Traitement des varices et syndrome post-thrombotique.

Olivier Pichot - Grenoble
I DO NOT HAVE ANY POTENTIAL CONFLICT OF INTEREST...

FOR THIS PRESENTATION!
Questions

- **Benefit?**
  - Saphenous vein reflux / deep veins reflux
  - Saphenous vein reflux / deep veins obstruction

- **Risk?**
  - PTS worsening
  - TED recurrence

- **How?**
  - SV Ablation: UGFS, TA
  - Tributaries phlebectomies or FS
  - Compression
PTS Presentations

- No obstruction, no reflux
- Reflux
  - Infra (supra) inguinal
- Obstruction
  - Supra inguinal
  - Infra inguinal
  - Both
  - Combined with reflux
In current practice

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ATBLON
Safety of UGFS in PTS

- 54 patients DVT or PE history
- 262 sessions of UGFS
  - SV or tributaries
  - Polidocanol 0.5-3%
- Prophylaxis
  - Compression (23-32 mmHg) 3 weeks
  - Enoxaparin 40 mg once a day 3 days
- Complication:
  - DVP: 0%
  - PE: 0%
  - Phlebitis: 3.5%

Reich- Schupke S et al. Foam sclerotherapy with enoxaparin prophylaxis in high-risk patients with postthrombotic syndrome. Vasa 2013
European guidelines for sclerotherapy in chronic venous disorders

- **Thromboembolic event after UGFS:**
  - Distal DVT: Uncommon 0.1% to 1%
  - Proximal DVT: Very rare < 0.01%
  - PE: Isolated cases < 0.01%

- **In patients with a high risk of thromboembolism such as those with a history of spontaneous DVT or known severe thrombophilia we recommend:**
  - Use of pharmacological thromboprophylaxis in line with current guidelines/recommendations (1C)
  - Implement physical prophylaxis (compression, movement) (1C)
  - Avoid the injection of large volumes of foam (1C)
  - Decide on a case-by-case basis; perform a benefit-risk assessment based on the particular indication (1C)

Safety of TA in PTS

- **293 TA (ClosurePlus) in 274 patients**
  - 29 patients (10%) with TED history or DVT sequelae on duplex
  - 37 patients (13%) with history of SVT

- **TE events in 38 limbs (13%)**:
  - EHIT I: 8%
  - EHIT II: 2.5%
  - Distal DVT: 2.5%

- **Incidence of TE**:
  - TED history: 7%
  - No TED history: 14% (ns)

- **TE risk factors**:
  - Large GSV diameter, SVT history, concomitant phlebectomies

EHIT Risk factors

- **EHIT:**
  - Vein diameter (p=.014)
  - Age (p=.021)
  - Multiples phlebectomies (p<.001)

- **EHIT class 3-4:**
  - Vein diameter
  - Multiples phlebectomies

- **Non significant**
  - BMI, sex, reflux duration
  - TED history
  - Tip of catheter positioning (2.5 to 3 cm)

Efficacy of TA in patients receiving anticoagulation treatment

- Thermal ablation (ClosureFast)
- 88 limbs with anticoagulation (PTS: 28%)
  - Warfarin: 60%
  - Warfarin + 1 antiagregant: 28.3%
  - Warfarin + 2 antiagregants: 11.7%
- Control group: 92 limbs
- Minor bleeding: 8 vs 4 (ns)
- Obliteration: 100% both groups

SV Ablation in case of Deep Reflux

- 38 limbs in 33 patients
  - GSV reflux and segmental (fem or pop) DV reflux: n=21
  - GSV reflux and axial (fem & pop) DV reflux: n=17
  - PTS patients excluded

- High ligation & stripping (10) RFA (28)
- Reflux disappearance: 24% of limbs

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Puggioni A et al. How often is deep venous reflux eliminated after saphenous vein ablation?. J Vasc Surg 2003
In current practice

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Left popliteal vein

Left GSV
Effect of Saphenous Removal in PTS

- Retrospective study in 99 limbs (C4-6) in 96 patients with:
  - Ilio-femoral obstruction
  - GSV reflux (± deep veins reflux)

- Treatment
  - Recanalization stenting
  - GSV ablation (excision, RF, EVL)

Is SV Ablation Mandatory?

