

Impact of Geographic Proximity on Survival in Stanford Type A Aortic Dissection Patients Undergoing Surgical Repair: A Single Health System Observational Study

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Disclosure

- No disclosures



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Background

- **Stanford Type A aortic dissection (TAAD)**
 - Life-threatening surgical emergency
 - Immediate surgical intervention is standard of care
- **Travel distance to healthcare facilities → patient outcomes including survival remain unclear**



Question

Does geographical proximity of the patient to the hospital providing surgical treatment significantly impact patient survival?



Methods- design

- **Subjects: patients with TAAD who underwent surgical repair (January 2011- June 2023)**
- **Surgical treatment provided at a university hospital or an associated large, metropolitan hospital**
- **Cohorts were stratified by distance from residential ZIP code to the hospital providing surgical treatment**
 - **< 25 miles**
 - **25-50 miles**
 - **51-100 miles**
 - **>100 miles**

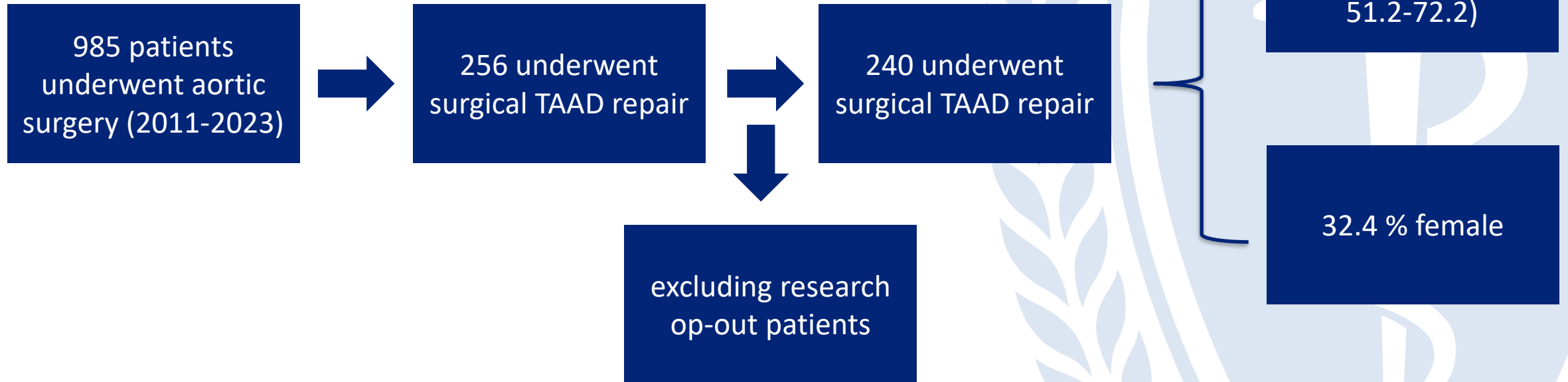


Methods- statistical analysis

- **Survival analysis: Kaplan-Meier method**
- **Influence of distance was assessed using the Cox proportional hazard model.**
- **Log rank test was done for multiple comparison to evaluate survival difference between the groups.**



Results



Results

- **Median age: 61.1 (IQR 51.2-72.2)**
- **32.4% female**
- **Median distance from patient's residential zip code to the university hospital; 25.4 miles (IQR 10.4-121.6 miles).**
- **Log rank multiple comparison test revealed no difference in patient characteristics between the four groups with all p-value greater than 0.50.**
- **No difference was found from the log rank multiple comparison test ($p > 0.46$).**



Results- patient distance from hospital providing surgical treatment

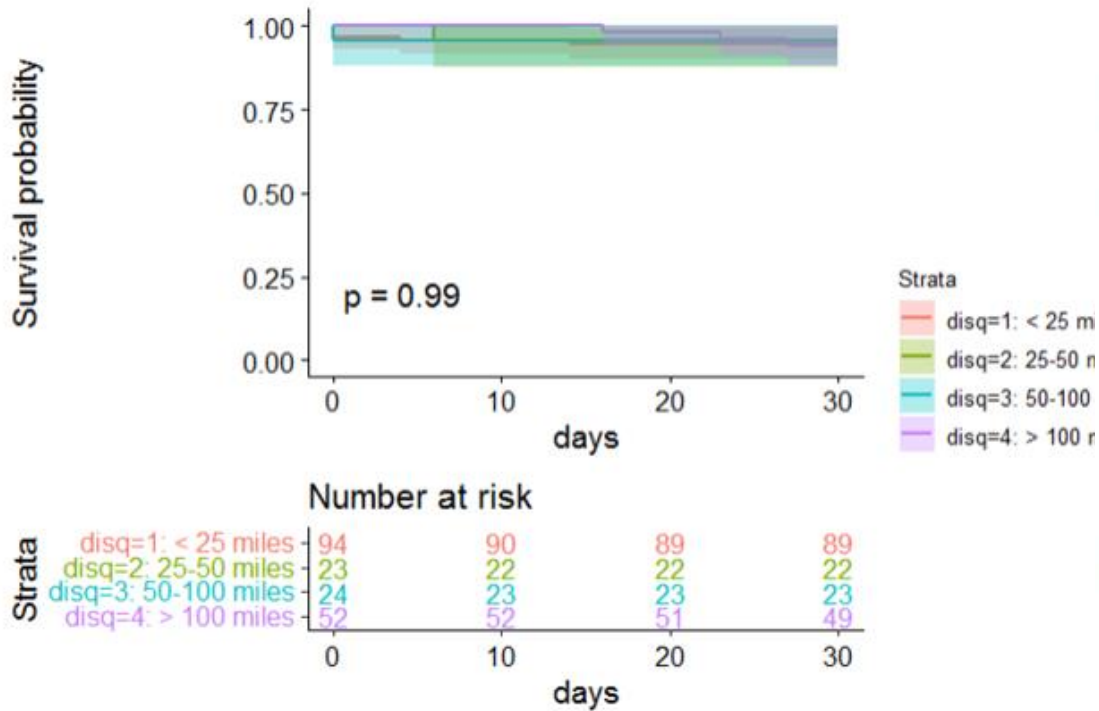
- **Discharge mortality (p = 0.99):**
 - Within 25 miles: 5.3%
 - 25-50 miles: 4.3%
 - 50-100 miles: 4.2%
 - Over 100 miles: 5.8%

