

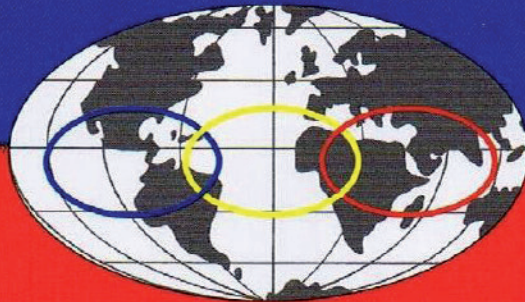
# International Angiology

The Journal of Vascular Biology, Medicine, Surgery and Phlebology

OFFICIAL JOURNAL OF



UNION  
INTERNATIONALE  
DE PHLEBOLOGIE



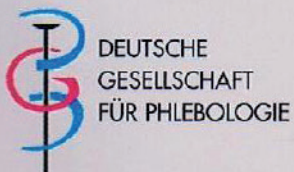
INTERNATIONAL UNION OF ANGIOLOGY



CENTRAL  
EUROPEAN  
VASCULAR FORUM

## XVI WORLD CONGRESS OF THE UNION INTERNATIONALE DE PHLEBOLOGIE

Monaco, 31 August - 4 September 2009





improved and similar in both groups after six months ( $p < 0.05$ ). Duplex showed complete recanalisation and renewed reflux of the GSV in one patient treated with EVLA. In both groups two patients had reflux in the groin of a side-branch originating from the femoral vein. Two patients had a post-operative bleeding after stripping. After one year CEAP improved evidently and equally for both groups.

**Discussion.** EVLA or stripping can be done safely under tumescent anaesthesia. In the second post operative week EVLA is significantly more painful and shows an impediment of daily activities, mobility and self-care compared with stripping. Only one real recurrence was observed in the EVLA group. All recurrences were seen before 6 months and there were no new cases after one year.

#### PPI.11-7

### Endovenous laser ablation versus high ligation and stripping of the great saphenous vein: 2 year results of the relacs study

K. Rass<sup>1</sup>, P. Glowacki<sup>2</sup>, S. Gräber<sup>3</sup>, C. Hamsch<sup>4</sup>, W. Tilgen<sup>1</sup>, N. Frings<sup>2</sup>

<sup>1</sup>The Saarland University Hospital, Dept. of Dermatology, Venerology and Allergology, Homburg, Germany

<sup>2</sup>Capio Mosel-Eifel-Klinik, Clinic for Vein Disorders, Bad Bertrich, Germany

<sup>3</sup>The Saarland University Hospital, Institute of Medical Biometry, Epidemiology and Medical Informatics, Homburg, Germany

<sup>4</sup>University of Heidelberg, Dept. of Dermatology, Heidelberg, Germany

Crossectomy and stripping (CS) are considered as standard procedure for saphenous vein insufficiency. Catheter-guided techniques like endovenous laser treatment (EVLT) have been implemented over the last years as an alternative to CS. Case series and short-term results from randomized trials demonstrate comparable efficacy and safety of EVLT vs. CS. However, larger trials and long-term results have not been reported so far.

**Aim.** To compare endovenous laser ablation versus crossectomy and stripping of the great saphenous vein (GSV) in a prospective randomized trial.

**Methods.** 400 patients suffering from GSV insufficiency were randomly assigned for EVLT or CS. 54 patients withdrew their consent after randomization, 185 patients were treated with EVLT (810nm), 161 with CS in tumescent anaesthesia. Peri- and postoperative conditions were standardized and identical in both groups. Follow-up examinations have been conducted at week 1, after 3, 12 and 24 months. The clinical recurrence (REVAS) at 2 years has been defined as primary objective, secondary objectives are safety, side effects, functional and clinical outcome (DPPG, modified VCSS (mVCSS)) and quality of life (CIVIQ).

**Results.** Both study groups were well balanced concerning age, sex, BMI, C-classification, mVCSS, and CIVIQ. EVLT and CS were equally safe with one gastrocnemius vein thrombosis in each group (0.6%). No significant differences could be observed regarding ecchymosis, and dysaesthesia (6.3% vs. 8.1%,  $p = 0.66$ ), whereas postoperative pain, induration, phlebitis, and dyspigmentation were more frequent in the EVLT group. In contrast, EVLT yielded a significantly higher rate of normalized DPPG (85.9% vs. 75.7%,  $p = 0.04$ ) and a better mVCSS at 3 months ( $p = 0.003$ ). CIVIQ markedly improved without procedure associated differences. REVAS analysis is currently ongoing.

