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Original research (includes database studies and QI projects)

Title: Exploring TAVR Outcomes in Non-Metastatic Cancer Patients

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Exploring TAVR Outcomes in Non-Metastatic Cancer Patients

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The effect of nonmetastatic cancer in patients undergoing Transcatheter aortic valve replacement (TAVR) is not well known. In this study, we analyzed adverse clinical outcomes and rate of readmissions in this population.

Methods:

The national readmission database (2015-2017) was retrospectively analyzed to identify patients undergoing TAVR using ICD codes. The data was sorted to compare patient with nonmetastatic cancer vs. no cancer. The primary sites of nonmetastatic cancer were lungs, breast, prostate, liver, gastrointestinal tract, kidneys, and skin. Adjusted odds ratio (OR) for clinical outcomes was calculated by multivariate logistic regression.

Results:

Among 1,11,282 patients undergoing TAVR, 7,374 were identified to have nonmetastatic cancer; females were 45%. Mean age was 80 years. Cancer patients had better cardiovascular risk profile with less prevalence of dyslipidemia, hypertension, & obesity. CAD and heart failure prevalence were similar in two groups (table 1). Cancer patients had lower in-hospital mortality (OR 0.8, p 0.25, CI 0.6-1.1), myocardial infarction (OR 0.8, p <0.01, CI 0.6-0.9), decompensated heart failure (OR 0.6, p <0.01, CI 0.5-0.7), need for ICU admissions (OR 0.9, p 0.76, CI 0.8-1.1), and readmission rates (HR 0.9, p 0.13, CI 0.8-1.0).

Conclusion:

The patients with nonmetastatic cancer undergoing TAVR had lower rates of adverse clinical events compared to those without cancer. This was partly due to their better baseline cardiovascular risk profile.

| Baseline characteristics | TAVR without cancer N=1,03,908 | TAVR with cancer* N=7,374 | p-value |
|-----------------------------|-----------------------------------|------------------------------|---------|
| Mean Age (years) | 80 ± 7 | 80 ± 8 | |
| Female | 47,701 (45.9%) | 2,624 (35.6%) | <0.01 |
| Dyslipidemia | 70,462 (67.8%) | 4,665 (63.3%) | <0.01 |
| Hypertension | 90,424 (87%) | 6,213 (84.2%) | <0.01 |
| Obesity | 18,411 (17.7%) | 1,061 (14.4%) | <0.01 |
| Chronic renal injury | 38,000 (36.6%) | 2,992 (40.6%) | <0.01 |
| ESRD | 4,500 (4.3%) | 391 (5.3%) | 0.09 |
| Diabetes | 39,191 (37.7%) | 2,667 (36.2%) | 0.20 |
| COPD | 25,740 (24.8%) | 1,972 (26.7%) | 0.05 |
| Asthma | 6,305 (6.1%) | 349 (4.7%) | <0.01 |
| Atrial fibrillation | 30,330 (29.2%) | 2,044 (27.7%) | 0.15 |
| Peripheral vascular disease | 12,607 (12.1%) | 878 (11.9%) | 0.74 |
| Coronary artery disease | 70,837 (68.2%) | 4,953 (67.2%) | 0.32 |
| Congestive heart failure | 68,236 (65.7%) | 4,760 (64.5%) | 0.26 |
| Liver cirrhosis | 1,761 (1.7%) | 177 (2.4%) | 0.01 |
| Alcohol use | 1,261 (1.2%) | 62.6 (0.8%) | 0.04 |
| Malnutrition | 3,738 (3.6%) | 446 (6.0%) | <0.01 |
| Tobacco Smoking | 4,194 (4.0%) | 297 (4.0%) | 0.97 |

*Non metastatic cancer