

## EVF 2019

For participation in the EVF Prize contest. Author: Valeriia Volkovaia, age 27.

**Data: First presentation.**

Volkovaia V., Kobilke T, Kreis S, Ragg JC

angioclinic® vein centers - **Endovenous Laser, Sclerotherapy and Vein Gluing Combined as a Single Catheter Procedure for Saphenous Veins. Initial experience.**

Interventional Phlebology, Zurich – Munich - Berlin, Switzerland/Germany

Background: Gluing of veins is discussed as being superior to thermo-occlusive methods or sclerotherapy as it may achieve immediate and permanent vein closure. Furthermore, no tumescent anesthesia is required. However, current gluing device (VenaSeal, VariClose, VenaBlock) require continuous placement of aggressive N-butyl-cyanoacrylate (NBCA) to induce a vein spasm, which is mandatory for an effective displacement of blood. Inflammatory discomfort due to NBCA or to residual blood resorption is frequently observed. The NBCA glue is hardly resorbable, it is a long-term plastic implant. For safety reasons the junction is generously spared, thus SFJ branch relapse (mainly AAGSV) is increased. Segmental glue application is preferred by some investigators, leaving native endothelium and thus another source of relapse. All these drawbacks could be overcome by a new modality which combines endovenous laser for the junction, followed by segmental or pointwise gluing and catheter sclerotherapy.

Materials and Methods: 26 patients (19 f, 8 m, 41 – 72 yr.) with GSV insufficiency and diameters of 8 - 22 mm Ø (mean: 9.0 mm), length 39 – 62 cm (mean 52.1 cm) underwent endovenous laser (1470 nm, radial, slim fiber) for an 8 cm long junction segment ("laser crosssectomy"), followed by a Scleroglue® prototype procedure, comprising sclerotherapy (Aethoxysklerol 1%, 1+4 with air) and NBCA spot gluing, using a single coaxial catheter access. No external compression media were used post treatment except a film bandage for superficial varicosities. Follow up was performed next day and 2 – 6 – 12 months.

Results: All cases (26/22) showed immediate saphenous occlusion and reflux elimination. Day one examinations showed the saphenofemoral junction closed without any stump (26/26). Procedural time from first puncture to access closure was 9:30 – 15:30 min. (mean: 11:35 min). No patient reported intra- or postprocedural discomfort. At one-year follow-up, all cases showed total occlusion, including the junction. Sclerofoam segments showed 45% more diameter regression compared to the glue spots.

Conclusions: Combining laser crosssectomy and ScleroGlue®, optimal morphological and functional results were obtained in this small initial experience. Patient comfort was considerably good, compared to the experience with single laser, sclerofoam or glue procedures. Now the challenge is on the manufacturers to provide a cost-effective (e.g. < 500 USD) device.

*Word count: 358*