The Case Against TEVAR for ALL uATBAD Patients and For Good Medical Treatment Alone For Most: What Constitutes Good Medical Treatment

Ali Azizzadeh, MD, FACS
Director, Vascular Surgery
Vice Chair, Department of Surgery
Associate Director, Heart Institute
Cedars-Sinai Medical Center
Los Angeles, CA

Is There A Case Against TEVAR for ALL uATBAD Patients? Possibly Yes

Ali Azizzadeh, MD, FACS
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Los Angeles, CA

Disclosures
- None

Paradigm Shift

The only thing that is constant is change.
- Heraclitus

Management of Type B Aortic Dissection

CX

CX

TYPE B

OR / TEVAR

UNCX

OMT + TEVAR

CLINICAL RESEARCH STUDIES

Predictors of innovation and mortality in patients with uncomplicated acute type B aortic dissection

OBJECTIVE: We designed this study to determine the predictors of innovation and mortality in patients with uncomplicated acute type B aortic dissection. Method: The records of patients with uncomplicated acute type B aortic dissection treated at a tertiary referral center from January 1, 2010, to December 31, 2017, were reviewed. Results: Among the 104 patients, 24 (23%) died during hospitalization. The median time to operation was 5 days (range 0 to 42 days). The median hospital stay was 11 days (range 3 to 117 days). The median intensive care unit stay was 3 days (range 0 to 31 days). The median length of stay was 10 days (range 4 to 100 days). The median follow-up was 36 months (range 1 to 120 months). The median duration of follow-up was 36 months (range 1 to 120 months). Conclusions: Patients with uncomplicated acute type B aortic dissection who had a higher preoperative systolic blood pressure were more likely to die during hospitalization. Patients who had a higher preoperative systolic blood pressure were more likely to live longer. Patients who had a higher preoperative systolic blood pressure were more likely to have a shorter hospital stay. Patients who had a higher preoperative systolic blood pressure were more likely to have a shorter intensive care unit stay. Patients who had a higher preoperative systolic blood pressure were more likely to have a shorter length of stay. Patients who had a higher preoperative systolic blood pressure were more likely to have a shorter duration of follow-up.
UT Houston Series

- 2000 to 2014
- 1079 pts AD
- 532 ATBAD
- 60% Male
- Mean age 60.6 ± 13.6 yrs
- Median age = 60.5 yrs
- Range 16 – 98 yrs
- Average Follow up: 3.7 yrs

Aortic Dissection

- 1079 DISSECTIONS
- 535 TYPE A
- 294 UNCOMPlicated
- 238 COMPlicated

Complicated ATBAD

- Rupture
- Malperfusion:
  - Neurologic
  - Spinal Cord
  - Visceral (Celiac, SMA)
  - Renal
  - Lower Limb
- Refractory Pain & HTN

Mortality by Management Strategy

<table>
<thead>
<tr>
<th>Management Strategy</th>
<th>Uncomplicated (N=271)</th>
<th>Complicated (N=173)</th>
<th>OR</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Med</td>
<td>69</td>
<td>5</td>
<td>1.5</td>
<td>0.0005</td>
</tr>
<tr>
<td>Open</td>
<td>52</td>
<td>13</td>
<td>1.9</td>
<td>0.003</td>
</tr>
<tr>
<td>TEVAR</td>
<td>37</td>
<td>6</td>
<td>1.5</td>
<td>0.06</td>
</tr>
<tr>
<td>Other CV</td>
<td>15</td>
<td>5</td>
<td>3</td>
<td>0.259</td>
</tr>
</tbody>
</table>

*Uncomplicated compared to complicated type b aortic dissection

Survival at 5 yrs for uATBAD was 76.6%

uATBAD High Risk Criteria

- Aortic diameter >44mm is a predictor of mortality after adjustment for significant risk factors.
- Decreased intervention-free survival in those with FL>22mm and/or max aortic diameter >44mm on admission.
- Age >60 years is a risk factor for mortality.
Incidence of Risk Factors in AUTBAD

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>1 Risk Factor</th>
<th>2 Risk Factors</th>
<th>3 Risk Factors</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAD &gt;44mm / FLD &gt;22 / Age &gt;60</td>
<td>44%</td>
<td>19%</td>
<td>6%</td>
<td>69%</td>
</tr>
</tbody>
</table>

The Fate of the 31%: uTBAD & no high-risk criteria

OMT
- 5% mortality / year
- 10% procedural morbidity and mortality

OMT + TEVAR
- 5-10% procedural morbidity and mortality
- Aortic stabilization

TYPE B Aortic Dissection

ESC Guidelines 2014
Recommended Treatment of Aortic Dissection

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Class</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>In uncomplicated Type B AD, medical therapy should always be recommended.</td>
<td>I</td>
<td>C</td>
</tr>
<tr>
<td>In uncomplicated Type B AD, TEVAR should be considered.</td>
<td>Ra</td>
<td>B</td>
</tr>
<tr>
<td>In complicated Type B AD, TEVAR should be considered.</td>
<td>IIa</td>
<td>C</td>
</tr>
</tbody>
</table>

Class: weight of evidence in favor of usefulness/efficacy

Medical Therapy for TBAD

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Class</th>
<th>Level of evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical therapy should always be part of the treatment of patients with acute type B aortic dissection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommendation 1A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommendation 1B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In patients with acute type B aortic dissection, 8 blockers should be considered as the first line of medical therapy</td>
<td>&amp;</td>
<td></td>
</tr>
<tr>
<td>In patients with acute type B aortic dissection who do not respond or are resistant to 8 blockers, calcium channel antagonists and/or renin-angiotensin inhibitors may be considered as alternatives or add-ons</td>
<td>&amp;</td>
<td></td>
</tr>
</tbody>
</table>

Conclusion

• Therapy for uATBAD has evolved beyond OMT alone
• Patients with high risk criteria (2/3 of the cohort): TAD > 44, FLD > 22, Age > 60 are candidates for OMT+TEVAR
• Patients with no high risk criteria (1/3 of the cohort): should be counseled about the risk/benefits of OMT vs. OMT+TEVAR

Thank You