Impact of Caval Occlusion on Thrombolysis for IFDVT

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DISCLOSURES

• Nothing to disclose

Background

• IVC thrombosis co-exists in 22% of IFDVTs
  – IFDVT proximal propagation
  – In-situ (congenital anomalies or ext. compression)
• IVC filter rate of thrombosis: 5-30%
• IVC thrombosis has higher risk for PE and PTS


• CDT & PMT are increasingly used for IFDVT
  – Early thrombus removal and symptom relief
  – Maintenance of valvular competence
  – PTS reduction
• IVC thrombosis indicates a higher clot burden
  • Its impact on lysis outcomes is poorly defined

Comerota AJ. J Vasc Surg 2012

Objectives

• Compare outcomes of patients undergoing thrombolysis for acute IFDVT with and without IVC involvement

Presented at the 2015 VAM

Methods

• Retrospective Study
  – Demographics, risk factors, intraprocedural data
  – Outpatient clinical records, venous studies
  – Two groups: IVC vs no IVC involvement
• Endpoints
  – Clinical Success (≥50% lysis & 30d recurrence free)
  – Long term US patency (anatomic failure)
  – Post-thrombotic syndrome (Villalta ≥5)
**Study Population**

- 102 patients / 127 limbs
- Mean age 48.9 ±16.0 / 53% females / 78% Left DVT
- 70% were treated with combined PMT & CDT
- 20% received a single session PMT
- 46 Patients had thrombus extending to the IVC
  - 54% up to the renal veins
  - 50% associated with a thrombosed IVC filter

**Baseline Data**

<table>
<thead>
<tr>
<th></th>
<th>Non Cava Involvement</th>
<th>Cava Involvement</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (patients)</td>
<td>56</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>57 ± 15.6</td>
<td>60 ± 16.2</td>
<td>.283</td>
</tr>
<tr>
<td>Female gender</td>
<td>36 (64.3%)</td>
<td>18 (38.4%)</td>
<td>.011</td>
</tr>
<tr>
<td>Days to lysis</td>
<td>11 ± 9.9</td>
<td>9.2 ± 9.3</td>
<td>.183</td>
</tr>
<tr>
<td>&gt;14 days to lysis</td>
<td>20 (35.7%)</td>
<td>10 (21.7%)</td>
<td>.123</td>
</tr>
<tr>
<td>Phlebitis</td>
<td>7 (12.5%)</td>
<td>9 (19.6%)</td>
<td>.329</td>
</tr>
<tr>
<td>Hypercoagulibility</td>
<td>17 (30.4%)</td>
<td>19 (41.3%)</td>
<td>.250</td>
</tr>
<tr>
<td>Malignancy</td>
<td>8 (14.3%)</td>
<td>8 (17.4%)</td>
<td>.668</td>
</tr>
<tr>
<td>Previous DVT</td>
<td>13 (22.3%)</td>
<td>19 (41.3%)</td>
<td>.050</td>
</tr>
<tr>
<td>Clinical PE</td>
<td>6 (10.7%)</td>
<td>7 (15.2%)</td>
<td>.497</td>
</tr>
<tr>
<td>Indwelling IVC filter</td>
<td>3 (5.4%)</td>
<td>28 (60.9%)</td>
<td>.000</td>
</tr>
</tbody>
</table>

**Procedural Data**

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>N (patients)</td>
<td>56</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>PMT</td>
<td>82.1%</td>
<td>97.8%</td>
<td>.011</td>
</tr>
<tr>
<td>Iliac Stenting</td>
<td>41.3%</td>
<td>62.5%</td>
<td>.033</td>
</tr>
<tr>
<td>Total IPA (mg)</td>
<td>24.8±12.5</td>
<td>26.3±12.8</td>
<td>.403</td>
</tr>
</tbody>
</table>

**Post Procedure Outcomes**

- No Difference between Groups

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Technical Success</td>
<td>89.3%</td>
<td>87.3%</td>
<td>.729</td>
</tr>
<tr>
<td>Clinical Success</td>
<td>85.7%</td>
<td>87.3%</td>
<td>.781</td>
</tr>
</tbody>
</table>

- 1 Major Bleeding Event
- 8 Minor Bleeding Events
- 2 Deaths

**Freedom from DVT Recurrence**

**Valve Reflux**
Post Thrombotic Syndrome

- Caval thrombosis does not impact
  - Technical and 30-day clinical success of thrombolysis
  - DVT recurrence
- Thrombosed IVC Filters should be anticipated to have higher failure rates
- Caval thrombosis predicts lower rates of PTS
  - Protective effect of a large vessel clearance
  - Iliofemoral segments may contribute more to postthrombotic morbidity when compared to iliocaval segments

Conclusions