

Survival Outcomes Following TAVR in Tafamidis-Treated Cardiac Amyloidosis: A Propensity-Matched Analysis

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I, [Tamari Lomaia](#) DO NOT have any financial relationships to disclose.

Background

-Cardiac amyloidosis, particularly ATTR-CM, is increasingly recognized in older patients with aortic stenosis (AS) referred for TAVR, with prevalence estimates up to 16% in this population

-Historically, patients with dual pathology (AS and ATTR-CM) have worse baseline functional status and biomarker profiles, and untreated, they experience higher mortality than those with lone AS

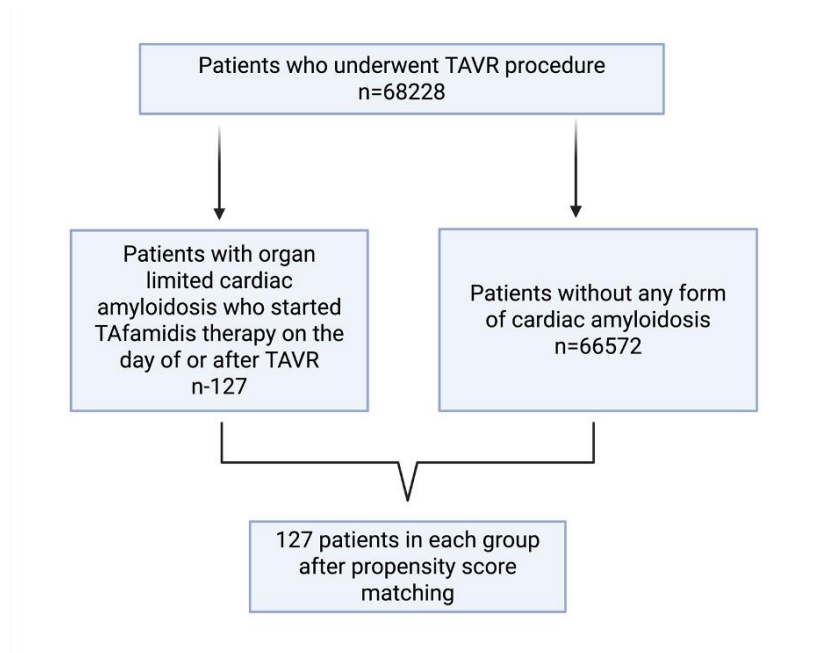
-Recent multicenter registry data show that Tafamidis therapy independently reduces all-cause and cardiovascular mortality in patients with AS and ATTR-CM (weighted HR for all-cause mortality 0.40, 95% CI 0.24–0.68).

-Most studies evaluating outcomes in cardiac amyloidosis patients treated with Tafamidis who underwent TAVR have included relatively small cohorts, often fewer than 70 patients

-Fatima et al. (2024) included 6 studies with a pooled prevalence of 13.3% TTRCA among TAVR patients, but the tafamidis-treated subgroup was small and not the primary focus of the analysis

-Nitsche et al., which included 226 patients with both significant aortic stenosis and ATTR cardiac amyloidosis (ATTR-CA), of whom 69 received tafamidis. Outcomes in these patients were compared to a matched control cohort of patients with lone aortic stenosis (no amyloidosis) who underwent aortic valve replacement (primarily TAVR). The study found that patients with dual pathology (AS + ATTR-CA) who received both tafamidis and TAVR had survival rates comparable to those with lone aortic stenosis undergoing TAVR, however outcomes were limited to three years.

Study design



Cohort 1 – Patients with cardiac amyloidosis who underwent TAVR and started Tafamidis therapy on the day of or after TAVR.

Cohort 2 – Patients without cardiac amyloidosis

Methods

-Using a real-world TriNetX dataset, we identified 127 patients with cardiac amyloidosis who underwent TAVR and started Tafamidis on or after the procedure.

-These were compared to 66,572 patients without cardiac amyloidosis, followed by 1:1 propensity score matching with 127 patients remaining in each group.

- Baseline demographics and comorbidities were balanced after matching. The primary outcome was 5-year all-cause mortality.

Baseline Characteristics

| Variables | Before Propensity Matching | | | After Propensity Matching | | |
|--------------------------------|----------------------------|---------------------|---------|---------------------------|-------------------|---------|
| | Cohort 1 N=127 | Cohort 2 n=66572 | P-value | Cohort 1 N=127 | Cohort 2 N=127 | P-value |
| Current age | 85±5 | 81±8 | <0.0001 | 85±5 | 85±5 | 0.92 |
| Female sex | 22(19.1%) | 27264(40.6%) | <0.0001 | 22 (19.13%) | 26 (22.61%) | 0.63 |
| Male sex | 91(79.1%) | 36616(52.55%) | | 91 (79.13%) | 88 (76.522%) | |
| BMI | 26.9±4 | 29.3±6 | 0.0003 | 26±4 | 27±5 | 0.34 |
| White race | 88(76.5%) | 55362(82.4%) | 0.09 | 88 (76.5%) | 90(78.2%) | 0.75 |
| Black or African American race | 15(13%) | 2821(4.2%) | 0.05 | 15(13.04%) | 18(15.6%) | 0.67 |
| Asian | 10(8.6%) | 1828 (2.7%) | <0.001 | 10 (8.6%) | 10 (8.6%) | 1 |

