78.4 ± 8.6 years and mean STS was 9.7 ± 8.6%. 48 patients had severe predicted PPM and 509 had moderate predicted PPM.

One year survival was significantly different between severe predicted PPM patients versus others (71.8% vs. 85.9%, log-rank p-value 0.02). In multivariate regression, severe predicted PPM was identified as the strongest independent predictor for one-year mortality (HR 2.12; CI 1.08-4.2; p-value = 0.03), followed by STS Score (HR 1.04, CI 1.03-1.06; p-value < 0.001). Presence of small surgical valve and mechanism of failure were not identified as end-point predictors.

**CONCLUSION** Predicted severe PPM is an easily assessable measure and is an independent predictor of long-term mortality in aortic valve-in-valve patients. This parameter may provide operators a strong tool to enhance patient selection for the procedure.

## CRT-800.03

### Triple Antithrombotic Therapy in Patients with Atrial Fibrillation Undergoing Transcatheter Aortic Valve Replacement is Associated With Higher Mortality Rate

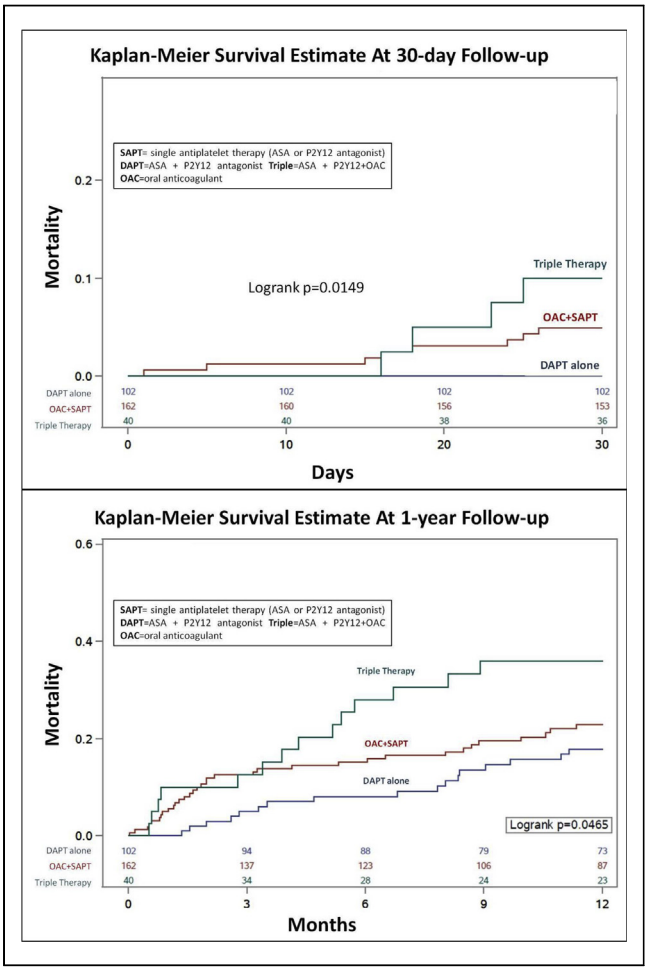
M. Chadi Alraies, Kyle Buchanan, Edward Koifman, Toby Rogers, Arie Steinvil, Rebecca Torguson, Jiaxiang Gai, Itsik Ben-Dor, Augusto D. Pichard, Lowell F. Satler, Ron Waksman
Georgetown University / MedStar Washington Hospital Center, Washington, DC

**BACKGROUND** Oral anticoagulation (OAC) prescribing patterns for atrial fibrillation (AF) patients vary following transcatheter aortic valve replacement (TAVR). However, there are limited data on the ideal antithrombotic treatment strategy and outcomes in the U.S.

**METHODS** We evaluated AF patients on OAC who underwent TAVR from 2007 to 2016. Clinical outcomes were assessed at 30-day and 1-year follow-up.

**RESULTS** A total of 305 AF patients (mean age 83 years, 64% men) were analyzed. Overall, 54% (n=163) were discharged on single OAC + single antiplatelet therapy, 33% (102) on dual antiplatelet therapy (DAPT) and 13% (40) on warfarin + DAPT (triple therapy). All three groups were similar with respect to age (p=0.1), hypertension (p=0.19), diabetes (p=0.3), stroke (p=0.36), congestive heart failure (p=0.16), coronary artery disease (p=0.14), and peripheral artery disease (p=0.37). Women were more likely than men to receive triple therapy. There was no difference in rates of stroke (p=0.43), renal failure (p=0.19), major vascular complication (p=0.52) and life-threatening (p=0.25) or major bleeding (p=0.83) between the three groups. However, unadjusted 30-day and 1-year mortality rates were higher in the triple therapy group (Logrank p=0.0149, and 0.0465, respectively) compared with those of the other groups (Figure).

