Natural History Of Intramural Hematomas In The Thoracic Aorta: When To Fix And When To Observe

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Disclosure
- Nothing to disclose

Aortic Dissections
Typical – Dissection Flap is identified

Atypical
- No evidence of intimal dissection flap
  - Intramural hematoma
  - Penetrating ulcer

Intramural hematoma (Atypical Dissection)
- Classified similar to typical dissections
- May be located in the ascending aorta or aortic arch similar to Type A aortic dissection (Atypical TAAD)
- May be located in the thoracic aorta distal to the left subclavian artery similar to Type B aortic dissection (Atypical TBAD)

Etiology
- Rupture of vaso vasorum
- Penetrating ulcer (more likely to progress)

Management
- The management of Atypical dissections remains challenging
- Conflicting evidence exists regarding the non-operative management of Atypical TAAD and Atypical TBAD.
Methods

- Retrospective review
- Inclusion criteria
  - All patients presenting with TAAD and TBAD from June 2006 to June 2012 at Beaumont Health System

Demographics

- Demographics, procedure details, imaging, hospital course and follow up data were collected
- Outcome measures analyzed included:
  - Survival
  - Postoperative complications

Demographics

- Of 257 patients with a confirmed thoracic dissection, 123 (48%) had TAAD
- Mean age: 66.9 ± 15.3 years
- Male: 84 (68%)
- Median follow up: 20.6 (0, 181) months

Demographics

- 134 (52%) had TBAD
- Mean age: 66.4 ±14.9
- Female: 46%

Comorbidities TAAD

- HTN: 69%
- Tobacco: 50%
- CAD: 30%
- COPD: 19%
- DM: 16%
- Marfan: 15%
- Stroke: 8%
- PVD: 5%

Comorbidities TBAD

- HTN: 63%
- Tobacco: 51%
- CAD: 36%
- Aneurysm: 32%
- COPD: 29%
- DM: 24%
- CVA: 20%
- PVD: 16%
- Marfan: 12%
- Stroke: 9%
Management of TAAD

- **Typical Surgery**: 78 (93%)
- **Atypical Surgery**: 6 (7%)
- **Typical No Surgery**: 27 (69%)
- **Atypical No Surgery**: 12 (31%)

Indications for Non-Operative Management

<table>
<thead>
<tr>
<th>Indication</th>
<th>Typical</th>
<th>Atypical</th>
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<tbody>
<tr>
<td>Prohibitive Risk Profile</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>Emergent Dissection</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Patient Refusal</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Cardiac Arrest</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Stroke</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Chronic Dissection</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Overall Survival

**Typical vs Atypical TAAD**

- Survival rates:
  - Typical TAAD: 80% at 5 years
  - Atypical TAAD: 70% at 5 years

Atypical TAAD Survival

**Operative vs Non-Operative Management**

- Operative Survival: 90% at 5 years
- Non-operative Survival: 70% at 5 years

Classification Atypical TBAD

- 33 patents with Atypical TBAD
  - 1 rupture
  - No patients developed malperfusion
  - 4 aneurysmal degeneration requiring surgical intervention
  - 1 intractable pain requiring surgical intervention
  - 2 showed evidence of resolution of their intramural hematoma on follow up CTA
Conclusions

- Non-operative management of atypical TAAD has a high mortality
- Prompt surgical intervention should be considered for patients with atypical TAAD

Conclusions

- Medical therapy remains the mainstay of treating atypical TBAD with low morbidity
- Close follow-up is required during the first year to screen for potential complications.
- Patients with atypical TBAD appear to have a similar clinical course to patients with typical TBAD

Conclusions

- Atypical TBAD can be safely observed in patients who show evidence of improvement of the hematoma and/or have resolution of their pain and control of their hypertension

Thank you