Multimodal Treatment of Small Saphenous Vein Incompetence

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I have the following potential conflicts of interest to report:

- Consulting

☐ Employment in industry

☐ Stockholder of a healthcare company

☐ Owner of a healthcare company

☐ Other(s)

☑ I do not have any potential conflict of interest
Superficial Venous Incompetence (SVI)

- Major vascular service workload
- 1/3 have SSV incompetence
- Sural nerve damage with surgery
- Less aggressive approach adopted
- Multimodal treatment options attractive
Evidence suggests

- Intervention for SSV incompetence offers
  - Increased performance in terms of PROMS
  - Reduced recurrence
  - No significantly worse neurological outcomes (especially EVTA)

- What are the options?
Surgery

- Sapheno-popliteal ligation and stripping superior outcome to ligation alone
- Offers effective & durable improvements in PROMS
- Systematic review 2016
  - Anatomical success – 58%
  - Neurological complications – 19.8%
  - Better results with EVLA/RFA & FS

*Boersam et al. J Endovasc Ther 2016; 23(1): 199-211*

- Surgery superseded by newer modalities
Endovenous Thermal Ablation

- Studies suggest
  - Lower neurological complications (EVTA 7.5% v Surgery 26.4%)
  - Reduced recovery time

Treatment Modalities for Small Saphenous Vein Insufficiency: Systematic Review and Meta-analysis.

Boersma D¹, Kornmann VN², van Eekeren RR³, Tromp E⁴, Ünlü Ç², Reijnen MM⁵, de Vries JP².
Moderate to low quality evidence that persistent reflux at 6w and recurrence at 1y is reduced with EVTA

Endovenous ablation therapy (laser or radiofrequency) or foam sclerotherapy versus open surgery for the treatment of short saphenous varicose veins
Single RCT – 2 year results


A randomized clinical trial of endovenous laser ablation versus conventional surgery for small saphenous varicose veins.

Nandhra S¹, El-sheikha J², Carradice D², Wallace T², Souroullas P², Samuel N², Smith G², Chetter I².

- EVTA offers comparable outcomes to surgery without the short-term neurological complications
- EVTA current fore-runner for robust, medium/long-term data
- Mainstay modality for SSV intervention
- Little data on steam vein sclerosis
  - small numbers and mainly GSV
Foam Sclerotherapy

- Cochrane 2016 – unable to comment due to paucity of data

- Systematic review 2016
  - Safe but less effective treatment than EVTA
  - Success rates 63% for foam versus 98.5% for EVTA
  - Boersam et al. *J Endovasc Ther* 2016; 23(1): 199-211

- CLASS Study – inferior results for
  - Disease specific QoL health gains
  - Cost-effectiveness
  - Truncal ablation rates
  - But, more rapid return to normal activity (15% has SSV SVI)

- DVT concerns not supported by the evidence
  - No DVT in 331 patients from 22 centres
    - Gillet et al. *Phlebology* 2014; 29(9): 600-7
Mechanico-chemical Ablation (MOCA)

- Non thermal non-tumescent (NTNT) modality
- Endothelial abrasion (agitator) and liquid chemical sclerosant
Office Delivered Treatment

- Local anaesthetic

- Limit of 12cc of sclerosant

- Systematic review – 2017
  - 254 SSV : 1267 GSV
  - 1 year occlusion rate - 92%
  - 5 year - 87% (single study)
  - 4.8% - sural nerve/paraesthesia

  - Efficacy and QoL compare well with EVTA
    

- LAMA study – results awaited, but focused on GSV
Cyanoacrylate Adhesive (CA)

- Non thermal non-tumescent (NTNT) modality
- Similar applications in AVFs and varices
- Catheter delivered US guided adhesive with segmental US pressure to ‘seal’ the refluxing vein
Evidence for Glue in SSV

- 8 SSV patients (48 GSV)
- 100% success
- Improvements in QoL, patient satisfaction and lack of compression
● Retrospective comparative study
  ○ - 16 SSV patients / 47 GSV
● 8 week data - 100% closure on duplex US

● Revised venous clinical severity scores improved
● ‘Phlebitis’ in 23.5%
● No neurological complications
● Retrospective review of CA and RFA – Canada

● CA 148 (16% SSV), RFA 328 (9% SSV)

● Success 100% CA and 99% RFA

● Phlebitis 5% CA and 16% RFA

● Numbness 0% CA and 1.5% RFA

● Conclusion: CA offers similar results to RFA with lower mid term complications
Conclusion

- SSV incompetence - greater detriment to QoL (than for GSV)
- Intervention – improves results
- EVTA – safe and effective with low sural nerve injury rate
- MOCA – early data suggests it may challenge EVTA
- CA – promising but little data on SSV
- Research is continuing