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Interventional Cardiology

ASSOCIATION BETWEEN INSTITUTIONAL MITRAL VALVE PROCEDURE VOLUME AND MITRAL VALVE REPAIR OUTCOMES IN MEDICARE PATIENTS

Poster Contributions
Posters Hall_Hall A
Sunday, March 29, 2020, 10:00 a.m.-10:45 a.m.

Session Title: Interventional Cardiology: Mitral and Structural Heart Disease 4
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Background: There are limited data to inform a minimum institutional mitral valve (MV) procedure volume to start a transcatheter MV repair (TMVr) program. The goal of this analysis is to examine the relationship between institutional MV repair volumes and outcomes in Medicare patients.

Methods: We used the 2017 100% Medicare Standard Analytic File to assess 1) surgical MV repair (SMVr) volumes and outcomes, and 2) SMVr/TMVr volumes and TMVr outcomes. Hospitals were classified based on annual SMVr volume [low (1-24), medium (25-39), high (40+)] or TMVr volume [low (1-18), medium (19-51), high (52+)] using Definitive Healthcare data. In-hospital mortality and 6-month post-discharge outcomes (mortality, cardiovascular rehospitalizations) were analyzed using generalized estimating equations and Cox proportional hazard models, respectively. All models were risk adjusted using a propensity score based on both patient (age, sex, race, region, Elixhauser comorbidity score) and hospital (bed size, teaching status, region) characteristics**.**

Results: This analysis confirmed the known relationship between SMVr volume and in-hospital mortality but did not find statistically significant relationships between either SMVr or TMVr volume and TMVr outcomes.

Conclusion: TMVr outcomes for Medicare patients did not vary significantly by SMVr or TMVr institutional volume. These findings do not support the use of SMVr volume as a criterion for establishing new TMVr programs.

	n (%) with Event	Comparison	Measure of Association[1] (95% CI)	P-value
SMVr Outcomes by Institutional SMVr Volumes				
SMVr Volume				
In-hospital Mortality	Low: 176 (11.93) Medium: 115 (10.23) High: 583 (8.14)	Low vs High	1.57 (1.28 – 1.94)	<0.01*
		Medium vs High	1.31 (1.03 – 1.67)	0.03*
Post-discharge mortality[2]	Low 1: 51 (7.58) Medium: 29 (5.82) High: 185 (5.69)	Low vs High	1.04 (0.98 – 1.97)	0.06
		Medium vs High	1.05 (0.69 – 1.55)	0.82
Cardiovascular hospitalization[2]	Low: 158 (23.48) Medium: 114 (22.89) High: 777 (23.89)	Low vs High	1.11 (0.91 – 1.31)	0.30
		Medium vs High	1.02 (0.83 – 1.25)	0.83
TMVr Outcomes by Institutional SMVr and TMVr Volumes				
SMVr Volume				
In-hospital Mortality	Low: 6 (2.68) Medium: 11 (2.90) High: 75 (2.24)	Low vs High	1.08 (0.48 – 2.45)	0.84
		Medium vs High	1.27 (0.57 – 2.83)	0.56
Post-discharge mortality[2]	Low: 15 (12.40) Medium: 20 (12.35) High: 195 (12.10)	Low vs High	1.05 (0.57 – 1.80)	0.88
		Medium vs High	1.04 (0.63 – 1.62)	0.87
Cardiovascular hospitalization[2]	Low: 37 (30.58) Medium: 48 (29.63) High: 444 (27.56)	Low vs High	1.27 (0.86 – 1.81)	0.21
		Medium vs High	1.14 (0.83 – 1.53)	0.40
TMVr Volume				
In-hospital Mortality	Low: 20 (2.62) Medium: 40 (2.34) High: 31 (2.13)	Low vs High	1.21 (0.61 – 2.38)	0.58
		Medium vs High	1.08 (0.59 – 1.97)	0.81
Post-discharge mortality[2]	Low: 41 (12.20) Medium: 110 (13.11) High: 77 (10.91)	Low vs High	1.11 (0.75 – 1.64)	0.60
		Medium vs High	1.18 (0.87 – 1.62)	0.29
Cardiovascular hospitalization[2]	Low: 84 (25.00) Medium: 241 (28.72) High: 200 (28.33)	Low vs High	0.89 (0.68 – 1.15)	0.37
		Medium vs High	1.03 (0.85 – 1.26)	0.76

* Statistically significant at p<0.05
[1] Odds ratio for in-hospital mortality, hazard ratio for post-discharge mortality and cardiovascular hospitalization
[2] Efficacy outcomes were only evaluated for patients who were observed for at least 6 months post-discharge