Effect of TEVAR timing on freedom from aortic events and the need for reinterventions in TBADs: TEVAR before 6 months is better.

I have no financial conflicts of interest to disclose concerning this presentation.

Cases
Jan. 1993 - Sep. 2015 (Over two-decade!!)
Aortic Aneurysm (Included Aortic Dissection): 3965 cases

Treatment with Stent-graft: 3117 (78.6%)

Type B aortic dissection: 706
   Acute 179
   Chronic 527

Indications of TEVAR for type B dissections
• Complicated type (rupture, malperfusion, etc)
• Aortic diameter at onset > 40mm
• Aortic diameter during follow up > 50mm
• Rapid enlargement by at least 5mm within a year

Treatment Strategy of TEVAR for type B dissections
• Proximal end: 10 - 20% oversized
• Non-dissected area for the proximal landing zone
• All entry closure in thoracic aorta
• Minimal coverage using short device
• Distal end: 5 - 10% oversized

Aortic Remodeling of TEAVR for acute B dissection
TL↑FL↓ = AORTIC REMODELING
Sayer, Thompson et al. 2008
**Definition of Aortic Remodelling at 6month After TEVAR**

- **Aortic Remodeling (+)** at the distal end of stent graft
- 20% enlargement of TRUE LUMEN and 20% shrinkage of FALSE LUMEN

**FL area = Ao area – TL area**

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**Aortic Remodeling at 6 month and Aortic events from 179 acute type B dissections**

**FREEDOM FROM AORTIC EVENTS**

Aortic remodeling is imperative to achieve sufficient long-term results of TEVAR!!

P= .0122

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**Chronic Type B Aortic Dissection**

N=527

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**Aortic remodeling in chronic B dissections**

<table>
<thead>
<tr>
<th>Remodeling</th>
<th>Day from onset</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>28</td>
</tr>
<tr>
<td>+</td>
<td>35</td>
</tr>
<tr>
<td>+</td>
<td>48</td>
</tr>
<tr>
<td>+</td>
<td>59</td>
</tr>
<tr>
<td>+</td>
<td>148</td>
</tr>
<tr>
<td>+</td>
<td>176</td>
</tr>
<tr>
<td>+</td>
<td>201</td>
</tr>
</tbody>
</table>

**Timing of TEVAR for type B dissections is CRUCIAL.**

**Aortic Remodeling**

- Remodeling (+)
- Remodeling (-)

<table>
<thead>
<tr>
<th>Group</th>
<th>Remodeling (+)</th>
<th>Remodeling (-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A (14d–3m)</td>
<td>80%</td>
<td>64.9%</td>
</tr>
<tr>
<td>Group B (3m–6m)</td>
<td>64.9%</td>
<td>43.2%</td>
</tr>
<tr>
<td>Group C (6m–1y)</td>
<td>43.2%</td>
<td>14.7%</td>
</tr>
</tbody>
</table>

N=15, Post entry closure for chronic dissection, double barrel type.

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**Chronic type B 110 days from onset**

**Freedom from reintervention after 6 month**

- Chronic type B 110 days from onset
- After 6 month
- After 1 year

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**Aortic Remodeling**

- **<0.01 vs Group D**
- **<0.05 vs Group D**

**d:** day
**m:** month
**y:** year
Conclusions

- Aortic remodeling is very imperative to achieve good long-term results of TEVAR.
- From ROC study, The patients with chronic type B dissections within 172 days from onset may be good candidates for TEVAR.
- On the other hand, we may have to perform additional treatments for chronic type B dissection with over 172 days from onset.