential risk of fatal pulmonary embolism. There are several reports in the literature citing the concerns of the progression of de-novo isolated superficial thrombophlebitis (STP) of the great saphenous vein into the deep venous system and potential risk of pulmonary embolism. This has prompted a debate in the medical community regarding whether to treat STP of the great saphenous vein. Endovenous Heat Induced Thrombosis (EHIT) of the GSV is an expected outcome following EVA. What remains unclear till this point in the literature are the clinical outcomes of those patients who present with EHIT in close proximity or extending into the sapheno-femoral junction. We report the results of three independent vein centers, our subsequent follow-up and evolving treatment protocol when EHIT extends to and beyond the sapheno-femoral junction. Also, a new classification for EHIT to help with the management of this new clinical entity is discussed.

Endovenous laser treatment of varicose veins: a three-year personal experience

D. Kontothanassis, A. Scuro, A. Griso, R. Di Mitri

Introduction. – Endovenous Laser Treatment (ELVeS®) for varicose veins is a new promising procedure. We report our findings based on three years of experience with patients in order to demonstrate the efficacy and safety of this technique.

Methods. – From April 2001 to December 2004, 256 varicose veins (236 great saphenous veins and 20 lesser saphenous veins, 184F/72M), were treated by the author. The mean age of the patients was 60.42 years (29-83). The mean diameter of the treated veins was 7.2 mm (4-14 mm). We thoroughly informed the patients about the procedure, operation risks, possibility of disease recurrence in case of recanalization of the vein, and the limited amount of available data on the long term efficacy of this technique, and the patients signed the written informed consent form. Before starting the operation an echocolor-doppler study was performed in order to exclude anatomical variants of the GSV and LSV, superficial thrombophlebitis and deep vein thrombosis. Under local anaesthesia (2 ml 1% Lidocaine) and ultrasonographic guidance, the GSV was punctured in 182 cases at about 5 cm below the median condylus of the knee, and in 54 cases at about 5-10 cm above the knee; the LSV was punctured in 7 cases at the external malleolus and in 13 cases at 10-15 cm above this. A J-guide wire was inserted into the GSV or LSV and positioned 1 cm beyond the sapheno-femoral junction (SFJ) into the common femoral vein or in the sapheno-popliteal junction (SPJ) into the popliteal vein. A 5-F introducer sheath was positioned to cover the J-guide wire. The guide wire and the sheath were flushed and a 600 μm laser fiber (Biolitec°) was inserted at the end of the 5-F introducer sheath. The sheath was then

withdrawn up to a site mark indicating the last 2 cm of the laser fibre. The correct position of the fibre tip was confirmed by direct visualization of the red transluminant light beam of the laser fibre through the skin. Tumescent local anesthesia (40-100 ml of 0.25% Mepivacaine hydrochloride, neutralized with sodium bicarbonate) was delivered along the perivenous space under sonographic guidance in order to avoid accidental puncture of the vein. In order to obtain a non-thrombotic occlusion of the vein, laser energy was delivered at 810 nm wavelength in 210 patients and at 980 nm in 46 patients, using a 600 μm laser fibre. Instrument settings were: power 12W, pulse duration 1 sec, interval between pulses 1 sec.

Results. – Immediate collapse of the GSV or LSV and absence of flow was assisted after the procedure and confirmed by echocolordoppler study. There was no damage of the femoral and /or popliteal vein, no deep vein thrombosis, no skin burns, no paresthesias, no pain, no phlebitis and no other adverse reactions intraoperatively. Postoperative ecchymosis was minimal and observed in almost all patients. Two patients presented immediate recanalization after one week and one patient after 2 months (1.17%). Successful occlusion, defined as vein occlusion with absence of flow was noted in 233 GSV (98,8%), and 20 LSV (100%). Complete resolution of clinical symptoms became evident soon after the operation. The echocolordoppler study demonstrated absence of flow in the treated veins. At 7 days, 2 months, 6 months the treated vein remains occluded and at 12 month and 18 month intervals the treated portions of the GSV and LSV were not visible on duplex imaging.

Conclusions. – Endovenous Laser Treatment (ELVeS) of the GSV and LSV seems to offer a safer alternative to traditional surgery (ligation and stripping). Early and mid-term results of Endovenous Laser Treatment of incompetent greater and lesser saphenous veins have been promising. This minimally invasive technique appears to be safe, easy to perform, well tolerated, with lower rates of complication and the avoidance of general or epidural anaesthesia. Continued evaluation with a larger number of patients and longer-term follow-up are needed to further define the role of endovenous techniques as treatment alternatives in patients with chronic vein insufficiency.

Venous leg ulcers: the endovenous laser approach

D. Greenstein

Background. – In the UK, venous leg ulcers cost the National Health Service 1 billion euro per year to manage and treat. Despite many papers, the role of superficial venous surgery on the healing and recurrence rates of leg ulcers still remains unclear. Many of the surgical techniques employed involved stripping of the greater saphenous vein to the knee or perforator division. In some patients superficial venous surgery may have been contraindicated because of the patients age or fitness. With the introduction of endovenous laser techniques for the treatment of varicose veins we have modified and adapted the ELVeS system to target specifically and eliminate the venous reflux feeding the leg ulcer. We present our early and ongoing experience of the modified ELVeS technique in treating venous leg ulceration.

Methods. – 10 patients with non-healing, resistant, venous leg ulceration underwent endovenous ablation of the main refluxing vein feeding the leg ulcer. All patients had pre-