What to Do When Stockings Fail to Control Swelling?

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I Have No Disclosures Relevant To This Presentation

Do Stockings Reduce Edema?
Mosti G, Phlebology 2012

- 40 C3 patients randomized
  - Multilayer inelastic bandages
  - Mean standing interface pressure
  - Bandages – 79.0 mm Hg
  - Stockings – 50.5 mm Hg
  - Leg volume by truncated cone formula

Compression Alternatives
Mosti G, Eur J Vasc Endovasc Surg 2015

- 40 C3 limbs (36 pts) randomized
  - Multilayer inelastic bandages
  - Adjustable velcro compression (Juxta-Fit)
  - Mean standing interface pressure
  - Bandages – 87.0 mm Hg (IQR 75.0 - 84.0)
  - Stockings – 50.5 mm Hg (IQR 49.2 – 54.7)
  - Leg volume by truncated cone formula

Pharmacological Treatment of CVD

- Saponins – Horse Chestnut Seed Extract (Aescin)
- Benzopyrones (Diosmin, Rutin, MPFF)

Guidelines of the SVS / AVF
Graded on A to D May 2011

We suggest vasoactive drugs (diosmin, hesperedin, MPFF, HCSE) in addition to compression for patients with pain and swelling due to CVD

Increased lymphatic contractility
Increased lymphatic flow

Compression for Varicose Veins (C2)
Diehm et al; Lancet 1996

- Randomized trial (N=262)
  - Class II compression
  - Horse chestnut seed extract (HCSE)
  - Placebo
  - Plethysmographic volume reduction at 12 weeks
  - Compression > HCSE > Placebo
  - 25% mean edema volume reduction
When Conservative Measures Fail

Start at the Beginning

1. Lower Extremity Edema
   - Bilateral Edema
   - Unilateral Edema

   Exclude Medical Causes
   - Drugs
   - Cardiopulmonary Disease

   Suspect Lymphedema
   Suspect Venous Disease

   ? Echocardiography
   ? Sleep Study

   Venous Duplex U/S

Suspect Venous Disease

Superficial Reflux
Deep Reflux

Edema c/w U/S
Edema >>> U/S

Consider Obstruction
- CFV Waveforms
- Planimetric Stenosis

Suspected Obstruction
Cross sectional Imaging

Choice depends on local expertise

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Cross Sectional Imaging

Ultrasound Positive for Proximal Obstruction

65 yr old male with recurrent R Lateral maleolar ulceration after MULTIPLE superficial interventions

Although cross sectional imaging may help, venography & IVUS may ultimately be required if there is a high index of suspicion

Surgery for Varicose Veins

The REACTIV trial - Michaels et al. Health Technol Assess 2006

- 246 patients extensive vv and saphenous reflux randomized to
  - Conservative measures (n = 122)
  - Saphenous stripping / phlebectomy (n = 124)
- HRQoL (SF-6D) at 1 yr significantly better with surgery
- Fewer symptoms at 1 year with surgery

Conclusions

- Conservative measures ARE effective in controlling edema
  - 23 – 32 mm Hg stockings - 16% volume reduction at 7 days
  - Adjustable velcro compression – 26% volume reduction at 7 days
  - Venotoxic drugs - 25% volume reduction at 1 week
- Return to initial evaluation if conservative measures fail
  - Bilateral edema – Consider drugs & medical causes
  - Unilateral edema
    - Lymphedema
    - Venous edema
- Venous edema
  - If symptoms consistent with superficial reflux proceed tx
  - Consider cross sectional imaging if
    - Edema out of proportion to superficial reflux
    - Deep venous reflux
    - Obstruction suggested by ultrasound