What Does Compression Add to Thermal Ablation?

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Endovenous Ablation

- Minimally invasive technique for treating reflux in the GSV
- Laser = Radiofrequency

Compression

- Traditionally prescribed after ablation (previously with no great evidence) showing significant benefit
- Uncomfortable leading to low compliance, may cause skin irritation, decreased patient satisfaction

Literature – Vein Stripping

Strength

-15mmHg vs. 40mmHg
- Bruising, pain, phlebitis

Duration

-1 week vs. 3 weeks
- Pain, complications, time to return to work, patient satisfaction

Compression vs. No Compression

- Limb edema, pain, complications, time to return to work

Literature – Vein Stripping

The Optimal Duration of Compression Therapy Following Varicose Vein Surgery: A Meta-analysis of Randomized Controlled Trials


-Meta-analysis 3-10d vs 3-6wks
-No benefits to long term compression therapy in regards to pain, edema, complications, time off from work

Disclosures: None
Compression After Endovenous Ablation

Compression Stockings after Endovenous Laser Ablation of the Great Saphenous Vein: A Prospective Randomized Controlled Trial

RESULTS
- At 1 week, (SF-36) physical function and vitality both better in Group B (7 day compression)

Table 2. Visual analogue scale score (pain).

<table>
<thead>
<tr>
<th>Time</th>
<th>Group A</th>
<th>SD</th>
<th>Group B</th>
<th>SD</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>48 h</td>
<td>3.2</td>
<td>1.6</td>
<td>3.4</td>
<td>2.1</td>
<td>NS</td>
</tr>
<tr>
<td>1 week</td>
<td>1.7</td>
<td>2.1</td>
<td>2.0</td>
<td>2.0</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>6 weeks</td>
<td>1.6</td>
<td>1.3</td>
<td>1.9</td>
<td>2.0</td>
<td>NS</td>
</tr>
<tr>
<td>2 day</td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 day</td>
<td></td>
<td>1.0</td>
<td></td>
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</tr>
</tbody>
</table>

100% GSV occlusion at 3 months

Role of compression stockings after endovenous laser therapy for varicosis

- 111 patients randomized to 24h of bandages vs. 2 weeks of 30-40mmHg compression
- Primary outcome Pain scores (VAS)
- Aberdeen Varicose Vein Questionnaire, RAND 36 Item Health Survey Score, Patient satisfaction, time before returning to work, Adverse events.

Role of compression stockings after endovenous laser therapy for varicosis

- Compression After Endovenous Ablation

- Prospective, Randomized trial after endovenous laser ablation (EVLA) of GSV
  - Group A - Compression for 48 hours vs.
  - Group B – Compression for 7 days
  - Pain (VAS), QOL (SF-36) at 2 days, 1 week, 6 weeks
  - Duplex performed at 3 months

- Randomized to 4h vs 72h of compression
- No difference in leg edema, pain.
- Shorter duration compression had less complications (blistering, skin irritation)

- Aberdeen Varicose Vein Questionnaire, RAND 36 Item Health Survey Score, Patient satisfaction, time before returning to work, Adverse events.
Role of compression stockings after endovenous laser therapy for primary varicose

July 2014

Jan H. Melchers, MD, PhD, Karel G. Keizer, MD, MSc, Michel Legaré, MD, FRCSC, Karol W. J. Hulswit, MD, PhD, and Kosuke I. M. Shimkuk, MD, FRCSC. Journal of Vascular Surgery: Venous and Lymphatic Disorders.

Goal: investigate the therapeutic role of compression after ablation

- prospective single institution randomized controlled trial 2009-2013
- Thigh high compression stockings (30-40mmHg) for 7d vs. No compression

Inclusion Criteria
- Documented GSV reflux
- CEAP 2, 3, 4, 5 disease
- Hypercoagulable state
- Palpable pedal pulse or ABI >.9
- History of DVT
- Concomitant Phlebectomy

Exclusion Criteria
- Previous ipsilateral intervention
- Radiofrequency ablation (91%) and GSV laser (9%)

Methods

Endpoints
- Efficacy of ablation based on duplex evidence of closure
  - 1 week, 3-6 months, 1 year
- Improvements in QOL (CIVIQ-2) and Venous Clinical Severity Scores (VCSS)
  - Baseline, 1 week, 2 weeks, 1 month, 3-6 months, 1 year
- Pain – (from 0 to 10 on visual analogue pain scale daily for first 7 days)
- Bruising – (pictures taken at 1 week POV)

Results

- 75 pts (85 limbs) were randomized
  - Compression 46 limbs (54%) vs No Compression 39 limbs (46%)
  - 73% women, median age 52 y/o
  - Varicose veins 28% vs 22%
  - Edema 44% vs 48%
  - Skin changes 18% vs 24%
  - Healed ulcer 10% vs 5%
  - CEAP Compression No Compression
  - p = 0.567
  - P = NS

Chronic Venous Insufficiency Questionnaire CIVIQ-2

- QOL CIVIQ-2
  - No compression stockings
  - Compression stockings
  - Weeks after endovenous ablation
  - P = NS
Venous Clinical Severity Score - VCSS

Compression
4.8 → 2.4
No Compression
4.5 → 1.9
P=NS

Bruising
-No significant difference in bruising
  Compression 1.2 (+/- 0.8)
  No compression 1.4 (+/- 0.9)  p = 0.560

Venous Clinical Severity Score - VCSS

Compression
4.8 → 2.4
No Compression
4.5 → 1.9
P=NS

Post-procedure Pain

Trend towards better pain control with Compression
P=.03

GSV Closure
- 100% Duplex occlusion in both groups with all available follow-up (mean f/u 24 months)

Limitations
- Larger sample size and better patient follow up may be necessary to validate our findings.
CONCLUSIONS

- Patients w/ compression may receive a small benefit in regards to pain control and increased QOL during first week
- Compression therapy does not significantly affect patient reported and clinical outcomes and may be an unnecessary adjunct following GSV ablation

Thank You