



Sex-Based Differences in the Distribution of Ascending Aortic Diameters at the Time of Type A Dissection

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Disclosures

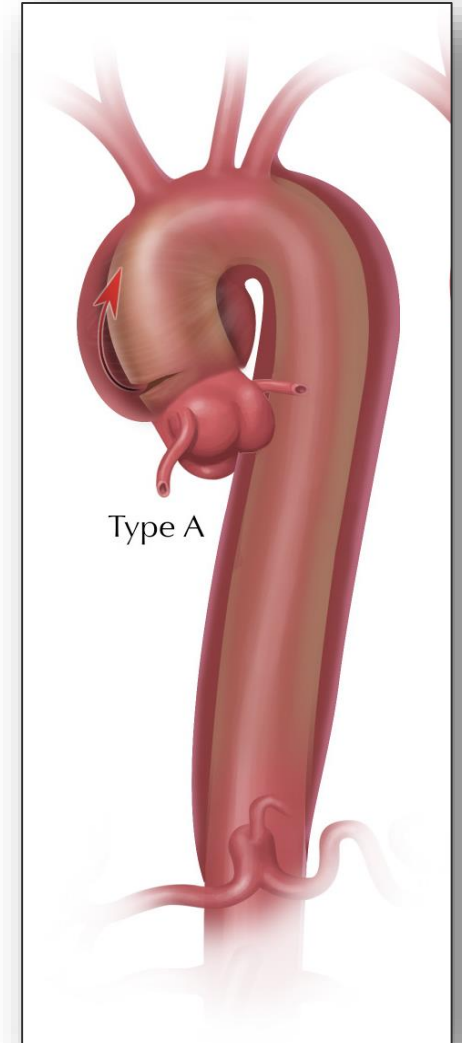
- Nothing to disclose





Background:

- Acute type A aortic dissection (TAAD) is a catastrophic disorder associated with a high mortality rate
- Current guidelines recommend a threshold diameter of 5.0-5.5 cm for surgery, irrespective of sex
- Although men are more affected than women, the distribution of aortic diameters at the time of TAAD stratified by sex remains unknown



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Aims:

Characterize the distribution in ascending aortic diameters at the time of Type A dissection by sex





Methods:

- Data: Aortic size was re-measured from CT or MRI images in a standardized method. Demographic and comorbidity data was extracted from electronic medical records from Yale New Haven Health System
- Inclusion: Acute flap-type TAAD with still-available radiographic imaging between 1990-2023
- Exposure: Male vs. female among patients with acute flap-type TAAD
- Endpoint: Ascending aortic diameters at the time of dissection, both raw and indexed to height