**CONCLUSION** AF patients treated with triple therapy post-TAVR have higher rates of death and bleeding compared with those not treated with triple therapy.




## CRT-800.04

### Balloon Aortic Valvuloplasty as a Bridge to Transcatheter Aortic Valve Replacement

Mohammad M. Ansari,[1] Rhanderson Cardoso,[2] Daniel Garcia[3]
[1]Texas Tech University Health Sciences Center, Lubbock, TX; [2]University of Miami, Miami, FL; [3]Oschner Heart and Vascular Institute, New Orleans, LA

**INTRODUCTION** Prior to the development of transcatheter aortic valve replacement (TAVR), balloon aortic valvuloplasty (BAV) had very limited indications in patients with severe aortic stenosis due to risks of complications, lack of durability, and little to no impact on long-term survival. However, up to 75% evaluated for TAVR are ineligible at the time of referral. Thus, many of these patients can potentially benefit from BAV as a bridge to TAVR.

**METHODS** We aimed to perform a systematic review of the literature of efficacy and safety outcomes of BAV as a bridge to TAVR. PubMed and EMBASE were searched for studies that reported the outcomes of interest following BAV with intention-to-bridge for TAVR. Baseline demographic data from studies were collected, and a pooled analysis of outcomes was calculated amongst all studies that met inclusion criteria.

**RESULTS** A total of 5 studies and 950 procedures were included. The average patient age ranged from 78.1 to 83.2 years, and 49.1% were men. The mean logistic EuroSCORE ranged from 21.5 to 46.9. STS score ranged between 10 ± 8 to 22 ± 12. Periprocedural complications included acute kidney injury (9.9%; 48/482); major bleeding (4.7%; 23/482); major vascular complications (2.8%; 18/630); severe aortic regurgitation (1.6%; 7/427); and permanent pacemaker implantation (1.5%; 7/468). Stroke (1.1%; 10/909) and myocardial infarction (0.4%; 3/805) were rare complications. All-cause and CV mortality were 4.4%

(37/846) and 4.2% (29/684), respectively. In a median follow-up that ranged from 10 to 20 months, 368 (38.7%) and 46 (4.8%) patients underwent TAVR and SAVR, respectively. During follow-up, all-cause mortality was 36% in the overall cohort, whereas it was 19.4% in a 2-year follow-up of patients that underwent TAVR.

**CONCLUSION** This systematic review of BAV in the TAVR-era demonstrates safety of the procedure, with a very low incidence of periprocedural mortality and stroke. Survival of intention-to-bridge BAV beyond one year remains poor. Less than 50% of patients who have intention-to-bridge BAV actually undergo aortic valve replacement during follow-up. These patients have a significantly lower mortality when compared to destination-therapy BAV.

## CRT-800.05

### Comparison of Outcomes of Transaortic Valve Replacement with Percutaneous Coronary Intervention versus Surgical Aortic Valve Replacement with Coronary Artery Bypass Grafting: A review of the National Impatient Sample

Perwaiz M. Meraj,[1] Rajkumar Doshi,[1] Jay Shah,[1] Keyur Patel,[2] Monil Shah[3]
[1]North Shore LIJ Health System, Manhasset, NY; [2]University of Pittsburgh Medical Center, Pittsburgh, PA; [3]NYU, New York, NY

**BACKGROUND** Transaortic Valve Replacement (TAVR) with percutaneous coronary intervention (PCI) is less invasive option for high risk patients with aortic stenosis (AS) with coronary artery disease (CAD). The aim of our study is to compare outcomes and length of stay of TAVR with PCI and Surgical Aortic valve Replacement (SAVR) plus coronary artery bypass grafting (CABG).

**METHODS** We identified 1470 patients from NIS database from 2011-2013 using ICD 9 CM procedure code (35.21,35.22 for SAVR, 35.05,35.06 for TAVR, 36.10-17,36.19 for CABG and 0.66,36.04,36.06,36.07 for PCI). 695 patients underwent TAVR with PCI while 775 underwent SAVR with CABG. Univariate and Multivariate analysis were performed using SAS 9.4 (SAS institute Inc, Cary, NC).

**RESULTS** Compared to the SAVR+CABG group, TAVR+PCI group had higher comorbidities. Female and white people were predominant in TAVR+PCI group. In-Hospital outcomes were higher with TAVR+PCI group. Secondary outcomes were higher with TAVR+PCI group as well except blood transfusion.

**CONCLUSION** In a population of patients traditionally cared for by SAVR with CABG, TAVR with PCI demonstrated significant reductions in in-hospital mortality, stroke and overall outcomes. TAVR has gained significant momentum for the care of high risk patients, but as the risk profile decreases to include low and intermediate risk patients, it is even more imperative to demonstrate equivalent if not superiority of TAVR with PCI to SAVR with CABG.

