Mid term results of endovenous laser ablation of great and small saphenous vein incompetence with a 1470-nm laser and radial fiber.

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Endovenous Laser
Our experience on 2782 patients
From 2002 to 2013

- 2002 - 810 nm and bare fiber: 42 pts
- 2003 - 940 nm and bare fiber: 8 pts
- 2003-2008 980 nm and bare fiber: 1208 pts
- 2008-2011: 1470 nm and bare fiber: 174 pts
- 2008-2013: 1470 nm Laser and radial fiber or dual ring radial fiber or slim radial fiber: 1350 pts
Endovenous laser ablation of great and small saphenous vein incompetence with a 1470-nm laser and radial fiber.

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Design and Setting

- Prospective cohort study
- Ambulatory setting at the Multidisciplinary Centre for Day Surgery – University Hospital of Padua
- Patients recruited between May 2008 and December 2011
- 381 consecutive patients (317 GSV and 62 SSV)
- 7 lost in follow up - 372 patients completed the planned 12-month follow up
Design

- EVLA performed with 1470nm diode laser by 3 trained surgeon
- Clinical and ECD assessments at 2-7-90-270 days after EVLA and once yearly for up to 4 years performed by 6 experienced physicians
- Primary outcome: incidence of ECD confirmed failures (ECEFs)
- Secondary outcome: post-operative pain
Cohort Data

- BMI normal weight < 25 181
  overweight  >25<30 124
  obesity >30 7

CEAP C2 141, C3 71, C4a 109, C4b 30, C5 25, C6 3

Diameter 2 cm from the SFJ and SPJ mean 9/8mm
LEED J/cm first 5 cm from the junction 218/213 J/cm

Mean diameter of the trunk 7/7mm
LEED to the saphenous trunk 83/91 J/cm
Results

100% occlusion rate (GSV and SSV) with a mean 22 months follow up (min 12 max 48 months)
Amount of the energy delivered targeted to the diameter of the saphenous trunk

• Laser set in the continuous mode, with a power of 5 to 6 W
• LEED given following „the X10 rule“ for the trunk and „the X20 rule“ for the first 5cm proximal to the junction
Secondary outcome: post-operative pain

- 2/3 of the patients didn’t have any pain
- More than 2/3 of the patients didn’t use any pain killer
- Pain is often referred to the site of phlebectomies
Secondary outcome: post-operative pain

Postoperative pain course and use of analgesics on a sample of 111 patients

<table>
<thead>
<tr>
<th>Pain</th>
<th>Day 0, %</th>
<th>Day 1, %</th>
<th>Day 2, %</th>
<th>Day 7, %</th>
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<tbody>
<tr>
<td>Absent</td>
<td>29</td>
<td>68</td>
<td>68</td>
<td>70</td>
</tr>
<tr>
<td>Mild</td>
<td>71</td>
<td>30</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>Moderate</td>
<td>0</td>
<td>3</td>
<td>18</td>
<td>16</td>
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<tr>
<td>Severe</td>
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<td>0</td>
<td>0</td>
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</table>

<table>
<thead>
<tr>
<th>Analgesics use</th>
<th>No</th>
<th>88</th>
<th>67</th>
<th>85</th>
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<tbody>
<tr>
<td>Yes</td>
<td>0</td>
<td>12</td>
<td>33</td>
<td>15</td>
</tr>
</tbody>
</table>
Results

For the SSV

- 100% occlusion rate of the saphenous trunk
- 100% competent sapheno-popliteal junction (no ECEFs)
Result

For the GSV

- ECEF Type 1  24 (8%)
- ECEF Type 2  10 (3%)  9 at the AASV and 1 PASV

None of these patients had recurrent varices or symptoms
Results

For the GSV

- ECEF Type 3 3 (1%)
  - Due to neovascularisation with visible asymptomatic varices of the AASV
Retreatments

For the GSV

- 11 (2%) patients underwent UFGS (the 3 ECEF 3 and 8 patients with ECEF 1 or 2 and symptomatic reflux)
Conclusions

With this protocol we can obtain
- 100% of occlusion of the saphenous trunk
- 100% competent sapheno-popliteal junction
- Very low incidence of recurrent varices at the thigh from the AASV. UFGS was offered in these cases
- Some non optimal ECD results (namely isolated refluxing stump -8%-and refluxing AASV -2%-) without varices or symptoms are still under evaluation because at longer follow up, may eventually result in a failure
Grazie dell’attenzione