**Conclusion.** EVLT and CS are comparably safe and effective. Altogether, EVLT causes more side effects, but reveals advantages due to functional outcome parameters. Clinical recurrence, recanalisation, and neovascularization rates at 2 year follow-up will be presented.

#### PPI.11-8

### Bipolar radiofrequency obliteration of varicose veins compared to endovenous laser treatment: a prospective study emphasizing on occlusion rates, side-effects and stability of the resulting stump

J. Tesmann<sup>1</sup>, H. Thierbach<sup>2</sup>, A. Dietrich<sup>1</sup>, H. Grimme<sup>1</sup>, W. Tilgen<sup>3</sup>, K. Rass<sup>3</sup>

<sup>1</sup>Center of Dermatology at Kurpark, Stuttgart, Germany

<sup>2</sup>Villamed, Dayclinic of Vein-Surgery, Munich, Germany

<sup>3</sup>Saarland University Hospital - Department of Dermatology, Homburg/Saar, Germany

Radiofrequency obliteration (RFO) and endovenous laser treatment (EVLT) are leading techniques in endoluminal varicosis treatment. A new RFO technique was presented in 2007 using a bipolar electrode catheter (bRFO, Celon method). Comparative studies of bRFO and EVLT have not been reported so far.

**Aim.** To compare bRFO with EVLT emphasizing on occlusion rates, side-effects and stability of resulting stumps as stump length is considered to be a risk factor for recurrent varicosis after stripping.

**Methods.** A prospective study was performed to assess safety and efficacy of bRFO compared to EVLT (810nm). 120 patients with incompetent GSV or SSV were treated by bRFO or EVLT using tumescent anesthesia. bRFO catheter and Laser fiber tip were positioned 1 - 1.5 cm beyond sapheno-femoral/-popliteal junction. Follow-up at day 1 and 7 and month 3 and 12 assessed occlusion rates and side-effects, measuring stump length with duplex ultrasound, and performing light reflexion rheography (LRR).

**Results.** Patients' groups were well balanced due to age, sex, BMI, C-classification, LRR and proximal GSV / SSV diameter. At 1-year follow-up occlusion rates of bRFO and EVLT were equal (95.5% vs. 97%) although significantly less energy had been applied by bRFO (LEED: 27.9 vs. 42.6 J/cm). Functional outcome by LRR did not differ significantly (28.7 vs. 31.5 s). Side-effects as dyspigmentation (1.5% vs. 3%) were even, but patients treated with EVLT suffered more pain in the first week (0% vs. 16.4%). In contrast dysesthesias were more frequent in bRFO population (SSV: 6% vs. 0%). Residual stumps were stable (12.3 vs. 14.3 mm) after 12 months without significant differences.

**Conclusion.** After one year bRFO is as effective and save as EVLT in treating varicosis of GSV and SSV in tumescent anesthesia. Even less pain is induced by treatment with bRFO. Both methods deliver stable residual stumps. Conflict of interest: none.

## GE1.11 - Venous anatomy and epidemiology

#### GE1.11-1

### Brief historical excursus on the discovery of the blood circulation

A. Zanon<sup>1</sup>, G. Avruscio<sup>2</sup>, S. Ragazzo<sup>2</sup>

<sup>1</sup>Surgical and Oncological Dpt. University of Padua, Padua, Italy

<sup>2</sup>Saint Anthony Hospital Vascular Lab, Padua, Italy

In this article we will briefly summarize the discoveries of anatomy and physiology at the historical 'Studium' in Padua. In this University founded in 1222 men like Galileo, Alexander Benedetti, Pietro d' Abano, Realdo Colombo, Andrew Vesalio, Fabrizio d' Acquapendente, Falloppio and Morgani held lessons and famous physicians such as Harvey graduated here. Each of them wrote important pages on the scientific method and on the circulation of the blood. They described the role of aristotelismo, of the attempt to reconcile philosophy and astrology with medicine, of the birth of the modern scientific method based on observation, experience and reproducibility of the experi-