| | | | | | | |
|---|--------------|---------------|---------|--------------|--------------|-------|
| Hypertensive diseases | 112(97.4%) | 55809(83.15%) | <0.0001 | 112(97.4%) | 115(100%) | 0.081 |
| Ischemic heart disease | 112(97.4%) | 55797(83.1%) | <0.0001 | 112(97.4%) | 114 (99%) | 0.31 |
| Diseases of arteries, arterioles and capillaries | 78 (67.8%) | 34006(50.6%) | 0.0002 | 78 (67.8%) | 84(73.04%) | 0.39 |
| Pulmonary heart disease and diseases of pulmonary circulation | 67 (58.3%) | 19982(29.7%) | <0.0001 | 67 (58.3%) | 66 (57.4%) | 0.89 |
| Chronic rheumatic heart disease | 66 (57.4%) | 23259(24.6%) | <0.0001 | 66 (57.4%) | 59 (51.3%) | 0.35 |
| Cerebrovascular diseases | 43 (37.4%) | 21641(32.2%) | 0.24 | 43 (37.4%) | 42 (36.5%) | 0.89 |
| Unspecified disorders of circulatory system | 43 (37.4%) | 14180(21.1%) | <0.0001 | 43 (37.4%) | 42 (36.5%) | 0.89 |
| Diseases of veins, lymphatic vessels and lymph nodes | 33 (28.696%) | 11520(17.1%) | 0.001 | 33 (28.696%) | 25 (21.739%) | 0.22 |
| Acute rheumatic fever | 0 | 190(0.28%) | 0.57 | 0 | 0 | 1 |
| Other forms of heart disease | 115 (100%) | 65951(98.3%) | 0.15 | 115 (100%) | 115 (100%) | 1 |

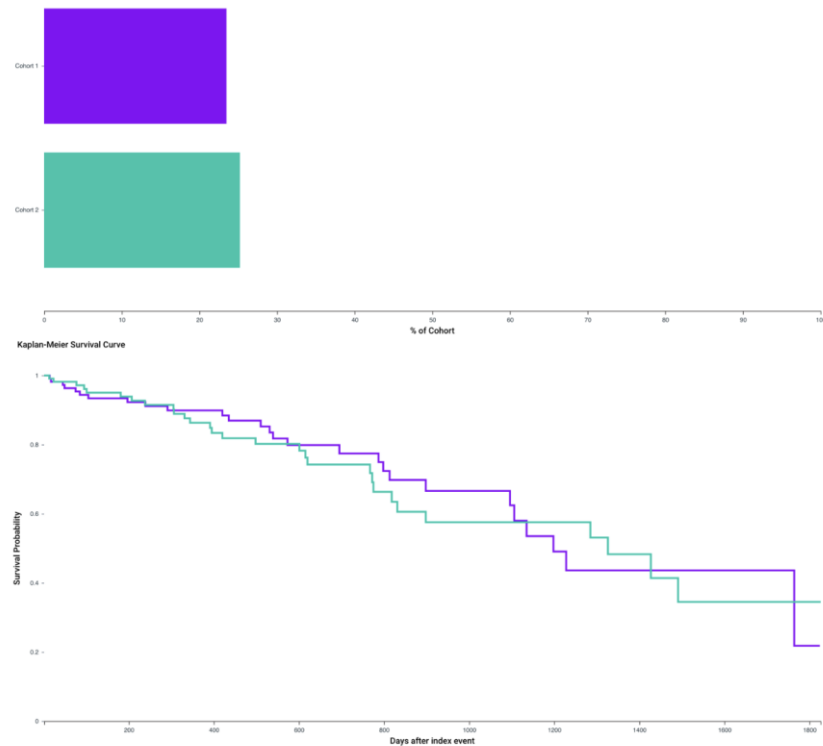
Echocardiographic characteristics

| Variables | Before propensity matching | | | After propensity matching | | |
|-------------------------|----------------------------|----------|---------|---------------------------|----------|---------|
| | Cohort 1 | Cohort 2 | P-value | Cohort 1 | Cohort 2 | P-value |
| Heart rate | 74±16 | 72±14 | 0.24 | 74±16 | 70±14 | 0.13 |
| Systolic Blood pressure | 124±19 | 128±22 | 0.1 | 124±19 | 125±21 | 0.58 |
| LVEF | 57±10 | 57±13 | 0.86 | 57±10 | 55±11 | 0.46 |

5-year survival

| Variable | Patients in cohort | Patients with outcome | Risk |
|----------|--------------------|-----------------------|--------|
| Cohort 1 | 115 | 27 | 23.47% |
| Cohort 2 | 115 | 29 | 25.21% |

| Variable | Patients in cohort | Survival probability at the end of time window | P-value |
|----------|--------------------|--|---------|
| Cohort 1 | 115 | 21.8% | 0.78 |
| Cohort 2 | 115 | 34.4% | |



Conclusion

- Tafamidis-treated patients with cardiac amyloidosis undergoing TAVR demonstrated comparable 5-year survival to those without amyloidosis.
- These findings suggest that Tafamidis may mitigate the adverse prognostic impact of amyloidosis and could offer a protective survival benefit in this high-risk population.

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Thank you