Results: Overall Patient Characteristics

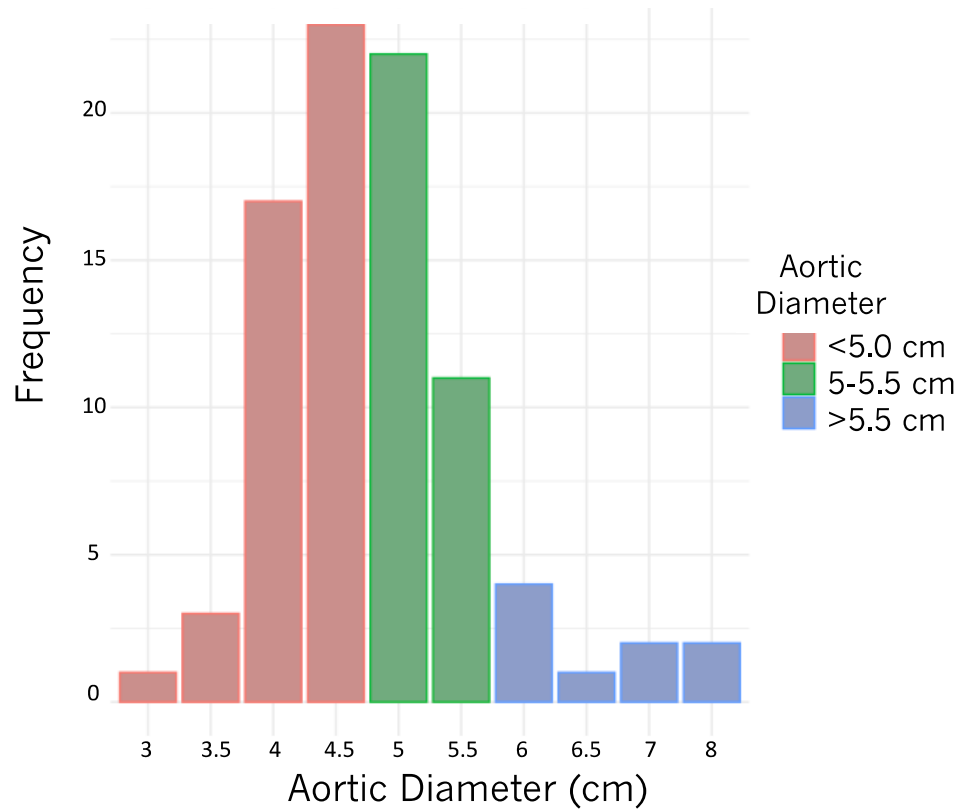
| Characteristic | Male (N=172) | Female (N=86) | P-Value |
|--------------------------------------|-------------------|-------------------|------------------|
| Age | 60 (52, 70) | 69 (58, 78) | 0.025 |
| Height (cm) | 178 (173, 183) | 163 (156, 168) | <0.001 |
| Body Mass Index (kg/m ²) | 28 (25, 33) | 26 (23, 31) | 0.005 |
| Maximal Ascending Diameter (cm) | 5.10 (4.70, 5.70) | 4.95 (4.50, 5.40) | 0.014 |
| Hypertension | 111 (73%) | 50 (66%) | 0.3 |
| Coronary Artery Disease | 45 (30%) | 22 (29%) | >0.9 |
| Dyslipidemia | 74 (49%) | 29 (38%) | 0.13 |
| COPD | 15 (9.9%) | 15 (20%) | 0.04 |



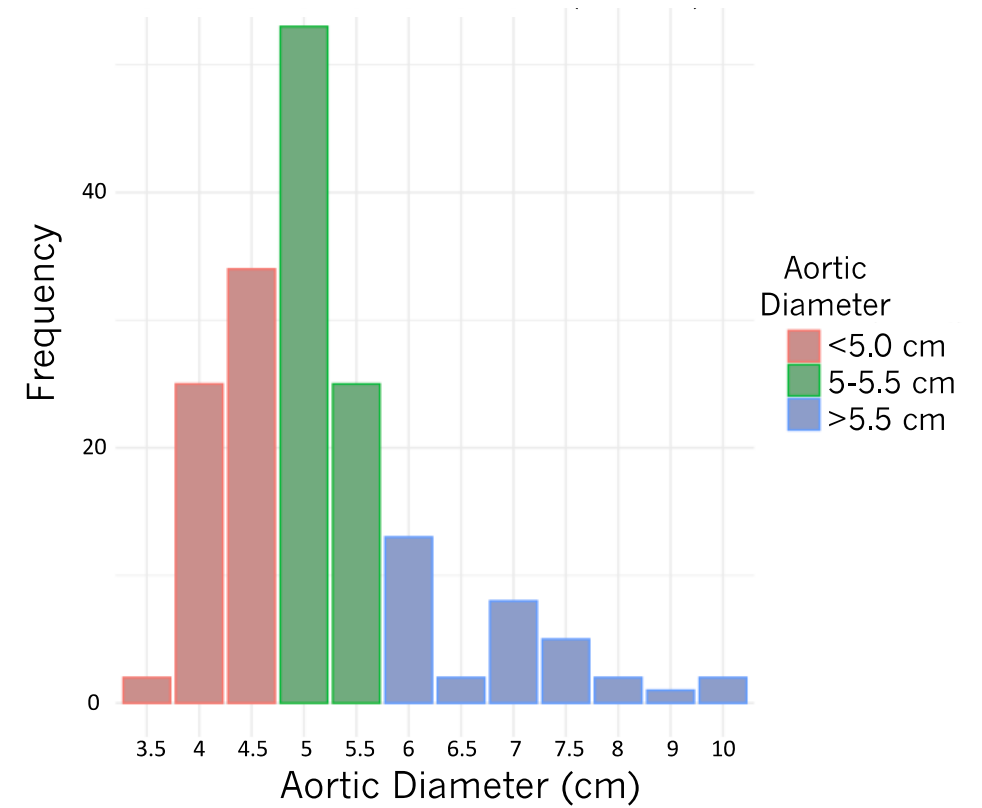
Results:

