Is there a place for endovascular therapy of acute venous thrombosis after ATTRACT

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Disclosure

Speaker name:
Oliver Schlager

I have the following potential conflicts of interest to report:

- Consulting
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

Speakers honoraria (BARD, Optimed)

- I do not have any potential conflict of interest
Background

CaVenT – CDT vs. standard treatment for IF-DVT

- RCT (N=209), primary EP: patency@6 mo & PTS@24 mo
- Patency @6mo: CDT 64.0 % vs. AC only 35.8 % (absolute RR 28 %)
- PTS@24mo: CDT 41.1 % vs. AC only 55.6 % (absolute RR 14.4 %)
- PTS@5 years: CDT 43% vs. AC only 71 % (QoL did not differ)

PEARL registry: rheolytic thrombectomy (AngioJet) in DVT

- Rheolytic thrombectomy safe and effective (reduces procedure times)

Haig Y et al. Lancet Haematol 2016;3(2):e64-71
**ATTRACT study**

### Study enrollment
Patients with acute (<14d) proximal DVT

### Pre randomization
Initiation of AC (LMWH or UFH)

### 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)

### Long-term treatment
- AC with warfarin (≥ 3 mo)
- Elastic compression stockings (start 10d post-random)

### Follow up
- 10&30d, 6, 12, 18&24 mo (post randomization)
- Primary EP: postthrombotic syndrome (PTS, Villalta ≥ 5)

ATTRACT PMT devices

AngioJet
6F Solent™ Proxi/Omni

Trellis

Boston Scientific

Covidien
## ATTRACT results I

@ 24 months

<table>
<thead>
<tr>
<th></th>
<th>PMT (N=336)</th>
<th>AC only (N=355)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any PTS</td>
<td>47 %</td>
<td>48 %</td>
<td>0.56</td>
</tr>
<tr>
<td>Recurrent VTE</td>
<td>12 %</td>
<td>8 %</td>
<td>0.09</td>
</tr>
<tr>
<td>Major bleeding (10d)</td>
<td>1.7 %</td>
<td>0.3 %</td>
<td>0.049</td>
</tr>
<tr>
<td>Death</td>
<td>2 %</td>
<td>2 %</td>
<td>0.83</td>
</tr>
<tr>
<td>QoL (SF-36, PCS)</td>
<td>11.18 +/- 0.91</td>
<td>10.06 +/- 0.97</td>
<td>0.37</td>
</tr>
<tr>
<td>QoL (VEINES)</td>
<td>27.67 +/- 1.71</td>
<td>23.47 +/- 1.83</td>
<td>0.08</td>
</tr>
</tbody>
</table>

# ATTRACT results II

@ 24 months

<table>
<thead>
<tr>
<th></th>
<th>PMT (N=336)</th>
<th>AC only (N=355)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate-severe PTS*</td>
<td>18 %</td>
<td>24 %</td>
<td>0.04</td>
</tr>
<tr>
<td>IF-DVT (MS PTS)</td>
<td>18.4 %</td>
<td>28.2 %</td>
<td></td>
</tr>
<tr>
<td>FP-DVT (MS PTS)</td>
<td>17.1 %</td>
<td>18.1 %</td>
<td></td>
</tr>
</tbody>
</table>

* Villalta ≥ 10


Vedantham S presentation at The Veins at VIVA 2017
Consequence?

To be continued ...
Morphology & risk of PTS

Recanalization Rate (@ 6 mo)
- Up to 100 %
- 53 %
- 20 %

Risk ratio for PTS (@ 6 mo)
- 2 - 3

ATTRACT
- Iliofemoral DVT (56 %) + femoropopliteal DVT (44 %)
- Statistical power for iliofemoral DVT ?

53 %
67 %
Up to 100 %

Role of stenting

Spiral CT studies in patients with iliofemoral DVT (N=56)

ATTRACTION
- IVUS not mandatory
- Low stent rate (28%)
- RT (AngioJet ZelanteDVT)+stenting (100%): @ 6 mo PTS 25%

- In 26% of pts. obstructions detected by IVUS, not by venography
- Predictive accuracy of IVUS for guiding treatment of iliofemoral lesions

Further points of discussion...

**Bleeding:** Major bleeding PMT 1.7 % vs. AC only 0.3 %

- No intracranial or fatal bleeding, in range of previous studies

A PTS rate of approx 50 % (in both treatment arms !) cannot be the therapeutic goal for patients with DVT!

- Symptom overlap of PTS and chronic venous insufficiency
- Arbitrary scoring of different symptoms and signs ("pain on calf compression")
- Venous claudication not included

Wik HS et al. Semin Thromb Hemost 2017;43(5):500-4
Conclusion – ATTRACT...

Does not close the chapter on endovascular DVT treatment

Contributes to the discussion

Advances treatment modalities

Room for further studies to effectively reduce the burden of PTS
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