

◆ CLINICAL INVESTIGATION ◆

Endovenous Thermal Ablation of Superficial Venous Insufficiency of the Lower Extremity: Single-Center Experience With 3000 Limbs Treated in a 7-Year Period

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Purpose: To demonstrate that endovenous thermal ablation is not only effective and safe but also a durable treatment in patients with symptomatic varicose veins.

Methods: From February 2002 to February 2009, 2354 patients (1836 women; mean age 53 years, range 15–95) with symptomatic varicose veins in 3000 limbs underwent endovenous laser ablation (EVLA) or radiofrequency ablation (RFA). The majority of treated vessels were the great saphenous veins (GSV; 2619, 87.3%); 269 (8.9%) small saphenous veins (SSV) and 112 (3.8%) accessory saphenous veins (ASV) were also treated, all in outpatient procedures under local intra-compartmental anesthesia. An ultrasound evaluation was performed within 2 weeks of the procedure to evaluate vein occlusion, vein wall thickness, and clot extension into the deep vein. In a long-term evaluation involving the first 165 patients treated from February 2002 to January of 2003, 105 (64%) patients [126 (67%) of the 188 eligible limbs] were followed annually with clinical evaluation, duplex ultrasound, and symptom/satisfaction assessment over a mean 6.7 years.

Results: Treatment of 3000 limbs involved the use of EVLA in 2841 (2460 GSVs, 269 SSVs, and 112 ASVs) and RFA in 159 GSVs. Post-procedure duplex ultrasound found 57 (2.0%) veins recanalized or incompletely occluded [51 (2%) treated with EVLA and 6 (3.7%) with RFA] in patients treated for GSV or ASV incompetence. In the 269 SSVs treated (all with EVLA), 18 (6.7%) limbs demonstrated incomplete occlusion. Overall, both EVLA and RFA procedures were well tolerated, with minimal complications. In the longitudinal assessment of the 105 patients (126 limbs) participating in annual follow-up for a mean 6.7 years, the overall rate of satisfaction, symptom relief, and absence of varicosities was 86%.

Conclusion: Endovenous ablation of saphenous vein has proven to be an effective, safe, and very durable procedure.

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Key words: varicose vein, venous insufficiency, endovenous thermal ablation, endovenous laser ablation, radiofrequency ablation, great saphenous vein, small saphenous vein, outcome analysis

Superficial venous insufficiency of the lower extremity is a common disorder affecting 35% of women and 15% of men.¹ The impact of venous insufficiency on health-related quality of life is chronic and severe and comparable to other chronic ailments.² Ligation of the

great saphenous vein (GSV) and small saphenous vein (SSV) at their junctions with the deep system and removing them and their tributaries has been the standard of care for many decades. Surgery, which was performed under general, spinal, epidural, or,

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