- Retrospective study in 528 limbs (C3-6) in 504 patients with:
  - Ilio-femoral obstruction
  - Deep veins reflux (100%)
  - Superficial veins reflux (69%)

- Treatment
  - Recanalization stenting

Effect of Saphenous Removal in PTS

- **Comparison**
  - 64 limbs with obstruction (asc. phlebography)
  - 51 limbs without obstruction
  - Concomitant valve reconstruction 81%

- **Obstruction measurement:**
  - Venous pressure
  - Plethysmography

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**Table IV. Mean difference between preoperative and postoperative values in control group and group with obstruction after operation**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Control group</th>
<th>n</th>
<th>Obstructed group</th>
<th>n</th>
<th>p Value (obstructed vs control)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Drop in ambulatory venous pressure</td>
<td>-1.8 ± 17.5</td>
<td>40</td>
<td>-3.1 ± 15.6</td>
<td>56</td>
<td>NS</td>
</tr>
<tr>
<td>VFT (sec)*</td>
<td>-10.2 ± 16.7</td>
<td>45</td>
<td>-2.8 ± 15.8</td>
<td>57</td>
<td>&lt;0.02</td>
</tr>
<tr>
<td>VFI&lt;sub&gt;99&lt;/sub&gt; (ml/sec)*</td>
<td>1.9 ± 4.2</td>
<td>35</td>
<td>1.3 ± 2.8</td>
<td>50</td>
<td>NS</td>
</tr>
<tr>
<td>Venous volume (ml)*</td>
<td>24.2 ± 51.1</td>
<td>36</td>
<td>12.0 ± 27.0</td>
<td>49</td>
<td>NS</td>
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<tr>
<td>Ejection fraction (%)</td>
<td>-2.7 ± 19.8</td>
<td>35</td>
<td>0.8 ± 25.4</td>
<td>50</td>
<td>NS</td>
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<td>Residual volume fraction (%)</td>
<td>2.8 ± 20.2</td>
<td>35</td>
<td>2.5 ± 19.3</td>
<td>47</td>
<td>NS</td>
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<tr>
<td>Valsalva venous pressure (mm Hg)</td>
<td>1.7 ± 4.9</td>
<td>47</td>
<td>-0.2 ± 10.1</td>
<td>61</td>
<td>NS</td>
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Raju S et al. Saphenectomy in the presence of chronic venous obstruction. Surgery 1998
Effect of Saphenous Removal in PTS

- **Comparison**
  - 64 limbs with obstruction (asc. phlebography)
  - 51 limbs without obstruction
  - Concomitant valve reconstruction 81%

- **Obstruction measurement:**
  - Venous pressure
  - Plethysmography

### Table III. Outflow fraction (2 seconds) before and after saphenectomy for control group and group with obstruction

<table>
<thead>
<tr>
<th>Patient group</th>
<th>n</th>
<th>Preoperative value</th>
<th>Postoperative value</th>
<th>p Value</th>
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<tbody>
<tr>
<td>Control</td>
<td>37</td>
<td>64.1 ± 10</td>
<td>61.2 ± 12</td>
<td>NS</td>
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<tr>
<td>Obstructive</td>
<td>51</td>
<td>62.8 ± 12</td>
<td>57 ± 15*</td>
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Infra inguinal obstruction
Varicose veins or collateral veins?
Infra inguinal obstruction
Exhaustive Examination

- **DU tricks**
  - Accurate thigh collaterals analysis
Exhaustive Examination

- DU tricks
  - Accurate collaterals analysis
  - Fem flux testing during GSV compression
Exhaustive Examination

- **DU tricks**
  - Accurate collaterals analysis
  - Fem flux testing during GSV compression
  - GSV flux testing during exercise
Exhaustive Examination

- **DU tricks**
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- **Phlebo scan**

![Imagery of phlebo scan, presumably related to blood vessel visualization.](image-url)
Exhaustive Examination

- **DU tricks**
  - Accurate collaterals analysis
  - Fem flux testing during GSV compression
  - GSV flux testing during exercise

- **Phlebo scan**

- **Phlethysmography**
In patients with PTS

- In most cases, varicose veins ablation can be practiced safely

- You must check that:
  - Varicose veins are not collateral veins
  - Ablation will be beneficial for the patient

- UGFS and TA are suitable technics

- Varicose vein ablation is often only a part of the treatment
Thanks for your attention