Impact of Caval Occlusion on Thrombolysis for IFDVT

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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

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 CavaI Involvement</th>
<th>CavaI 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>47.3±15.8</td>
<td>50.7±16.2</td>
<td>.283</td>
</tr>
<tr>
<td>Female gender</td>
<td>36 (64.3%)</td>
<td>18 (39.1%)</td>
<td>.011</td>
</tr>
<tr>
<td>Days to lysis</td>
<td>11.8±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>Hypercoagulability</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 (23.2%)</td>
<td>19 (41.3%)</td>
<td>.060</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 (6.4%)</td>
<td>28 (60.9%)</td>
<td>.000</td>
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</tbody>
</table>

Procedural Data

<table>
<thead>
<tr>
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</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>
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<tr>
<td>Iliac Stenting</td>
<td>41.3%</td>
<td>62.5%</td>
<td>.033</td>
</tr>
<tr>
<td>Total tPA (mg)</td>
<td>24.0±12.5</td>
<td>20.3±12.8</td>
<td>.403</td>
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</tbody>
</table>

Post Procedure Outcomes

• No Difference between Groups

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</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>.791</td>
</tr>
</tbody>
</table>

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

Freedom from DVT Recurrence

![Graph showing freedom from DVT recurrence](UPMC Heart and Vascular Institute)
Valve Reflux

Post Thrombotic Syndrome

Conclusions

- Caval thrombosis does not impact
  - Technical and 30-day clinical success of thrombolysis
  - DVT recurrence

- 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

THANK YOU. chaerra@upmc.edu