Reflux To The Ankle: When and How To Do It

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Disclosures:
• Covidien Inc. – Medical Advisory Board
• Vascular Insights LLC – Medical Advisory Board
• LeMaitre Inc. – Consultant
• VVT Medical - Consultant

BK GSV

Ant. tributary of greater saphenous v.
Boyd's perforator
Proximal parabibial perforators
Greater saphenous v.
"24 cm" perforator
Cockett III perforator
Cockett II perforator
Superf. peroneal n.
Muscle perforators of the foot

SSV

BK GSV: When?
• Primary Procedure
• Secondary Procedure
• Unnecessary Procedure

BK GSV/SSV: Concerns
• Nerves – saphenous, sural, tibial, cutaneous
• Skin – more superficial
• Access points – ankle, retrograde
• VV
The Boys From Leeds: I

- BK GSV incompetence and VV
- Can and should treat below knee
- RCT- 3 groups: AK EVA, BK EVA mid calf, AK EVA and foam BK VV
- Sx better, less residual VV, less staining with BK EVA
- No saphenous nerve injury

Thiruvelloor NS et al. Endovenous laser ablation: does standard above knee GSV ablation provide optimum results in patients with both above and below knee reflux. JVE 2004;48:173-78.

Nerve Injury In MEEVA: Mayo

- 47 legs BK GSV (5 previous AK GSV)
- 45 laser, 2 RF
- Saphenous nerve hyperesthesia – 1 (2%, lasted 2 weeks)
- EHT – 0


Why Can We Do This?

- OBJECTIVE To assess early pathologic changes in the below-the-knee nonvaricose GSV and adjacent tissue after EVLA in legs scheduled for below-the-knee amputation.
- METHODS The below-the-knee GSV in five patients was exposed to EVLA using 14-, 12-, and 10-watt laser power with continuous or intermittent laser exposure using a 600-nm core, bare tip fiber. RESULTS Histologic evaluation revealed thermal damage of the intima and the inner part of the media. Vascular perforation with extravasation of hemorrhagic bleeding was occasionally (>10%) seen in cases treated with 40 to 80 J/cm and in all cases treated with 110 to 200 J/cm. The saphenous nerve was not damaged.
- CONCLUSION Based on this histopathologic study, acute thermal damage of the below-the-knee GSV after EVLA was limited to the intima and the inner third of the media. No acute damage of perivascular nerve tissue was observed.


Why Can We Do This?

Sea of Tumescence

- MEEVA – after 2007
- After the global learning curve

Even Safer? Non Thermal Non Tumescent

- MOCA, CAE, PEM, V BAS
- BK GSV/SSV EVA will be more routine
- Minimal nerve/skin injury reported thus far

When To Treat BK GSV/SSV: 1°

- C2 – at least to mid calf (maybe lower)
- C3 – C4 – at least to mid calf
- C5 – C6 – to malleolus, under ulcer
- NTNT – safer to go to malleolus
- Retrograde
- Hard to place tumescence in area of LDS, Ulcer
When To Treat BK GSV/SSV: 2°

- Persistence of symptoms after EVA AK GSV (40 – 50%)*
- New symptoms, VV or ulcer after EVA AK GSV

See previous – Thievacumar and Gifford

When To Think Twice

- New VV and symptoms after AK GSV EVA
- Cause vs. Effect – what is cause of symptoms
- Size/Reflux time of BK GSV/SSV
- Length of incompetent BK GSV/SSV - short
- Not every BK GSV/SSV needs ablation (most do)

Final Thoughts – Lowest Point of Reflux

- Go as low as the pathology dictates for 1° disease
- Think about how low for 2° disease
- Think about retrograde
- Think about NTNT techniques retrograde - advantage
- Tell patients about possible nerve injury for thermal
- In general benefits outweigh risks in MEEVA

“Don’t Think Twice, It’s Alright.”