Managing the challenging patient: Ancillary procedures for complex anatomies

Raghu Kolluri, MS, MD, RVT, RPVI
Director | SYNTROPIC CoreLab – Vascular and Wound Imaging
System Medical Director | Vascular Medicine
OhioHealth Vascular Institute
Columbus, Ohio
Disclosure

- Medtronic – Consultant
- Bard – Research Consultant
- Philips/ Volcano – Consultant
- Boston Scientific – Consultant
- Inari – Consultant
- Spectranetics – Consultant
- BTG – Consultant/ Research Grant
- Vesper Medical - Consultant
- Innovein – Consultant

Brand names are included in this presentation for participant clarification purposes only. No product promotion should be inferred.
Simple Decision Making

- Signs/ Symptoms + or Cosmetic improvement
- GSV/SSV reflux
- GSV/SSV anatomy – Straight, adequate depth and **no tributary reflux**

Thermal/ Non Thermal GSV/ SSV+/- Compression Rx
Simple Decision Making – Aneurysmal disease

- Aneurysmal superficial venous disease
- Surgical Rx
• 67 yr old female with Hx of Right LE edema and venous claudication.
• Prior Hx of DVT in the RLE.
• Recommended GSV ablation
• Second opinion

GSV → FV
Pop V
SSV → Rx – Perforator ablation + Phlebectomy of Varix.
• 53 yr old male with bilateral ankle ulcers
• Left GSV ablation last yr did not help

GSV Reflux, proximal aneurysm

Deep Vein Reflux “Physiologic reversal” of perforator into a competent AASV

IVC Atresia, Iliac veins absent, prominent Azygous / Hemiazygous

Pelvic Collaterals
Not so simple – Prior ablation

- SSV ablation + Foam Sclerotherapy of the branch varicosities
Not so simple – Prior ablation + tortuousity

- AASV/ SFJ Reflux – AASV straight – 8cms
- Prior GSV ablation
- Reflux in tortuous intersaphenous vein - AASV to Below knee GSV
- Prior GSV ablation
- Severe painful lipodermatosclerosis
Options

- AASV Ablation/ Venaseal – straight portion
- Foam Sclero of tortuous vein
- ? Perforator ablation/ Foam
- Below knee GSV ablation Or Venaseal
Options

? Clarivein – Mechanico Chemical Ablation

Clarivein – Mechanico Chemical Ablation
Options

Varithena Foam/ ?Regular foam

Varithena Foam/ ?Regular foam

Varithena Foam/ ?Regular foam
Polidoconol Microfoam Ablation for challenging situations

<table>
<thead>
<tr>
<th>Vein Treated</th>
<th>Age</th>
<th>Rationale for 1% PEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>R GSV/AASV</td>
<td>51</td>
<td>Risk for ecchymosis/bleeding and prior ablation with recurrent symptoms</td>
</tr>
<tr>
<td>L GSV</td>
<td>86</td>
<td>Risk for ecchymosis/bleeding</td>
</tr>
<tr>
<td>L GSV/AASV</td>
<td>76</td>
<td>Lipodermatosclerosis and prior ablation with recurrent symptoms</td>
</tr>
<tr>
<td>R SSV/GSV</td>
<td>65</td>
<td>Lipodermatosclerosis</td>
</tr>
<tr>
<td>L GSV</td>
<td>45</td>
<td>Hydradenitis</td>
</tr>
<tr>
<td>R GSV</td>
<td>65</td>
<td>Chronic fibrosis of the GSV</td>
</tr>
<tr>
<td>L GSV</td>
<td>60</td>
<td>Chronic fibrosis of the GSV</td>
</tr>
<tr>
<td>R GSV</td>
<td>67</td>
<td>Chronic fibrosis of the GSV</td>
</tr>
<tr>
<td>R GSV/AASV</td>
<td>75</td>
<td>Prior ablation</td>
</tr>
<tr>
<td>R SSV</td>
<td>82</td>
<td>Concern for Saphenous Nerve Injury</td>
</tr>
</tbody>
</table>

In Press
FOAM ASSISTED DUPLEX ULTRASOUND GUIDED PHLEBECTOMY
Traditional Vs Foam Assisted DUS guided phlebectomy
Advantages of the new technique

• EBL < 5cc in all cases
• Can be performed with concomitant anticoagulation
• No nerve injury
• Precise – Incision, hooking and exteriorizing → less traumatic
• Segments not exteriorized → Sclerose
• Small veins distal → sclerosis
• Venous eczema improvement
Summary

• VEIN MAP/ REFLUX TEST → first step in stratification

• Venous insufficiency is NOT just from GSV and SSV

• Important to assess the state of deep and superficial veins and perforators in severe venous disease

• Consider iliac vein obstruction in patients with venous ulcers/ severe venous disease and deep venous reflux
Summary

• Complex venous anatomy can often be overcome with several simple techniques
• Polidoconol microfoam or traditional foam sclerotherapy for complex small to medium sized tortuous veins
• Foam Assisted DUS guided Phlebectomy for larger veins and for people who seek best cosmetic outcome
Managing the challenging patient: Ancillary procedures for complex anatomies

Raghu Kolluri, MS, MD, RVT, RPVI
Director | SYNTROPIC CoreLab – Vascular and Wound Imaging
System Medical Director | Vascular Medicine
OhioHealth Vascular Institute
Columbus, Ohio