

procedure. There were no procedure-related complications or TIA, stroke or mortality 30-day follow-up. A multi-disciplinary approach for transcatheter TAVR procedure has shown encouraging initial results. This series demonstrates the viability of a transcatheter approach in patients with access issues. Further investigation into the transcatheter technique may provide additional insights into the risks and benefits of this approach as compared to other transcatheter TAVR approaches.

CRT-800.25

Second Generation Versus First Generation Transcatheter Aortic Valve Replacement: A Meta-analysis



Arun Kanmanthareddy,¹ Dixitha Anugula,¹ Sameer Gafoor,² Rahul Sharma,² Claire Hunter,¹ Scott Lilly,³ Michael White,¹ Michael Del Core,¹ Himanshu Agarwal,¹ Dennis Esterbrooks,¹ Aryan Mooss,¹ Venkata Alla¹

¹Creighton University School of Medicine, Omaha, NE; ²Swedish Heart Institute, Seattle, WA; ³Ohio State University, Columbus, OH

INTRODUCTION Transcatheter aortic valve replacement (TAVR) is increasingly being used for high and intermediate surgical risk aortic stenosis patients. Second generation TAVR valves (G2) with improved design have sought to address the drawbacks associated with first generation TAVR valves (G1).

METHODS Electronic search of PubMed, EBSCO, Google Scholar databases was performed to identify studies comparing G2 versus G1. Clinical outcomes of vascular complications, bleeding, myocardial infarction (MI), stroke, acute kidney injury (AKI), pacemaker implantation, > mild aortic regurgitation (AR) and mortality were extracted and meta-analysis was performed using STATA 13.0 software. Risk ratio (RR) with 95% confidence intervals (CI) were computed for each outcome.

RESULTS A Total of 10 studies with 1,871 patients were included in this study. Of these 707 and 1,164 patients were implanted with G2 and G1, respectively. Peri-procedural complications of acute kidney injury, bleeding and vascular complications were remarkably decreased in the G2 group. The risk of MI, stroke and pacemaker implantation were similar in the two groups. The risk of mortality was significantly lower in the G2 group (RR 0.56, 95% CI 0.34 - 0.92). The risk of AR was also remarkably lower in the G2 group (RR 0.32, 95% CI 0.23 - 0.44).

CONCLUSION The results of our meta-analysis suggest that the G2 TAVR valves are associated with lower risk of peri-procedural complications, AR and mortality without an antecedent increase in pacemaker implantation.

Outcome	RR (95% Confidence Intervals)	Heterogeneity
Acute kidney injury	0.58 (0.38 - 0.88)	6%
Vascular complications	0.36 (0.26 - 0.49)	21%
Bleeding	0.46 (0.34 - 0.62)	43%
Stroke	0.71 (0.40 - 1.27)	1%
Myocardial infarction	0.87 (0.38 - 2.01)	0%
Pacemaker implantation	0.99 (0.60 - 1.63)	74%
Aortic regurgitation	0.32 (0.23 - 0.44)	0%
Mortality	0.56 (0.34 - 0.92)	0%

CRT-800.26

Validation of the Contrast Induced Nephropathy Risk Score in Patients Undergoing Transcatheter Aortic Valve Replacement



Karim M. Al-Azizi, Ahmed M. Alabbady, Joyce A. Burnside, Joseph J. Stella, Sandy M. Green, Thomas D. Scott, James C. Blankenship, Kimberly A. Skelding Geisinger Medical Center, Danville, PA

INTRODUCTION Risk scores identify patients at risk for acute kidney injury (AKI) following coronary procedures. Patients with kidney disease have been shown to have worse outcomes following Transcatheter Aortic Valve Replacement (TAVR).

HYPOTHESIS Identifying patients at risk to provide benefit and avoid harm is paramount. We aim TO validate the Contrast Induced Nephropathy (CIN) risk score in patients undergoing TAVR.

