**SMOKER’S PARADOX: THE IMPACT OF SMOKING IN PATIENTS UNDERGOING TRANSCATHETER AORTIC VALVE REPLACEMENT (TAVR).**

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**Background:**TAVR is an increasingly prevalent therapy in patients with severe aortic stenosis (AS) that are intermediate and high risk for surgical intervention. Smoking, a proven risk factor for cardiovascular disease (CVD), has also shown to accelerate the progression of AS. Studies have shown that survival outcomes are better in smokers when compared to non-smokers with CVD and after cardiovascular interventions. This paradox remains controversial. No literature exists studying the impact of smoking on outcomes post-TAVR.

**Methods:**An electronic search of the 2011-2012 National Inpatient Sample database was done to identify all TAVR hospitalizations. Outcomes were measured comparing smokers to non-smokers. Baseline patient demographic characteristics (age, sex and race) and comorbidities were extracted. Outcome measures included all-cause in-hospital mortality, defined as “died” during the index hospitalization, acute cerebrovascular accidents, and post-procedure hemorrhage. Baseline demographics and comorbidities were compared using Pearson’s Chi-square test for categorical variables and Student’s t-test for continuous variables. In addition to patient demographics and comorbidities, smoking was used as an independent variable in a multivariable, unconditional regression model to examine predictors of primary and secondary outcomes. SPSS 23.0 (IBM corp., Armonk, NY) was used for statistical analysis. We used a 2-sided P value of <0.05 to identify statistical significance.

**Results:** 8,345 TAVR hospitalizations were identified with 24% being smokers. Compared to non-smokers, smokers were younger (80.4±8.8 vs 81.4±9.2 years, P<0.001), were more often men (63.6% vs 47.8%, P<0.001) and had a higher disease burden. Despite a higher disease burden, smokers had lower post procedure stroke (2.8% vs 3.1%), hemorrhagic events (28.2% vs 32.0%, P<0.05) and lower all cause in-hospital mortality (1.2% vs 5.7%, adjusted odds ratio 0.21, 95% CI: 0.13-0.32, P<0.001) compared to non-smokers.

**Conclusions:**Our study validates the smoker's paradox in this TAVR cohort, as despite having a higher CVD burden, smoking is independently associated with better clinical outcomes.