- **30-day mortality (p = 0.68):**
 - Within 25 miles 7.3%
 - 25-50 miles 12.5%
 - 50-100 miles 3.8%
 - Over 100 miles: 6.3%



Results

Discharge Survival



30-day Survival

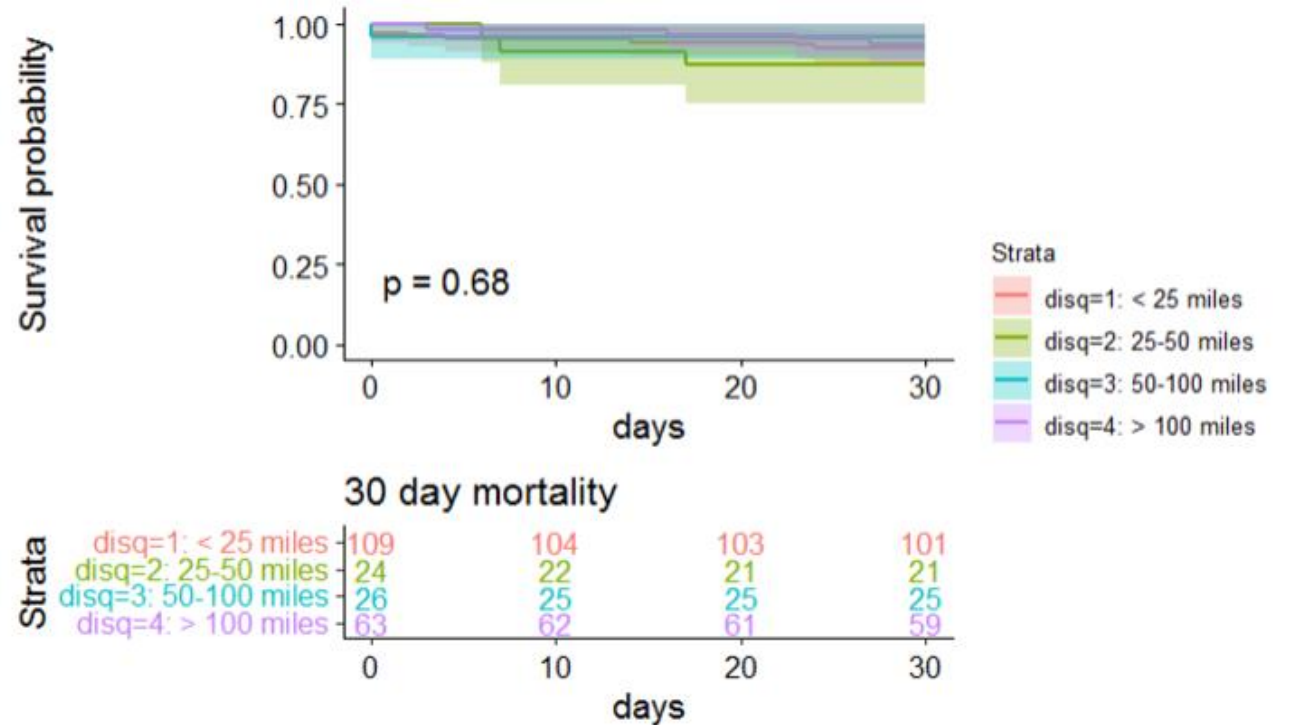


Figure: Kaplan Meier survival curve according to the distance from patient's ZIP code of residence to the university hospital for discharge (left) and 30-day survival (right).

Conclusion

- **No significant association between geographical proximity to medical facility providing surgical treatment and patient survival after Stanford TAAD**
- **Access to timely medical care**
 - Important
 - **NOT a limiting factor for survival up to distances over 100 miles**
- **Further research needed to investigate other factors that decrease survival for TAAD and investigate any morbidity associated with transfer to remote center for surgery**

