Sociodemographic Determinants Of Hospital Admission And Follow-up In Aortic Dissection: A Two-center Retrospective Cohort Study

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Society for Clinical Vascular Surgeons 51st Annual Symposium, March 2024

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INTRODUCTION

- Ascending and descending aortic dissection (AD) carry significant morbidity and mortality and require regular follow up in surgery clinic.
- The aim of this retrospective analysis is to compare the demographics and comorbidities of patients with aortic dissection who followed up in clinic to those who did not.
- The goal of this study is to identify barriers to follow up in AD to better mitigate complications in vulnerable populations.

METHODS

- Inclusion criteria: patients > 18 y.o. with a history of ascending or descending AD diagnosed between January 2015 and May 2023.
- Electronic medical records were reviewed for variables seen in table 1.
- Univariate and multivariate regression analyses were conducted to compare cohorts across the entire sample and across dissection subtypes.

FIGURES

Table 1: Whole sample univariate analysis

Variables	Follow-up n = 77	Non-follow-up n = 45	p-value
Age (mean ± SD)	58.79 ± 15.55	68.40 ± 15.49	**< 0.001**
Sex (%)			0.706
Male	54 (70.1)	33 (73.3)	
Female	23 (29.9)	12 (26.7)	
BMI (mean ± SD)	28.60 ± 6.39	26.09 ± 6.31	**0.042**
Race (%)			0.684
Black or African American	29 (37.7)	14 (31.1)	
White	22 (28.6)	16 (35.6)	
American Indian or Alaska Native	2 (2.6)	1 (2.2)	
Asian	3 (3.9)	4 (8.9)	
Latinx	16 (20.8)	9 (20.0)	
Other	5 (6.5)	1 (2.2)	
Ethnicity (%)			0.665
Not Hispanic or Latino	59 (76.7)	36 (80.0)	
Hispanic or Latino	18 (23.3)	9 (20.0)	
English as Consent Language (%)			0.687
Yes	61 (79.2)	37 (82.2)	
No	16 (20.8)	8 (17.8)	
Insurance Status (%)			**0.041**
Medicare/Medicaid	44 (57.1)	27 (60.0)	
Private/Union	21 (27.3)	16 (35.6)	
Emergency Medicaid	11 (14.3)	0 (0.0)	
None	1 (1.3)	2 (4.4)	
Comorbidities (%)			
CAD	15 (19.5)	14 (31.1)	0.157
DM	12 (15.6)	10 (22.2)	0.375
CKD	12 (15.6)	11 (24.4)	0.241
HTN	64 (83.1)	38 (84.4)	0.973
Substance abuse	9 (11.7)	7 (15.6)	0.417
Medications at Presentation (%)			
Statins	15 (19.5)	14 (31.1)	0.176
Antiplatelets	12 (15.6)	8 (17.8)	0.592
Anticoagulants	10 (13.0)	9 (20.0)	0.208
Imaging Features (%)			0.598
High risk	27 (35.1)	21 (46.7)	
Non-high risk	14 (18.2)	14 (31.1)	
Hospital Admission			
Surgery on Index Admission (%)	45 (58.4)	16 (35.6)	**0.037**
ICU Admission (%)	54 (70.1)	28 (62.2)	0.714
ICU LOS (mean ± SD)	9.61 ± 15.24	8.77 ± 24.53	0.837
Hospital LOS (mean ± SD)	15.21 ± 16.83	18.29 ± 39.37	0.548
Dissection Type (%)			0.244
Type A	46 (59.7)	22 (48.9)	
Type B	31 (40.3)	23 (51.1)	

Fig. 1: Whole sample logistic regression

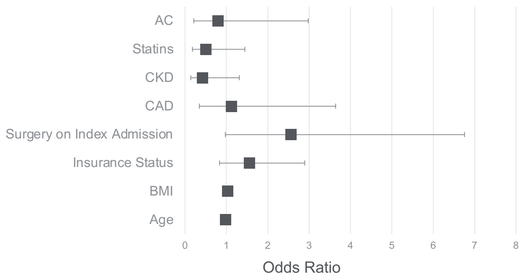


Fig. 2: Type A dissection sample logistic regression

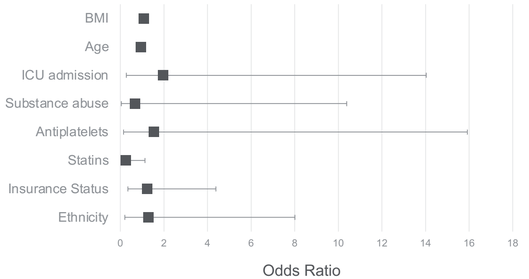
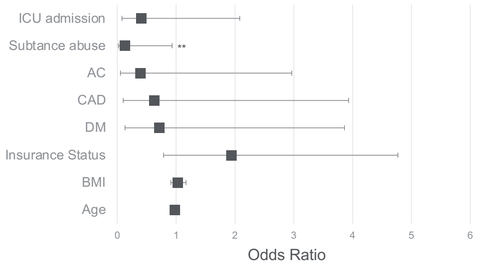


Fig. 3: Type B dissection sample logistic regression



RESULTS

- Patients who followed up were significantly younger, had higher BMI, and a predominance of Medicare/Medicaid.
- In the ascending group (n = 68), patients who followed up were younger ($p < 0.001$) and had longer hospital and ICU LOS ($p < 0.01$).
- In the descending group (n = 54), patients with a history of substance abuse skewed into the non-follow up cohort ($p < 0.05$).

CONCLUSIONS

- Age strongly determined follow up in the overall and ascending group analyses.
- Insurance status was a significant factor in the whole sample analysis.
- Hospital and ICU LOS significantly impacted follow-up in the ascending subgroup.
- In the descending group, patients with a history of substance abuse showed reduced follow up.

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