

## Management of Anterior Accessory of the Great Saphenous Vein

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**Background:** An ACP guideline pointing to the importance of diseased anterior accessory of the GSV (AAGSV) was recently published (Oct. 2016). Usually the GSV is ablated with a "safety distance" to the junction, sparing all other branches and thus leading to a considerable number of consecutive AAGSV insufficiencies and additional treatments, potentially more frequent than after surgical crosssectomy. Should ablation of non-refluxive AAGSV be routinely included, or are technical modifications required? A prospective randomized trial was performed to clarify the conditions for distinguished AAGSV strategies.

**Methods:** 240 consecutive patients with GSV insufficiency (C2 – C6; d = 6.5 – 17.8), reflux origin from the SFJ (destroyed or malfunctioning terminal valve), non-refluxive AAGSV and no other refluxive branch of SFJ were selected for endovenous laser ablation (EVLA, 1470 nm, radial, 50-80 J/cm). Cases were randomized to two groups, A: EVLA starting at femoral vein level ("laser crosssectomy"), or B: GSV EVLA starting below epigastric vein (EV) junction. Both procedures were combined with ultrasound-guided coaxial perivenous local anesthesia (CPLA). Ultrasound follow-up was performed after 1 day and after 1, 6, 12 and 24 months.

**Results:** GSV occlusion was obtained in all cases, but with different morphology: Laser crosssectomy (group A) showed no stump (88/120, 73.3%), minor stumps < 5 mm (14/120, 11.7%) or moderate stumps (5 – 17 mm, mean 11.5 mm, 18/120, 15%, at 1 month exam); 118/120 (98.3%) entries of AAGSV were covered. In group B, GSV vein stumps of 8 – 31 mm length, mean 23 mm, were present in 120/120 cases. AAGSV entry was covered in 13/120 cases (10.8%). Within 2 year follow-up, AAGSV insufficiency was detected in 5/120 cases (4.2%) of group A and 26/120 (21.7%) of group B (p > 0.01). Just 1/120 (A) resp. 6/120 (B) cases were clinically relevant.

**Conclusions:** Consideration of AAGSV anatomy is crucial for the right choice of strategy. "Laser crosssectomy", even if attacking just the GSV, is more effective in preventing secondary AAGSV reflux than techniques leaving stumps. Further studies will have to detect factors of AAGSV vulnerability, like diameter or previous phlebitis, to consider primary ablation in selected cases.