Patient Screening and Evaluation for Endovenous Therapy

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Disclosure

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I have the following potential conflicts of interest to report:

- I do not have any potential conflict of interest
Endovenous ablation of the saphenous veins

• relatively new, minimally invasive percutaneous procedure
• has several advantages over standard open surgery
• needs the right selection of patients by:
  • complete medical history
  • detailed clinical examination
  • pre-procedural duplex ultrasonography.
Medical History

• symptoms of CVD
  • Primary/secondary/congenital varicose

• previous history of:
  • venous disease:
    • DVT or
    • thrombophlebitis
    • thrombophilia
  • venous treatment
Clinical Examination

- Signs of venous disease in the standing patient
  - Size, location and distribution of varicose veins
  - Limb swelling
  - Skin changes
- Rule out:
  - PAOD
  - Lymphedema
- Basic CEAP Classification
- VCSS

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<table>
<thead>
<tr>
<th>CEAP</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C0</td>
<td>No visible or palpable signs of venous disease</td>
</tr>
<tr>
<td>C1</td>
<td>Telangiectases or reticular veins</td>
</tr>
<tr>
<td>C2</td>
<td>Varicose veins</td>
</tr>
<tr>
<td>C3</td>
<td>Edema</td>
</tr>
<tr>
<td>C4a</td>
<td>Pigmentation and/or eczema</td>
</tr>
<tr>
<td>C4b</td>
<td>Lipodermatosclerosis and/or atrophie blanche</td>
</tr>
<tr>
<td>C5</td>
<td>Healed venous ulcer</td>
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<tr>
<td>C6</td>
<td>Active venous ulcer</td>
</tr>
<tr>
<td>C7</td>
<td>Symptoms, including ache, pain, tightness, skin irritation, heaviness, muscle cramps, as well as other complaints attributable to venous dysfunction</td>
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<tr>
<td>CA</td>
<td>Asymptomatic</td>
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</tbody>
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Pre-procedural Duplex Ultrasound

- **Deep veins:**
  - Common femoral vein (CFV)
  - Femoral vein
  - Popliteal vein
  - Calf veins
- **Junctions:**
  - Sapheno-femoral
  - Sapheno-popliteal

  - assessment for:
    - patency
    - reflux and
    - waveform analysis (detect any proximal venous obstruction)

- In standing position

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Pre-procedural Duplex Ultrasound

- **Main trunks:**
  - diameter measurement
  - transverse view
  - the outer diameter
  - a site with no aneurysmal dilation
  - assessment of reflux
  - Standardized Valsalva maneuver
  - cuff inflation-deflation method
  - retrograde flow lasting for more than 0.5 s
Pre-procedural Duplex Ultrasound

- Tributary Veins:
  - if incompetent
- Non-saphenous veins:
  - if incompetent (pudendal or other pelvic/perineal veins)
- Perforating veins:
  - diameter measurement (>3,5mm)
  - assessment of flux and/or reflux (>500ms)
• the patient's venous condition
• his or her general health

influence

• the choice of the venous treatment
  • the type of anesthesia
• and office-based or hospital procedure
Veins Amenable to Endovenous Thermal Ablation

- Great saphenous vein (GSV) (GRADE 1A)
- Small saphenous vein (SSV) (GRADE 1A)
- Accessory saphenous veins (intrafascial part) (GRADE 1B)
- Giacomini vein and cranial extension of the SSV (GRADE 1B)
- Other superficial veins situated in the subcutaneous tissue (GRADE 1C)
- Insufficient perforating veins (GRADE 1C)
- Residual intrafascial veins after treatment (GRADE 1B)
- Venous malformations (GRADE 1C).

Specific requirements for some ET methods

• veins to be treated by ET should NOT
  • contain synechiae/membrane webs
  • be tortuous to the extent which precludes advancement of the catheter

• Patients on long-term oral anticoagulation
  • can also be safely treated with RFSA/EVLA.

• Patients unable to walk for at least 15–20 min several times daily
  • are not good candidates for ETA. However, this may be still better in these circumstances than other methods, like classical surgery.
Specific requirements for some ETA methods

• **RFSA**
  - the vein segment should be at least 10 cm long when standard catheter (7 cm heating element) is used or 5 cm when a shorter heating element (3 cm) is used.
  - well controlled cardiac arrhythmias are not contraindication for RFSA as there should not be current propagation beyond the treated vein wall.

• **EVLT**
  - has generally no such restrictions
Absolute contraindications

- Acute deep vein thrombosis (DVT)
- Acute superficial phlebitis
- Acute infections at puncture sites (infection should be treated first)
- Deep venous obstruction if the vein to be treated is a functional collateral
Relative contraindications

- Immobile or hardly ambulating patients
  - if LMWH prophylaxis is given it is a safe procedure
- Concomitant significant peripheral arterial disease
  - ABI < 0.5 or absolute ankle pressure < 60 mmHg) prevents postprocedural compression a relative contraindication – it may not be necessary or a segmental eccentric compression may be used
- Elevated thromboembolic risk including thrombophilia and history of previous DVT.
  - thromboprophylaxis should be considered
Relative contraindications

- Pregnancy
- Patients with significant uncompensated (non-responsive to standard treatment) leg edema who cannot be adequately monitored by ultrasound
  - in these patients US scanning for DVT may be very difficult or impossible so that the edema should be treated first
- Uncontrolled severe diseases.
Technical issues which may be viewed as relative contraindications

- Tortuous vein difficult to catheterize
- Diameter of the vein at the accessing segment < 3 mm
- Partly occluded venous segment (intraluminal webs, thrombosed or hypoplastic)
- Vein segment to be treated shorter than necessary for catheter placement.
“The cornerstone for management of chronic venous disease is the proper diagnosis and accurate classification of the underlying problem which create the base for correctly directed treatment”

Thank you!

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