Which TAA Patient Can And Should Be Treated Conservatively: At What Size And Circumstance Should They Be Fixed

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Choice of treatment for descending TAA

- Balance between:
  - Natural history
  - Surgical/endovascular Tx

- Dilemma
  - No RCT's
  - Data on natural history are historic
  - Better medical treatment since endovascular treatment available

Table 1: Demographic Data in Patients With and Without Sign of Descending Thoracic Aortic Aneurysmal Disease

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unruptured (n=30)</th>
<th>Ruptured (n=30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (yr)</td>
<td>Median: 65.2, Range: 36-82</td>
<td>65.2, Range: 36-82</td>
</tr>
<tr>
<td>Sex</td>
<td>Male: 20, Female: 10</td>
<td>Male: 10, Female: 20</td>
</tr>
<tr>
<td>Hypertension</td>
<td>27, 88%</td>
<td>10, 77%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>6, 20%</td>
<td>7, 23%</td>
</tr>
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</table>

Conflicts of interest

- None in relation to this subject

Prospective Study of the Natural History of Thoracic Aortic Aneurysms

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Degenerative Aneurysms

$\ln(\lambda) = -21.055 + 0.0093 (age) + 0.841 (pain) + 1.282 (COPD) + 0.843 (desc. dia.) + 0.405 (abdom. dia.)$

Probability of rupture within 1 year = $1 - e^{-\lambda}$

*Resection is recommended when the risk of rupture in one year exceeds the perioperative risk*

Fig. 5. Relationship between wall stress and aortic size in ascending aortic aneurysm. The bars show wall stress at blood pressures of 100 mm Hg (dark gray) and 200 mm Hg (light gray). The dashed line represents maximum tensile strength of aortic tissue. Reproduced with permission from Kadow et al.22

Operative Outcomes After Open Repair of Descending Thoracic Aortic Aneurysms in the Era of Endovascular Surgery

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Background: For selected patients, endovascular techniques have emerged as the preferred approach for the treatment of descending thoracic aortic aneurysms. However, early reports have outlined the feasibility and safety of endovascular repair. More recently, data characterizing long-term outcomes of these endovascular techniques have been published. Less is known about the outcomes of patients undergoing open surgical repair of descending thoracic aneurysms. The purpose of this study was to report the experience of a contemporary center in the open surgical repair of descending thoracic aneurysms.

Patients and Methods: We conducted a retrospective review of 200 patients who underwent isolated open surgical repair between January 1999 and December 2003. Forty-five patients (45%) were men, and 155 patients (75%) had evidence of atrial fibrillation. Seven patients (10%) had complained of chest pain, while 18 patients (25%) had pericardial effusion. The median follow-up time was 51 months (range, 1-236 months). The incidence of aortic aneurysm recurrence, reintervention, or death was compared with that of patients undergoing endovascular repair in the literature.

Results: Of the 200 patients, 67 (34%) required reoperation. At 1 year, the all-cause mortality rate was 12%, and the reintervention rate was 11%. The hospital mortality rate was 3%, and the median hospital stay was 10 days. The median follow-up time was 51 months (range, 1-236 months). At 3 years, the mortality rate was 19%, and the reintervention rate was 11%. The Aneurysm 2010 andAneurysm 2007 scores were 54% and 62%, respectively. The incidence of aortic aneurysm recurrence was 1% (2 patients). The incidence of reintervention was 0% (0 patients).

Conclusion: Open surgical repair of descending thoracic aneurysms remains a viable option for the treatment of these lesions. Further prospective studies are needed to evaluate the long-term outcomes of these patients.

9.2.1.1. RECOMMENDATIONS FOR BLOOD PRESSURE CONTROL

1. Antihypertensive therapy should be administered to hypertensive patients with thoracic aortic diseases to achieve a goal of less than 130/80 mm Hg (patients with diabetes or chronic renal disease) to reduce the risk of stroke, myocardial infarction, heart failure, and cardiovascular death. (455–459) (Level of Evidence: B)

2. Beta-adrenergic–blocking drugs should be administered to all patients with Marfan syndrome and aortic aneurysm to reduce the rate of aortic dilatation unless contraindicated. (88) (Level of Evidence: B)

9.2.1.2. RECOMMENDATION FOR DISLIPIDEMIA

1. Treatment with a statin to achieve a target LDL cholesterol of less than 70 mg/dL is reasonable for patients with a coronary heart disease risk equivalent such as noncoronary atherosclerotic disease, atherosclerotic aortic aneurysm, and existing coronary heart disease at high risk for coronary ischemic events. (422–425) (Level of Evidence: A)

2. For patients with degenerative or traumatic aneurysms of the descending thoracic aorta exceeding 5.5 cm, surgical aneurysm, or postoperative pseudoeurysm, endovascular stent grafting should be strongly considered when feasible. (375,469) (Level of Evidence: B)
"Who should be left alone"?
- Patients will medium or small sized TAA – leave them on best medical treatment
  - "unfit for surgery"
    - Poor general condition
    - Co-morbidities
  - With serious concomitant disease
  - These patients' "condition" will most certainly "kill" them before potential rupture
- Easy, right?

"Unfit" for surgery
- A poor prognostic sign!

Conclusion
- Don't operate all descending TAA's – leave
  - Small/moderate TAA's
  - Surgically unfit patients
  - Seriously sick patients
- Alone on good medical therapy
- Size (still) matters
Thank you for your attention