What are the treatment options for Saphenous Ablation?

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Raghu Kolluri, MD: Disclosures

• **Consultant/Advisor/ DSMB/ CEC -**
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Superficial Venous Interventions 2022

Clinical and technical outcomes from a randomized clinical trial of endovenous laser ablation compared with conventional surgery for great saphenous varicose veins

Prospective randomized trial comparing endovenous laser ablation and surgery for treatment of primary great saphenous varicose veins with a 2-year follow-up

Comparing endovenous laser ablation, foam sclerotherapy, and conventional surgery for great saphenous varicose veins

Randomized clinical trial comparing endovenous laser ablation, radiofrequency ablation, foam sclerotherapy and surgical stripping for great saphenous varicose veins

Diagnosis and management of varicose veins in the leg: summary of NICE guidance

Comparison of open or closed canal radiofrequency ablation for the treatment of incompetent great saphenous veins.
For patients with symptomatic axial reflux – Thermal Vs. Non Thermal (including Physician compounded foam and Microfoam)

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Level of recommendation:</th>
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<tbody>
<tr>
<td>GSV</td>
<td>grade 1 (strong), quality of evidence: B (moderate)</td>
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<td>SSV</td>
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<td>AASV &amp; PASV</td>
<td>grade 2 (weak), quality of evidence: C (low to very low)</td>
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...we recommend both thermal and nonthermal ablation..., depending on the available expertise of the treating physician and the preference of the patient (Including Physician Compounded Foam and Microfoam)
For patients with symptomatic varicose veins and axial reflux in the saphenous vein who place a high priority on the long-term outcomes of treatment (quality of life and recurrence) -

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<td>We suggest treatment with endovenous laser ablation, radiofrequency ablation, or high ligation and stripping <strong>over</strong> physician-compounded ultrasound-guided foam sclerotherapy</td>
<td></td>
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Patient Preference

The treatment of varicose veins: an investigation of patient preferences and expectations

A C Shepherd, M S Gohel, C S Lim, M Hamish and A H Davies
Imperial Vascular Unit, Imperial College, London

Less complex forms of reflux

- Signs/symptoms of CVI + or cosmetic improvement
- GSV/SSV reflux
- GSV/SSV anatomy – straight, adequate depth and no tributary reflux

Thermal/Cyanoacrylate/ MOCA/ PEM of GSV/ SSV+- compression Rx
Goal → Treat the straight saphenous veins

Thermal Tumescent (TT)
- * RFA
- * Laser

Non-Thermal Non-Tumescent (NTNT)
- * Cyanoacrylate glue
- * Mechanico-Chemical Ablation
  - Micro Foam Ablation
  - Physician compounded Foam

* Require the vein to be straight and *not* tortuous
What about the tributaries/reticular veins/spider veins?

• No GSV/SSV Reflux or Post saphenous or other large varix Rx
• Has reticular veins/telangectasias and seeks cosmetic Rx

SCLEROTHERAPY
Phlebectomy

- Ambulatory phlebectomy
- Micro phlebectomy
- Micro/ Ambulatory stab avulsion

- Goal – Remove large tortuous branch varicosities
Foam Sclerotherapy Augmented Phlebectomy (SAP) Procedure for Varicose Veins: Report of a Novel Technique

Raghav Kolluri*, Katherine U. Hays*, Manjot S. Gohel*

*OhioHealth Vascular Institute, Columbus, Ohio, USA
†Cambridge University Hospitals and Imperial College, London, UK

Introduction: While traditional ambulatory phlebectomy (AP) is a safe and effective procedure, few adverse effects such as hematomas, bleeding, bruising and nerve injury have been reported. To improve AP and to reduce some of these adverse events, herein we report a novel technique — Foam Sclerotherapy Assisted Phlebectomy (SAP).

Report: The details of the above technique, along with the potential advantages and limitations will be discussed.

Discussion: Foam sclerotherapy and DUS act as valuable adjuncts to traditional AP. SAP increases precision and creates additional venospasm leading to reduced bruising, reduced nerve injury and sclerosis of residual vein segments.

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Keywords: Varicose veins, Sclerotherapy, Foam sclerotherapy, Phlebectomy, Venous insufficiency

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Large/ Aneurysmal/ Subdermal Veins

- Aneurysmal superficial venous disease
- Referral for surgery
Treat the patient not the vein
Superficial venous reflux

Deep venous reflux

Deep venous obstruction - DVT related

Perforator reflux

Ilio-Caval obstruction

Elevated central venous pressures
- Pulm HTN
- Tricuspid Regurg
- OSA

Superficial venous reflux
Other causes...

- Stiff ankle
- Immobility
- Cardiovascular & medical causes, medications
- Obesity
- Dependency

Treatment of superficial reflux in patients with concomitant edema risk factors is challenging
Evidence

Deficiency/Controversy/Vacuum
Ulcer Healing by Foam Sclerotherapy +/- saphenous ablation
Concomitant Vs Staged treatment of Varicosities

Ambulatory Varicosity avUlsion Later or Synchronized (AVULS) A Randomized Clinical Trial

Tristan R. A. Lane, MRCS,* Damian Kelleher, FRCS,*† Amanda C. Shepherd, MD,* Ian J. Franklin, FRCS (Gen Surg),*† and Alan H. Davies, FRCS*

101 patients randomized
Secondary procedures in 36% (delayed) vs 2% (concomitant)
Better VCSS and 6 week AVVQ

Randomized clinical trial

Randomized clinical trial of concomitant or sequential phlebectomy after endovenous laser therapy for varicose veins

D. Carradice, A. I. Mekako, J. Hatfield and I. C. Chetter

50 patients randomized
Secondary procedures in 64% (delayed) vs 4% (concomitant)

Lower reintervention rate with concomitant phlebectomies
For patients with symptomatic reflux of axial veins associated varicosities

Ablation of the refluxing venous trunk and concomitant phlebectomy or **ultrasound-guided foam sclerotherapy of the varicosities with physician-compounded foam or commercial polidocanol endovenous microfoam.**

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<th>Staged (Shared Decision Making)</th>
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Mixed etiology

- Treatment of superficial reflux in patients with complex mixed etiology disease
  - Phlebolympedema
  - Phlebolipedema
  - Phlebolipolipedema
  - Elevated right heart pressures
Summary
1. Left ventricular systolic function is normal, with ejection fraction estimated at 55 +/- 5%.
2. The left ventricular diastolic function is grade II diastolic dysfunction, consistent with mildly elevated left atrial pressure.
3. The right ventricle is severely dilated with severely reduced systolic function.
4. There is a 34 mm EvolutR TAVR (implant 7/29/2019) with normal function, peak velocity 2.2 m/s mean gradient 10 mmHg without prosthetic or periprosthetic regurgitation.
5. There is mild to moderate tricuspid valve regurgitation.
6. There is significant pulmonary hypertension, estimated right ventricle systolic pressure is 70-75 mmHg.
7. There is small circumferential pericardial effusion.
8. Compared to prior study performed 8/4/2020 severe pulmonary hypertension is now reported. The RV size appears mildly increased with likely progressive RV systolic dysfunction.
Conclusions

• The enormous choice of endovenous modalities should not distract from important strategic and technical factors

• Set clear expectations

• Less invasive to more invasive – CHRONIC venous insufficiency

• Deep venous obstruction consideration

• Venous intervention remains more of an art than a science

• Treat the patient and not the vein
Treat the patient not the vein