METHODS An institutional review board approved retrospective cohort study in a tertiary care center in rural Pennsylvania utilizing a balloon expandable TAVR device, identified 164 patients with complete renal function data not on dialysis. Creatinine was evaluated before and after each TAVR. Contrast volume, type, patient comorbidities and demographics were collected. The Kidney disease improving global outcomes (KDIGO) definition was used to identify

AKI. Descriptive statistics include frequencies for categorical data and means or medians for continuous data. Comparisons were made using Chi-square test or fishers exact test and the t-test or median test. Odds ratios were calculated for the logistic regression model. P value less than 0.05 was significant. We utilized the William Beaumont Hospital CIN score for risk stratification.

RESULTS Baseline demographics were not significantly different between the 2 groups (AKI vs non AKI), with a mean age of 82.5, and 54.3% males. 25 patients developed AKI. There was a significant difference in CIN risk score between both groups (4.3 AKI vs 3.4 non AKI, p=0.0174). On multivariate analysis the only predictor of AKI with TAVR was the William Beaumont Hospital CIN score (Odds ratio 1.39 (1.05-1.83) p=0.0201, with a c-statistic=0.660. Having a CIN score of >4 was predictive of AKI (OR 4.3 (1.53-12.10) p=0.006, c=statistic 0.659. Contrast volume used was not significantly different between both groups (145.9ml vs 139.5ml, p=0.7338). No comorbidities were statistically significant between patients with or without AKI post TAVR.

CONCLUSION CIN risk scoring appears to similarly identify patients at risk for AKI whether they are undergoing a coronary procedure or a TAVR procedure. There were no other variables more predictive of AKI in this study.

CRT-800.27

Conduction Disturbances After TAVR: Electrophysiology Studies and Pacemaker Dependency



Nader Makki, Jenn Dollery, Danielle Jones, Juan Crestanello, Scott Lilly Ohio State University Wexner Medical Center, Columbus, OH

BACKGROUND Atrioventricular block necessitating permanent pacemaker (PPM) placement occurs in up to 5-20% of patients after transcatheter aortic valve replacement (TAVR). Although predictors of pacemaker implantation have been established, there is no broad consensus regarding electrophysiological study (EPS) or PPM implantation for indications other than complete heart block (CHB).

METHODS Data derived from a retrospective review of patients undergoing commercial TAVR between 2011 and 2016. We collated patients that underwent in-hospital PPM implantation and a follow up of at least 3 months. Data abstraction was performed for pacemaker indication, timing, and device interrogation for pacemaker dependency on follow up.

RESULTS A total of 24 patients received in-hospital PPM post-TAVR (14% of total cohort), and mean follow up was 22 months. The mean time from TAVR to PPM implant was 5 days (range 1 -16). Indications for PPM included CHB (16/24, 67%), left bundle branch block and abnormal EPS (HV > 55 msec or heart block; 6/24, 25%), alternating bundle branch block (1/24, 4%) and tachy-brady syndrome (1/24, 4%). Pacemaker dependency (underlying ventricular asystole, complete heart block, or >50% pacing) occurred in 7 (57%) during follow-up, 6 of whom had resting CHB, and one with CHB prompted by EPS.

CONCLUSION Pacemaker dependency after TAVR is common among those that exhibited CHB, but not among those with an HV delay > 55 msec during EPS. Although preliminary, these observations are relevant to management of rhythm disturbances after TAVR, and may inform appropriate EPS-driven indications for PPM.

Patient characteristics	Commercial TAVR Cases Receiving Pacemaker 2011-2016	
Total number of TAVI cases	171	
Mean time from TAVI to PPM	5 days (range 1-16 days)	
Total number of patients who Received EPS prior to PPM N (%)	7 (29%)	
Mean duration of follow-up post TAVI	22 months (range 9-24)	
Indications for PPM	N (%)	PM Dependent** on follow-up
CHB	16 (67)	7/16 (57%)
Abnormal EPS	6 (25)	1/6 (14%)
Alternating BBB	1 (4)	0/1 (0%)
Tachy-brady	1 (4)	N/A
Total	24	8/24 (40%)

* PM = permanent pacemaker; CHB = complete heart block; EPS = electrophysiological study; BBB = bundle branch block; TAVI = transcatheter aortic valve implantation; N = number.
** underlying ventricular asystole, complete heart block, or >50% pacing.