Iliac vein recanalization: When and how?

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Disclosure

Speaker name:
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I have the following potential conflicts of interest to report:

☑ Consulting (Optimed, BARD/BD)
☐ Employment in industry
☐ Stockholder of a healthcare company
☐ Owner of a healthcare company
☐ Other(s)

☐ I do not have any potential conflict of interest
Case 1

35 year-old male patients with severe pain and swelling of left leg, sudden onset 6-8 hours ago.

Uneventful medical history.
Case 1

Boston Scientific
May-Thurner-Syndrom

VIDIO trial (multiplane venography vs. IVUS): 26% of obstructions NOT detected by venography

Case 1
ATTRACT study

Randomization (1:1)

**PMT-arm**
5 days of parenteral AC, immediate bridge to warfarin (INR 2.0-3.0)

**Conservative-arm**
5 days of parenteral AC, concurrent PMT, then bridge to warfarin (INR 2.0-3.0)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>PMT</th>
<th>No PMT</th>
<th>P-value</th>
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<tr>
<td>VEINES-QOL</td>
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<tr>
<td>Baseline to 1 mo</td>
<td>Mean 14.2</td>
<td>Mean 8.5</td>
<td>0.0021</td>
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<tr>
<td></td>
<td>SE 1.4</td>
<td>SE 1.2</td>
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<tr>
<td>Baseline to 6 mo</td>
<td>Mean 26.0</td>
<td>Mean 21.3</td>
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<tr>
<td></td>
<td>SE 1.6</td>
<td>SE 1.5</td>
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<tr>
<td>Baseline to 12 mo</td>
<td>Mean 26.0</td>
<td>Mean 25.1</td>
<td>0.7</td>
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<tr>
<td></td>
<td>SE 1.6</td>
<td>SE 1.6</td>
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</tbody>
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Postthrombotic syndrome
Pharmacomechanical Catheter-Directed Thrombolysis for Deep-Vein Thrombosis


ORIGINAL ARTICLE

Background: Pharmacomechanical catheter-directed thrombolysis (PCDT) has been proposed as a potential alternative to standard treatment for deep vein thrombosis (DVT). However, the optimal regimen and approach for PCDT remains controversial.

Methods: The ATTRACT (Anticoagulation Versus Catheter-Directed Thrombolysis for the Prevention of Post-thrombotic Syndrome) trial is an international, multicentre, randomised, controlled trial comparing oral anticoagulation and standard treatment (DVT-unrelated anticoagulant therapy and compression therapy) with PCDT for the prevention of post-thrombotic syndrome (PTS) in patients with DVT. Patients were randomly assigned to receive either oral anticoagulation therapy and compression therapy (standard treatment) or PCDT. The primary endpoint was the incidence of PTS at 1 year after diagnosis.

Results: Between 2017 and 2019, 212 centres in 29 countries enrolled 2075 patients with DVT, of whom 1035 were randomly assigned to oral anticoagulation therapy and compression therapy and 1040 to PCDT. The median duration of follow-up was 12 months (interquartile range, 10.5–13.0). At 1 year, the cumulative incidence of PTS was 15.5% (95% CI, 12.2–18.8) in the oral anticoagulation group and 15.0% (95% CI, 12.6–17.3) in the PCDT group (p=0.77). There was no difference in the incidence of PTS in the overall population (HR, 1.04; 95% CI, 0.78–1.38; p=0.77) or in the subgroup analysis of patients with or without prior venous thromboembolism (p=0.38 and p=0.49, respectively). There were no differences in the incidence of major bleeding events between the two groups (OR, 1.00; 95% CI, 0.66–1.53; p=0.99).

Conclusions: The ATTRACT trial found that PCDT is non-inferior to standard treatment in preventing PTS in patients with DVT. However, further studies are needed to determine the optimal regimen and approach for PCDT.


References

Limitations ATTRACT

- Mixed study population (including IF-DVT and FP-DVT)
- No systematic use of IVUS
- Low stent rate (28%)
- No systematic use of dedicated venous stents

Limitations CAVA

- Underpowered (withdrawal of informed consent, loss of follow-up)

Limitations both studies

- Binary endpoint analysis
Case 2

37 year-old male patients with chronic leg swelling, feeling of heaviness, Venous claudication (pain-free walking distance 70 m)

History of DVT of right leg including IVC 5 years ago.
**ESVS recommendations:**
In patients with clinically relevant chronic ilio-caval or ilio-femoral obstruction or in patients with symptomatic non-thrombotic iliac vein lesions, percutaneous transluminal angioplasty and stent placement using large self expanding stents should be considered. [Grade – IIa; Level of evidence B]

Wittens C et al. Eur J Vasc Endovasc Surg 2015

**SVS/AVF guidelines:**
In a patient with inferior vena cava or iliac vein chronic total occlusion or severe stenosis, with or without lower extremity deep venous reflux disease, that is associated with skin changes at risk for venous leg ulcer (C4b), healed venous leg ulcer (C5), or active venous leg ulcer (C6), we recommend venous angioplasty and stent recanalization in addition to standard compression therapy to aid in venous ulcer healing and to prevent recurrence. [Grade – 1; Level of evidence - C]


**CIRSE recommendations:**
Patients with CEAP clinical class 3-6 and chronic venous outflow obstruction should be considered for interventional therapy

Mahnken AH et al. Cardiovasc Intervent Radiol 2014
Outcomes after venous stenting

**VERNACULAR trial**
Improvement in **VCSS score** and **CIVIQ-20 score** *(p<0.0001)*

Dake M presented @ LINC 2019 & CIRSE 2019

**VIRTUS trial**
Decrease in **VCSS score** *(4.4 point decrease)*

Razavi M presented @ LINC 2019

Razavi MK et al. Circ Cardiovasc Interv 2015
Conclusions

- Individual decision making (weighing risks against benefits)

- Equipment-Expertise-Environment

- Reducing the burden of the postthrombotic syndrome

- Close post-interventional follow-up and anticoagulation management
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