Distribution of Aortic Diameters by Sex

Distribution of Aortic Diameters in Women



Distribution of Aortic Diameters in Men

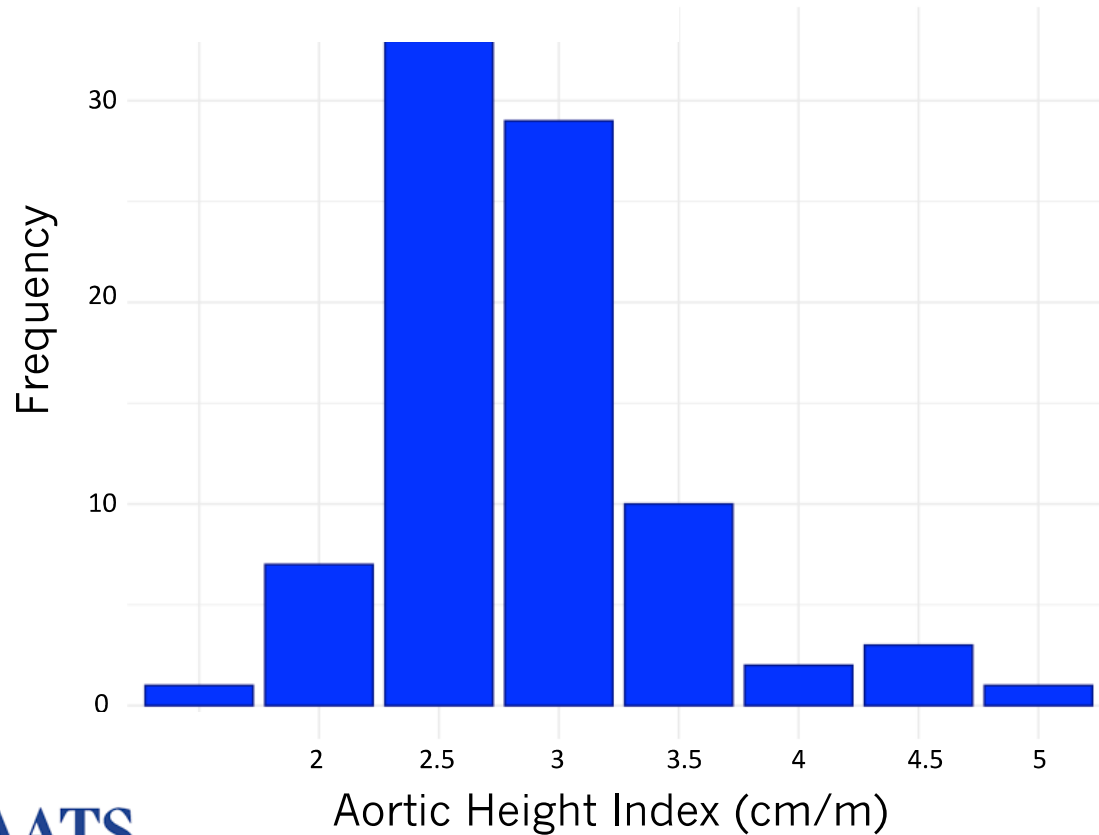




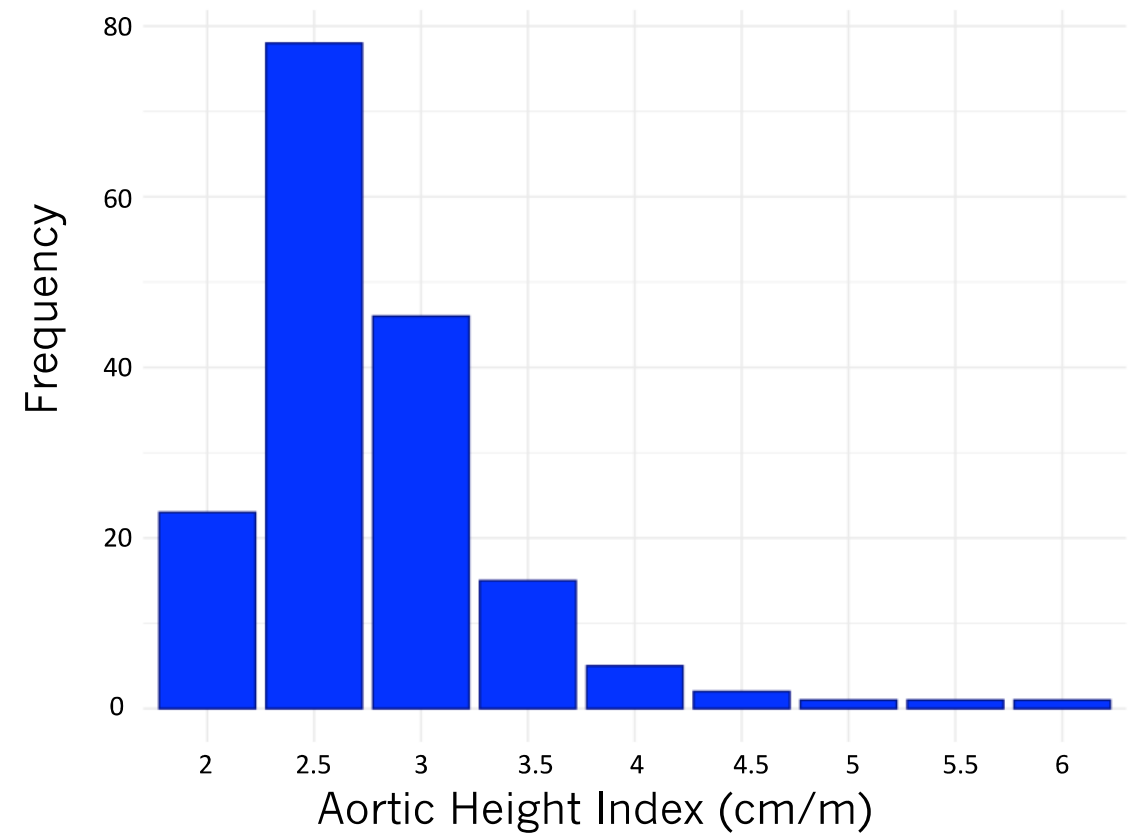
Results:

Distribution of Aortic Diameters Indexed to Height by Sex

Distribution of Aortic Diameters Indexed to Height in Women



Distribution of Aortic Diameters Indexed to Height in Men





Conclusions

- Although overall aortic diameter at the time of TAAD is consistent with updated guideline recommendations for prophylactic surgery, more than half of female patients dissected below 5.0 cm
- Indexing aortic diameter to patient height reduces the size disparity and risk for women, endorsing the use of aortic diameter indexing when determining patient risk for TAAD
- Female patients were almost a decade older at presentation; the pathophysiologic reasons for this age difference remain to be clarified





Thank you

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