Endovenous laser ablation of varicose perforating veins with the 1470-nm diode laser using the radial fibre slim.

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Abstract

BACKGROUND:
Endovenous Laser Ablation (EVLA) is one of the most accepted treatment options for varicose veins. The aim of this study was to investigate the efficacy and safety of the new radial fiber slim (ELVeS-radial-slim kit™) for the 1470 nm diode laser in perforator veins with a 1 month follow-up.

METHODS:
Our prospective observational cohort study comprised 69 perforating veins in 55 patients. Ninety percent of all patients were in the CEAP-stage C3-C6. The radial fiber slim was used to occlude the perforating vein and the great or small saphenous vein in the same procedure. The primary efficacy endpoint of the study was ultrasonographically proven elimination of venous reflux in the perforating vein after at least one month. Secondary efficacy and further safety end points after one month were as follows: (1) sonographic exclusion of recanalization of the treated vein segments, (2) deep vein thrombosis (DVT), clinical pulmonary embolism (PE), or superficial vein thrombosis (SVT) as defined by objective testing, (3) death from any cause, (4) persistent clinical complaints such as pain and paresthesia.

RESULTS:
Follow-up could be completed in all patients. In all treated perforating varicose veins, occlusion with elimination of reflux could be demonstrated immediately after the procedure. After one month 95.6% of the treated veins were still occluded (67/69). During follow-up, we did not diagnose any DVT, PE or SVT in the area related to the treated perforating vein. No patient died. One patient reported paresthesia distally of the puncture site.

CONCLUSION:
Endovenous laser treatment of varicose perforating veins with 1470 nm diode laser using the radial fiber slim is effective and safe with low recanalization rates during 1-month follow-up.