Should You Use Foam For Telangiectasia Or Reticular Veins: Where Is The Evidence?

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Foam Sclerotherapy
• Made popular in 1993 by Cabrera
• Tessari method with 1:4 liquid:gas widely adapted
• Foaming increases potency of sclerosant 2-4x due to blood displacement rather than dilution
• Polidocanol (0.25 – 3%) and sodium tetradecyl sulfate (0.5 – 3%) most widely used to make physician compounded foam
• Varithena (BTG) is a commercial preparation 1% polidocanol microfoam with an indication to treat the GSV, AAV and large varicosities. It is not indicated for reticular or spider veins so will not be discussed.

What about the little guys?

Reticular Veins
• 1-3 mm
• Visible below surface of skin
• Generally asymptomatic
• Can be injected with liquid
• May require many injections and/or treatments
• Foam (0.5% polidocanol, 0.5 – 1% STS) works well

Telangectasias
• Dilated intradermal venules;
  <2 mm in diameter
• May cause itching or point tenderness at site
• Usually treated for cosmetic reasons
• Most often treated with POL, STS, hypertonic saline or glycerin

Foam Sclerotherapy
• Widely used for treatment of varicosities and perforators in the US
• Used commonly to treat saphenous reflux in Europe
• Used with US guidance
• Little doubt that foam with POL or STS is more effective than liquid sclero
What is the Best Agent?

- Using liquid sclerotherapy for telangiectasias, a Cochrane Review found no difference in efficacy comparing
  - Hypertonic Saline
  - Polidocanol (POL)
  - Sodium Tetradecyl Sulfate (STS)
- Possibly more complications with 1% solution of either POL or STS vs 0.5%
- POL probably best tolerated
- CONCLUSION: No clear evidence of superiority of one agent

Foam or Liquid?

- Foam uses smaller volumes of sclerosant
- Homogenous effect along the length of a vein
- More potent
- Able to be seen by US or naked eye
- May cause more phlebitis and hyperpigmentation at site of injection
- No evidence that ulceration is more common
- No evidence that foam is better than liquid for reticular or telangiectasias*

Complications

- Multicenter registry reporting immediate and midterm results of sclerotherapy
- 12173 sessions
  - 5434 Liquid
  - 6395 foam
  - 2293 in reticular and spider veins
- 344 both
- 49 events occurred (0.4%)
  - 12 Liquid
  - 37 Foam
  - Most common was visual disturbance, (19 cases)
  - 670 % of visual disturbances were in reticular/spider injections
  - 1 DVT

Complications

- Retrospective review of prospective patient-reported events around sclero
- 1744 US-guided sclero
- 6504 visual sclero with 25% using foam (STS/air)
- 14 adverse events (0.17%)
  - 5 SOB/chest tightness
  - 9 neurologic sx after liquid and foam
  - Most after surface injection rather than US-guidance
  - 7/9 with migraine history
  - 5/9 had positive R L cardiac shunt
  - All symptoms resolved

Does CO₂ Help?

- Morrison first reported on air vs CO₂ POL foam in US-guided procedures, average of > 25 cc injected
- 39% of air patients, 11% CO₂ patients with side effects (P<.001)
- Chest tightness, cough and dizziness had most pronounced differences
- All effects transient
- Conclusion = Side effects decrease significantly with CO₂ vs air

CO₂ foam is much less stable than that made from room air or CO₂/O₂


Morrison et al. JVS 2008. 47(4); 830-36
Should we all use Physiologic Gases?

- Some additional cost for purchase of CO₂/O₂
- Additional storage/disposal
- Foam less stable
- No evidence that there is a difference of efficacy based on gas type
- Recent review makes case for using physiologic gases in patients at high risk of neuro symptoms:
  - Migraine with aura
  - Known PFO

Conclusions

- POL or STS foam for reticular and spider veins is easy, fast and effective
- No hard evidence of increased skin complications
- Good evidence that air-based foam leads to more neurologic complications than CO₂-based foam
- Good evidence that reticular/spider injections have more neurologic complications than US-guided
- Little support for foam vs liquid for reticular/spider veins
- If used for large clusters or in high risk patients;
  - Use with CO₂ or CO₂/O₂
  - < 10 cc per treatment
- Consider moving to physiologic gases for all patients