5 Pearls:

Sclerotherapy

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Relevant Disclosures
last 12 months

• None

1. Use Guidelines:

• Use only approved drugs without alteration
  – For liability and purity reasons

• Liquid sclerotherapy is “method of choice” for C1 disease
  – Low volumes and concentrations suggested
  – to avoid matting

European Guidelines

• Removal of trapped blood
  – To avoid long-term pigmentation
  – More common with foam

• Avoid UV light
  – x 2 week

• GCS 20-30 mm Hg after spider treatment
  – Evidence is weaker

European Guidelines

• Consent, specifically for foam
  – Foam off label
  – More effective
  – But may be associated with more side effects

• Maximum volume = 10 cc/session
  – Reduce complications
  – Thromboembolic
  – Transient neurological
2. Sclerotherapy can treat pelvic derived lower extremity varicose veins rarely requires embolization when there is no chronic pelvic pain.

- Sclerotherapy begins close to pelvic floor
  - Liquid or
    - Foam
- Microphlebectomy
  - Larger diameter
  - Simple pathway vs network
- Saphenous ablation as needed
  - When GSV, V of Giacomini or SSV involved

Close the leaks

Sclerotherapy of VV near the escape points
- Inject sufficient volume to treat higher
  - 1.5-2.5 cc
  - Concentration
    - 1% PD to 1% STS
- Visual guidance sufficient

Pelvic derived leg varicose veins with no pelvic symptoms
Success treating only the leg component
- Nearly all will be durably treated
  - Recurrences
    - Result of another pregnancy
- If symptoms in leg persist or leg veins return
  - Consider pelvic embolization
    - Very unusual

Before/after ST STS 0.5% liquid
Treat the leg component directly
Pelvic derived leg varicose veins with no pelvic symptoms

- Nearly all will be durably treated
  - Recurrences
  - Result of another pregnancy
- If symptoms in leg persist or leg veins return
  - Consider pelvic embolization
  - Very unusual
- Embolization first for:
  - Chronic pelvic pain
  - Immense veins
    - >6-10 mm diameter

Before/after ST SLS 0.5% liquid

3. Controlling drug effects
Liquid and foamed sclerosants

- ST success dependent on adequate sclerosant
- Concentration
- Contact time

3. Single injection of a stronger sclerosant
not optimal

- Local concentration too high
  - Complications
    - Spider veins
    - Matting
    - Necrosis
- Dilution at a distance from the needle
  - Ineffective sclerosis

Recommendation:
Use multiple injections of dilute sclerosants
dilute = “minimum effective sclerosant concentration”

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Multiple small dilute injections
also minimize non target vein injury

- Use of large volume will result in centripetal dispersion
  - Non-target sclerosis
Multiple small dilute injections also minimize non target vein injury

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Use of foam sclerotherapy

- Foam displaces blood
  - Dilutes less
  - Slower migration
  - Increased contact time
  - Circumferential contact

Foam will veer off into

- Deep veins
  - via perforating veins and junctions
  - Normal veins

- Larger veins
  - Fluids diameter > 8 mm
  - Incomplete wall contact

- Solution
  - Need to empty vein better
  - Trendelenberg
  - Hand compression

Controlling Foam Movement

- Intuitively need less injections...
  - However
  - Foam will veer off into
    - Deep veins
    - via perforating veins and junctions
    - Normal veins
Controlling Foam Movement techniques

- Multiple injections
- Pull back injection with long catheter
- Compression of vein below and later above

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Controlling Foam Movement techniques

- Multiple injections
- Pull back injection with long catheter
- Compression of vein below and later above
- Narrow origin to large perforating veins
  - Manual compression
  - Dorsiflexion
  - Perivenous saline injections

Controlling Foam Movement techniques

- Multiple injections
- Pull back injection with long catheter
- Compression of vein below and later above

X-ray guidance

Inject, follow and compress as needed

Iodinated contrast mixed with STS 3% Diluted to 1% STS

Multiparous women- no prior venous treatment
4. Treat pathways
top to bottom, largest to smallest

- Best results when treating pathways
  - As opposed to randomly treating veins

- Order
  - Follow the path of incompetence
  - Largest to smallest

- Strongest drug near source
  - Lower and smaller veins
    - Lower concentration
    - Less volume

5. Setting patient expectations
   Most valuable pearl

- Number of visits
  - Not going to finish in one visit

- Number of injections

- Prepare for the need for
  - Compression
  - Remove trapped blood

- Expected side effects
  - Staining

- Expected outcomes
  - 80% elimination
Emphasize that Venous Disease is rarely cured
"Once a vein patient...always a vein patient"

- The underlying disease is progressive
  - Will get new veins (rather than recurrent)
- Return visits for treatment of new veins expected

From Goldman Sclerotherapy 2011

Thanks for your attention

5 pearls

1. Use evidence based guidelines
2. Sclerotherapy works for pelvic derived lower extremity varicose veins
   - Very rarely requires pelvic embolization
3. Controlling drug migration
4. Treat from largest to smallest vein, and from inflow to outflow
5. Manage patient expectations