Association of Diabetic Status and Aneurysm Diameter at Time of Rupture Repair in the VQI

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BACKGROUND

Prior studies have reported associations between diabetes (DM) and lower risk of both abdominal aortic aneurysm (AAA) rupture and mortality post-rupture.

OBJECTIVE

Assess the impact of diabetic status on aneurysm diameter at time of repair for AAA rupture amongst patients in the Vascular Quality Initiative (VQI) registry.

METHODS

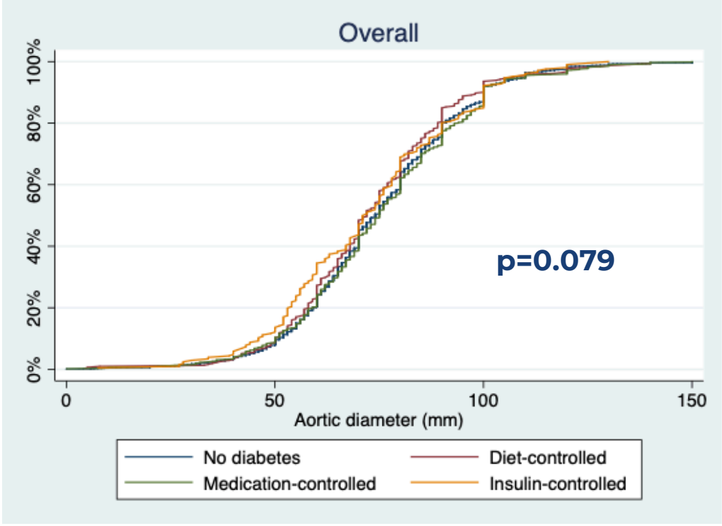
Inclusion: Patients in the VQI registry undergoing AAA repair between 2012-2024.
Exclusion: Repair due to non-rupture.

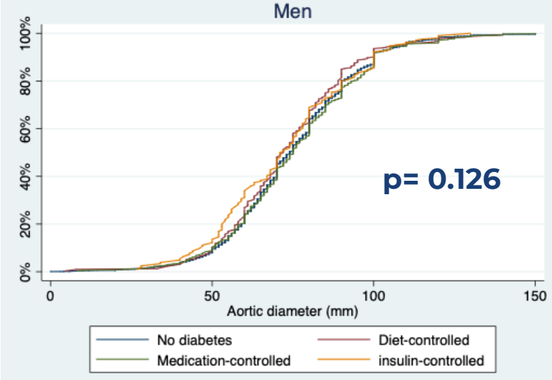
Diabetic status groups:

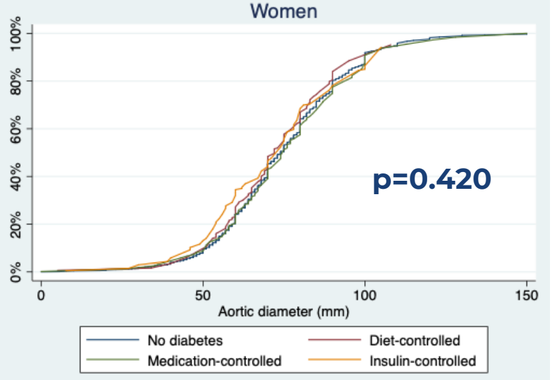
- Diet-controlled
- Medication-controlled (non-insulin)
- Insulin-controlled

Data analysis: Univariate analysis and cumulative distribution graphs of rupture repair as a function of aortic diameter (stratified by sex and diabetic status groups).

Cumulative distribution graphs of rupture repair as a function of aortic diameter







RESULTS

Total of 7,371 AAA repair for rupture:

- 40.5% open vs. 59.5% endovascular
- Rupture more predominant in women (8.8% vs. 7.8%, p<.001)

Diabetes status:

- 84.4% no DM, 4.3% diet-controlled; 8.5% medications; 2.8% insulin
- Non-DM patients: more often White, less HTN, CHF, COPD, dialysis, or CAD (all p<.001)
- Similar mean aneurysm size at time of repair across DM groups (75.1 +/- 20.7 mm, p=0.143)
- No association between DM status and the cumulative incidence of repair as a function of aortic diameter (p=0.079), overall or stratified by sex (men: p= 0.126, women: p=0.420)

CONCLUSIONS

AAA size at time of rupture repair was not associated with DM status. These findings suggest the importance of scrupulous analyses that assess hypothesis around the relationship between DM diagnosis, medications, and markers of DM control level (e.g, A1C levels) to further elucidate this matter.