vascular professional

news & articles for phlebologists

vascular professional | issue 01 | April 2021

table of contents

contact

vascular professional Content Director: Endrik Groenhoff Editor in Chief and Advertisements: Karolin Hoppe Design: fr financial relations GmbH

Please contact with queries: Phone: +49 61 72 / 27 15 9 - 0 E-Mail: info[at]vascular-professional.com Internet: www. vascular-professional.com

The photos for the cover image and the intertitles are licensed from Adobe Stock.

vascular professional | issue 01 · 2021



Venous Vein Treatment with 2ring Fibre

ELVeS[®] Radial[®] 2ring fibre may improve quality of life outcomes compared with traditional single-ring fibre (ELVeS Radial Fibre)

ROBERT VLACHOVSKÝ, M.D., PH.D.,

VASCUMED the Vein Clinic, Brno, Prague, Czech Republic

2nd Department of Surgery, St. Anne's University Hospital Brno and Faculty of Medicine, Masaryk University, Brno, Czech Republic

Results from a Czech study indicate that 1470nm laser treatment of saphenous vein reflux with both radial single-ring and 2ring fibres results in clinical improvement of symptoms and comparable occlusion rates. In the early postoperative period, 2ring laser radial fibre seems to remove the quality of life limitations associated with traditional single-ring radial fibre use.

Chronic venous disorder (CVD) is one of the most prevalent worldwide diseases, affecting approximately 25% of the adult population. CVD is an umbrella term that includes full range of clinical symptoms, aside from cosmetic concerns, cause significant impairment in healthrelated quality of life (QoL). Symptoms include aching, discomfort, pruritus and muscle cramps. Some of the patients develop the complications of chronic venous disorder, potentially progressing to ulceration. In the last decade, the spectrum of treatment for varicose veins has been broadened. New, less invasive treatment options than surgery have been introduced, such as endovenous laser ablation (EVLA).

The 1470nm single-radial fibre laser system creates a homogenous effect with less perforation (and therefore less pain and bruising) while sticking to the vein. With 2-ring laser fibre the energy is split into two rings. This allows safe closure of the vein with a low energy density in each ring, a perfectly centered fibre tip due to the preshrinkage effect and optimal, homogeneous distribution of laser energy on the vessel wall (even with a large diameter). Thanks to these factors, periprocedural sticking effect is less pronounced. The aim of the study was to compare the clinical efficiency and safety of these two types of fibres in endovenous laser ablation of saphenous varicose veins of the lower limb. The study was a non-randomized prospective study of 94 patients with primary varicose veins stage C2 - C4 according to CEAP, and the lengths of the treated great saphenous vein segments were over 30cm in all cases. Patient follow-up was performed at days 1 and 7, and then at 3, 6 and 12 months after the procedure. No adjunctive treatments were performed in the 12 months post-procedure. There were no significant demographic differences between the two groups.



Robert Vlachovský performing the local tumescent anaesthesia in the track of the great saphenous vein

The primary efficacy endpoint was occlusion rate as measured by duplex ultrasound and 1 and 6 days, and 3 and 6 month post-surgery. The primary safety endpoint was incidence of pain during the same observation period.



© biolitec®

© Robert Vlachovský, VASCUMED The Vein Clinic, Brno, Prague, Czech Republic

The procedures were conducted using a 1470nm laser device (ELVeS, Biolitec, Germany) with an ultrasound-guided percutaneous approach. Tumescent local anaesthesia was used in the track of the great saphenous vein, with fibre inserted and positioned 1cm distal to the sapheno-femoral junction. The power used was 10W with continuous fibre pullback and the linear endovenous energy density (LEED) was 80 - 94/cm. Concomitant phlebectomy was used in all patients and thigh compression stockings were worn for three weeks.



Inserting radial 2-ring-fibre into the cannula

For the single-radial fibre group, occlusion rates were 100% at 1 day and 97.9% at 6 days, 6 months and 12 months. For the 2ring fibre group, the occlusion rate was 100% at all time points. The differences were not statistically significant.

Rates of pain in the treated area were 14.8% for the single-radial fibre group and 3% in the 2ring fibre group, but this difference was not significant. Changes in VAS of pain over 12 months of follow-up were also recorded. The maximum mean VAS (here 0-100) for the single-radial fibre group was 20.5±17.6 compared with 6.4±4.4 for the 2ring fibre group (p<0.0001). Bruising was more prominent in the single-radial fibre group (37%) than in the 2ring fibre group (6.5%) (p<0.0001).

The most common postoperative complications in both groups was induration (single-radial fibre group 8.3% vs. 2ring fibre group 4.3%, p=0.118). Other complications in the single-radial fibre group included erythema (6.5%), tenderness (4.3%), and paraesthesia (2.2%). Other complications in the 2ring fibre group included paraesthesia (4.2%) and erythema (2%). There was no equipment failure in this study.



Pulling out the laser fibre

Endovenous laser treatment of saphenous vein reflux with 1470nm lasers using both fibre types results in clinical improvement of symptoms and comparable occlusion rates, while the 2ring laser fibre appears to remove quality of life limitations associated with traditional singleradial fibre, at least in the early postoperative period.

ROBERT VLACHOVSKÝ, M.D., PH.D.

Head surgeon

VASCUMED the Vein Clinic, Brno, Prague, Czech Republic

Also vascular surgeon and department vice-head for research and development at 2nd Department of Surgery, Center for Vascular Disease, St. Anne's University Hospital, and Faculty of Medicine, Masaryk University, Brno, Czech Republic.

Main professional research interests are venous surgery, carotid artery surgery and abdominal aortic aneurysms. He is involved as a co-investigator in several international clinical trials, and he is certified in laser, radiofrequency, vein glue and mechanochemical ablation techniques. Professional memberships: Czech Society for Cardiovascular Surgery; European Society for Vascular Surgery; European Venous Forum; Czech Society of Phlebology.



© Robert Vlachovský, M.D., Ph.D.

imprint

vascular professional published by fr financial relations

fr financial relations GmbH Jörn Gleisner Louisenstraße 97 D-61348 Bad Homburg

Registry Court Bad Homburg v.d.H. HRB 12508 VAT Number DE 257562460