

**DEPRESSION AS A POTENTIAL THERAPEUTIC TARGET TO IMPROVE QUALITY OF LIFE AFTER TRANSCATHETER AORTIC VALVE REPLACEMENT**

Poster Contributions

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Authors: *Jay Patel, William Fearon, Sammy Elmariah, Juyong Kim, Samir Kapadia, Dharam Kumbhani, Linda Gillam, Brian Whisenant, Nishath Quader, Frederick Welt, Hersh Maniar, Anthony Bavry, Alan Zajarias, Robert Piana, Spencer Melby, Megan Coylewright, Anna Vatterott, Kaitlin Stassi, Eric Novak, Brian Lindman, Washington University Cardiology, Saint Louis, MO, USA*

Background: Cognitive function and mood are rarely assessed in patients with aortic stenosis (AS) prior to transcatheter aortic valve replacement (TAVR). The prevalence of cognitive impairment and depression and their respective associations with quality of life (QoL) after TAVR are unknown.

Methods: We included patients undergoing TAVR for AS from a prospective, real-world registry including 11 centers across the United States. Prior to TAVR, subjects completed short validated tests for cognition (Mini-Cog) and mood (PHQ2). The primary outcome was QoL 30 days after TAVR as assessed by the Kansas City Cardiomyopathy Questionnaire (KCCQ) overall summary score (scale 0-100, higher is better; minimal clinically important difference is 5 points).

Results: Among 537 patients, the average age was 82 years, 44% were female, the average STS score was 7 ± 5 , and 86% had a transfemoral approach. Cognitive impairment (CI) was identified in 174 (32%) and depression in 54-101 (10-19%) using specific or sensitive PHQ2 cut-points, respectively. Compared to those without CI, those with CI had a similar QoL at baseline, 30 days after TAVR, and increase between those time points ($p=NS$). In contrast, while depressed patients did experience an improvement in QoL after TAVR (+16 point change, 95% CI 6-25), it was less than those without depression (+25 point change, 95% CI 22-27) ($p=0.04$). Compared to non-depressed patients, depressed patients had worse QoL at 30 days after adjustment for age, sex, and baseline KCCQ (30 day KCCQ 17 points lower, 95% CI 10 to 24, $p<0.001$), despite no difference between groups in pre-TAVR NYHA class or TAVR approach. A more sensitive cut-point for depression yielded a similar, but less pronounced, difference (30 day KCCQ 10 points lower, 95% CI 5 to 15, $p<0.001$).

Conclusions: CI was present in one-third of patients undergoing TAVR, but not associated with QoL before or after TAVR. In contrast, depression was identified in 10-19% of patients undergoing TAVR; compared to non-depressed patients, depressed patients had less improvement in QoL from TAVR and had a markedly worse QoL 30 days after TAVR. Whether attempts to identify and treat depression will improve QoL after TAVR requires further study.