

2-2021

## Comparison of endovascular therapy versus medical therapy in the management of descending thoracic aortic dissection

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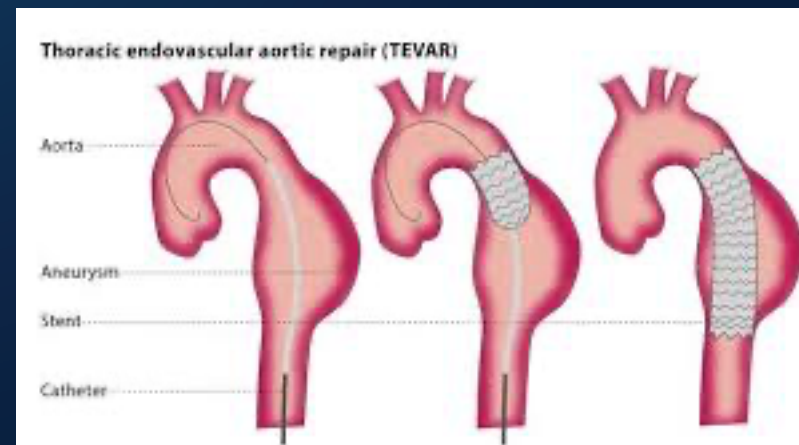


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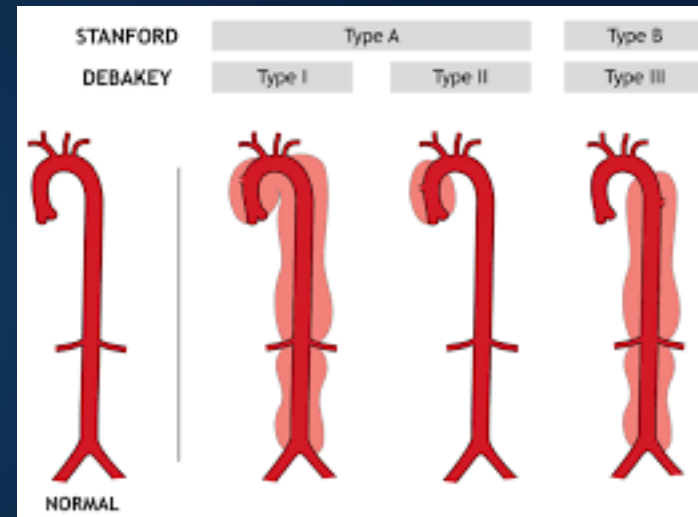
# Contemporary Management of Aortic Dissection

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- Background
  - Aortic dissection - tear in the intima of the aortic wall, creating a false lumen between the intima and adventitia.
  - Mortality rate of up to 50% within 48 hours if left untreated
  - Worse outcomes with concomitant organ malperfusion
  - Thoracic Endovascular Aortic Repair (TEVAR)
- Existing Literature: TEVAR vs. BMT
  - INSTEAD-XL
  - ADSORB



- Rationale
  - Increasing popularity of TEVAR
  - Deadly disease pathology
  - Best medical therapy vs. intervention
  - Uncertain outcomes
- Gap
  - Optimal treatment of aortic dissection I and III
  - Little demographic information on dissection types



# Objectives & Hypothesis

- Research Question
  - How do clinical outcomes vary between patients with descending aortic dissections, with and without concurrent organ malperfusion, who were managed with thoracic endovascular aortic repair (TEVAR) or best medical therapy (BMT)?
- Hypothesis
  - Clinical outcomes are significantly worse in patients with descending aortic dissections who necessitated additional branch stenting due to concomitant organ malperfusion compared patients managed with BMT or TEVAR alone.

# Approach & Results

- Study design
  - Medical chart review
- Population / study sample
  - Descending aortic dissection patients (excl type II)
  - 11 (TEVAR alone), 11 (TEVAR + branch), 16 (BMT)
- Intervention
  - None
- Data source and collection
  - Vascular surgery database, medical charts
- Rationale for Approach
  - Retrospectively comparing three treatment groups
- Why?

# Approach & Results

- Analysis
  - ANOVA + post-hoc
  - T-Test
  - Hierarchical Linear Regression



# Results

- Order of results: TEVAR alone, TEVAR+, BMT
- 0 deaths
- Length of stay ( $p=0.005$ )
  - 7 days, 21 days, 12 days
- Age at presentation ( $p=0.007$ )
  - 70, 51, 62
- Age inversely predicted length of stay ( $p=0.008$ )
  - Younger patients required longer hospitalization



# Results

- Systolic blood pressures at presentation (p=0.025)
  - 168, 201, 167
- Diagnosis of concomitant organ malperfusion correlated with a longer length of stay (p=0.008)
- Need for readmission
  - 1/11, 1/11, 8/16
    - 3 requiring TEVAR

- Summary
  - Additional branch stenting due to malperfusion
    - younger, higher systolic blood pressures, longer hospital stays
  - Medically managed patients required more hospitalizations and TEVAR
- How do your findings fit with current literature?
  - Trend towards prophylactic TEVAR for patients normally managed with BMT
  - Age + dissection not explored
- Implications + Clinical Impacts
  - Higher risk group?
    - What should be done?
  - Prophylactic TEVAR for BMT patients?

# Future Directions

- Replicate with a larger sample size
- TEVAR for medically managed
- Explore age and outcomes related to dissection
  - Why do younger patients have worse tears?

# Acknowledgements

- Dr. Babak Abai
- Taylor Haddad
- Dr. Eisenbrey



Thank  
you