Evaluation and management of acute intramural hematoma (IMH): when and how I intervene

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Disclosure

Peter A. Schneider

I have the following potential conflicts of interest to report:

Scientific Advisory Board (non-paid): Cardinal, Abbott, Medtronic
Royalty (modest): Cook
Co-founder and Chief Medical Officer: Intact, Cagent

Enter patients into studies: NIH, Bard, Gore, Medtronic, BSI,
Silk Road  (no financial relationship).
VIVA Board member (nonprofit)
36 year old
Chest and back pain
Factor V leiden
Pain eventually improves
5 months later

Recurrence of pain
Enlargement of hematoma
6 month follow-up after TEVAR
IRAD Registry

• 2830 patients with Aortic Dissection: 178 had IMH (typically 6-30% of acute aortic series)
• Type A 42% - usually managed surgically, in-hospital mortality 26.6%
• Type B 58% - usually managed medically, in-hospital mortality 4.4%
  – Type B IMH: Surgery 5.6%, Endo 5.6%
### Table 4 Treatment strategy and clinical outcomes according to location of aortic intramural hematoma

<table>
<thead>
<tr>
<th></th>
<th>Type A (n = 61)</th>
<th>Type B (n = 104)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission duration (days)</td>
<td>19 ± 11</td>
<td>17 ± 13</td>
<td>0.535</td>
</tr>
<tr>
<td>Emergency surgery (within 24 hrs)</td>
<td>29 ± 14</td>
<td>26</td>
<td>0.855</td>
</tr>
<tr>
<td>Medical therapy and timely surgery</td>
<td>16 ± 8</td>
<td>17 ± 13</td>
<td>0.404</td>
</tr>
<tr>
<td>In-hospital mortality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency surgery (within 24 hrs)</td>
<td>1/14 (7.1%)</td>
<td>0/1 (0%)</td>
<td>1.000</td>
</tr>
<tr>
<td>Medical therapy and timely surgery</td>
<td>2/47 (4.3%)</td>
<td>3/103 (2.9%)</td>
<td>0.649</td>
</tr>
<tr>
<td>2-year mortality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency surgery (within 24 hrs)</td>
<td>1/14 (7.1%)</td>
<td>0/1 (0%)</td>
<td>1.000</td>
</tr>
<tr>
<td>Medical therapy and timely surgery</td>
<td>7/47 (14.9%)</td>
<td>12/103 (11.7%)</td>
<td>0.580</td>
</tr>
<tr>
<td>Progression to aortic dissection for 2 years</td>
<td>11 (18.0%)</td>
<td>7 (6.7%)</td>
<td>0.037</td>
</tr>
<tr>
<td>Surgical treatment for 2 years</td>
<td>18 (29.5%)</td>
<td>3 (2.9%)</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>
Pathogenesis of Acute Aortic Syndromes

Aortic dissection
1. Formation of entrance tear
2. Dissection

Intramural hematoma
1. Rupture of vasa vasorum
2. Hematoma

Penetrating aortic ulcer
1. Ulceration of atherosclerotic plaque
2. Penetrating ulcer

Mussa et al. JAMA 2016;316 754
TEVAR for IMH

- 44 patients underwent TEVAR for IMH
- 6 year study (half also had PAU)
  - Intractable pain 70%
  - progression 30%
  - rupture 23%
- Operative period
  - mortality 5%
  - paraplegia 5%
- Reintervention: 11% at 2 years

6 month follow-up after TEVAR
months later - New problem gets worse
Stent-graft placed at aortic bifurcation
6 episodes over 18 months

Aorto-bi-femoral bypass
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Visit Table top #6 for more information.

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