Interventions for Acute and Chronic DVT and Venous Insufficiency

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Disclosures

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Venous Disease

Etiology: Non-thrombotic (primary) or post-thrombotic (secondary)
Skin changes suggestive of chronic venous insufficiency

- Corona Phlebectatica (C1)
- Pigmentation (C4a)
- Atrophie blanche (C4b)
- Healed ulcer (C5)
Obstruction and/or Reflux
C.E.A.P. Classification
(Clinical, Etiology, Anatomy, Pathophysiology)

C0: no visible or palpable signs of venous disease.
C1: telangiectasis or reticular veins.
C2: varicose veins.
C3: edema.
C4a: pigmentation and eczema.
C4b: lipodermatosclerosis and atrophie blanche.
C5: healed venous ulcer.
C6: active venous ulcer.

S: symptoms including ache, pain, tightness, skin irritation, heaviness, muscle cramps, as well as other complaints attributable to venous dysfunction.

A: asymptomatic.
Venous Insufficiency Treatments

**Do**

- Have a good US tech who knows venous reflux disease.
- Learn one thermal, one non-thermal technology.
- Learn sclerotherapy / foam.
- Use US to enhance sclero.
- Select cases wisely.
- Know your venous anatomy (US)

**Do Not**

- Learn only from a rep.
- Ablate superficial vein if deep vein occluded.
- Schedule a case without seeing patient first.
- Trust an outside reflux study.
ATTRACT Trial

- NIH sponsored n=692 acute DVT
- Anti-coagulation Vs Anti-coagulation + CDT
- **PTS at 24m**: 48.2% Vs 46.7% (NS)
- Major bleeding (10d): 0.3% Vs 1.7% (P=0.049)
- CDT: 25%↓ mod-sev PTS
- Overall considered a negative study.
Who is a candidate for catheter lysis of DVT?

**B.L.A.S.T.**

- Bleeding risk.
- Life expectancy.
- Anatomy of DVT.
- Severity of DVT.
- Timing.

- Iliac stenting for venous outflow obstruction in addition to CDT for DVT may enhance subsequent venous patency rates.


4 patterns of May-Thurner

- R c iliac artery on L c iliac vein
- R e iliac artery on R c iliac vein
- R i iliac artery on R e iliac vein
- L i iliac artery on L e iliac vein
Iliac Obstruction / Stenosis

• Asymptomatic iliac vein obstruction seen in up to 60% of population.
• Not every apparent iliac vein stenosis needs a stent.
• ~75% of iliac veins develop “obstruction” post DVT.
• Iliac vein stenosis in symptomatic patients in up to 90%.

Iliac vein stent

- Raju (2013) reviewed studies n=1500 POBA/stent.
- 3-5 yr patency: 90-100% non-thrombotic
- 74-89% thrombotic
- Pain relief 86%+, edema 66% +, venous ulcer healing 58%+
- No PE

Endovascular Vs conservative

• Small study (50 iliac vein obstructions)
• Randomized to POBA/stent vs medical (compression/warfarin/Rx)
• 80% ulcer healing (endovasc) vs 33.3% (medical) @6m
• Less pain and better QOL

**Deep Vein Treatments**

<table>
<thead>
<tr>
<th>Do</th>
<th>Do Not</th>
</tr>
</thead>
<tbody>
<tr>
<td>In edema stop culprit Rx (CCB)</td>
<td>Undersize iliac vein stents.</td>
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<tr>
<td>first.</td>
<td>Stent below inguinal ligament.</td>
</tr>
<tr>
<td>Consider causes like obesity,</td>
<td>Lose stent patients to follow-up.</td>
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<td>CHF, TR.</td>
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<tr>
<td>IVUS every deep vein case.</td>
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<td>Initially use enoxaparin after</td>
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<tr>
<td>stent in thrombotic case.</td>
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<tr>
<td>Take out IVC filter when able to.</td>
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</table>
This talk is not written in stone!

It’s written in PowerPoint.

Thank You
Changes in ankle pressure
Mixed Obstruction & Reflux

- n=207 (May-Thurner + GSV reflux).
- n=121 iliac vein stent + GSV ablation (laser)
- n=86 GSV ablation alone

- Median follow-up 70 months
- Improved discomfort, edema and QOL in combined treatment group.

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Fellows Course
Complex Strategies for Peripheral Interventions