Endovenous Laser, Sclerotherapy and Vein Gluing Combined as a Single Catheter Procedure for Saphenous Veins. Initial experience and one year FU.

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BACKGROUND

Gluing of veins, as practiced today, is not superior to thermo-occlusive methods although it may achieve immediate and permanent vein closure. All NBCA device (e.g. VenaSeal, VariClose, VenaBlock) go along with inflammatory symptoms. Furthermore, the "safety distance" at the junction generates frequent relapse, mostly via the AAGSV.

AIM

After eliminating intra- and postinterventional discomfort with a catheter device combining sclerotherapy and pointwise gluing[1] now the aim was to add laser crossectomy[2] for optimal junction closure.

METHODS

Using a "Scleroglue® plus" prototype device, 27 patients (19 f, 9 m, 41 – 73 yr.) with GSV insufficiency and diameters of 8 - 22 mm Ø (mean: 9.0 mm), length 39 – 62 cm (mean 52.3 cm) underwent endovenous laser (1470 nm, radial, slim fiber) for an 8 cm long junction segment ("laser crossectomy"), followed by a standard Scleroglue® procedure, comprising sclerotherapy (Aethoxysklerol 1%, 1+4 with air) and NBCA spot gluing, all via a single coaxial catheter system (fig. 1).
No external compression media were used post treatment, except a film bandage for superficial varicosities. Follow up was performed next day and at 2 – 6 – 12 months.

RESULTS

All cases (28/28) showed immediate saphenous occlusion and reflux elimination.

Day one examinations showed the saphenofemoral junction closed without any stump (28/28, fig. 1).

Procedural time from first puncture to access closure was 9:15 – 15:30 min. (mean: 11:32 min).

No patient reported any intra- or postprocedural discomfort.

At one-year follow-up, all cases showed total occlusion, including the junction, with no relapse. Sclerofoam-related segments showed up to 45% better diameter regression compared to the glue spots (fig. 3).

Fig. 2: Case example

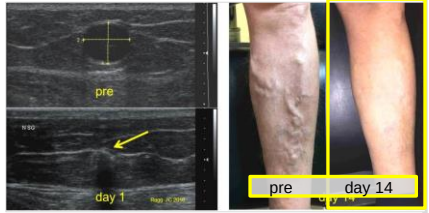


Fig. 3: Diameters at one year follow-up

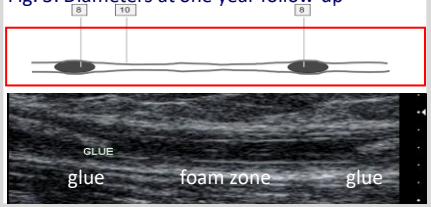
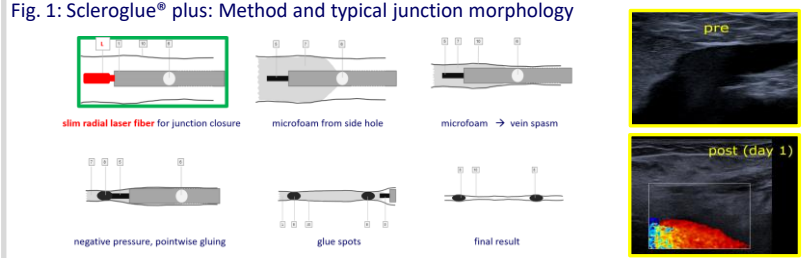


Fig. 1: Scleroglue® plus: Method and typical junction morphology



CONCLUSIONS

Combining radial fiber laser crossectomy and ScleroGlue®, optimal morphological and functional results (junction closure without a stump, initial and permanent lumen minimization) were achieved in this initial experience.

Intra- and postprocedural patient comfort was excellent and clearly superior to earlier experience with single laser, sclerofoam or glue procedures.

Extended studies will follow. The major challenge is on the manufacturers to provide a cost-effective (e.g. < 500 USD) device.

REFERENCES

[1] Ragg J.C. et al. Sclerotherapy and Vein Gluing Combined in a Single-Catheter Procedure for Saphenous Veins. JVS-VL 2017, 5(1), 163

[2] Ragg J.C. et al. Endovenous laser: 8-year recurrence is rare and benign compared to surgery. Phlebolymphology 2012, 20(1), 51

DISCLOSURES

No funds received for study, travel or presentation.

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