Table 1b: Adjusted Analysis (Multivariate Analysis):

| Variable Name | TAVR PCI (N=695) | SAVR CABG (N=775) | P value |
|---|---|---|---|
| **Baseline Characteristics:** | | | |
| Age(Years) | 82.17±7.62 | 71.31±10.90 | <0.0001 |
| BMI >30 | 5.75% | 14.84% | 0.0526 |
| Male | 45.32% | 72.90% | <0.0001 |
| Female | 54.68% | 27.10% | |
| Race:* | | | |
| White | 85.07% | 84.56% | 0.1937 |
| Black | 5.22% | 5.37% | |
| Hispanic | 3.73% | 6.04% | |
| Asian | 1.49% | 2.68% | |
| Other | 4.47% | 1.34% | |
| Hypertension | 72.66% | 78.06% | 0.8136 |
| Diabetes Mellitus | 32.37% | 49.68% | 0.0027 |
| Dyslipidemia | 56.83% | 66.45% | 0.2507 |
| Smoking | 20.86% | 32.90% | 0.0474 |
| Chronic Kidney Disease IV/V/ESRD | 10.79% | 2.58% | 0.0002 |
| Family History of CAD | 3.60% | 14.19% | 0.0015 |
| Prior MI | 14.39% | 8.39% | 0.2909 |
| CAD | 5.76% | 6.45% | 0.9941 |
| Peripheral Vascular Disease | 2.16% | 12.90% | 0.0037 |
| Heart Failure | 78.42% | 34.20% | <0.0001 |
| Cerebrovascular Disease | 11.51% | 9.03% | 0.3339 |
| Chronic Pulmonary Disease | 30.21% | 21.30% | 0.0239 |
| Alcohol Abuse | 0% | 2.58% | 0.0773 |
| Liver Disease | 2.87% | 0% | 0.0528 |
| HIV/AIDS | 0% | 0% | NA |
| **Hospital Location:** | | | |
| Rural | 0.72% | 1.94% | <0.0001 |
| Urban Non-Teaching | 10.07% | 31.61% | |
| Urban Teaching | 89.21% | 66.45% | |
| **Charlson Comorbidity Index (Deyo Modification)** | | | |
| Mean (Standard Error) | 2.75 (0.13) | 1.87 (0.11) | <0.0001 |
| 0 | 4.22% | 19.56% | |
| 1 | 17.61% | 28.26% | |
| 2 | 26.76% | 23.04% | |
| >2 | 51.41% | 29.14% | |
| **In-Hospital Outcomes:** | | | |
| Acute Renal Failure | 28.05% | 22.58% | 0.1081 |
| Any Stroke | 3.59% | 1.30% | 0.1530 |
| Cardiogenic Shock | 11.51% | 7.74% | 0.3339 |
| Acute Pulmonary Edema | 2.87% | 1.29% | 0.4877 |
| GI Hemorrhage | 11.51% | 5.16% | 0.0689 |
| Hemorrhage/Hematoma/Blood Loss Requiring Transfusion | 33.09% | 46.45% | 0.0409 |
| Cardiac Arrest | 12.32% | 1.29% | <0.0001 |
| In-Hospital Mortality | 12.23% | 4.51% | 0.0007 |
| Length of Stay | 13.11±13.53 | 11.47±7.34 | 0.1324 |
| *11 patients were missing in race. | | | |

Table 1b: Adjusted Analysis (Multivariate Analysis):

| Variable Name | Adjusted P value |
|---|---|
| Acute Renal Failure (n) | 0.0826 |
| Any Stroke (n) | <0.0001 |
| Cardiogenic Shock (n) | 0.0065 |
| Acute Pulmonary Edema (n) | 0.0402 |
| GI Hemorrhage (n) | 0.0792 |
| Hemorrhage/Hematoma/Blood Loss Requiring Transfusion (n) | 0.1254 |
| Cardiac Arrest (n) | 0.0038 |
| In-Hospital Mortality (n) | 0.0010 |

## CRT-800.06

### Temporal Trends in Screening and Reasons for Deferring Patients from Transcatheter Aortic Valve Replacement

Kyle D. Buchanan, M. Chadi Alraies, Arie Steinvil, Toby Rogers, Edward Koifman, Jiaxiang Gai, Joelle Salmon, Rebecca Torguson, Petros Okubagzi, Itsik Ben-Dor, Augusto D. Pichard, Lowell Satler, Ron Waksman
MedStar Heart and Vascular Institute, Washington, DC

**BACKGROUND** The development of new percutaneous valves, increasing vascular access techniques, and broadening indications for percutaneous aortic valve replacement (TAVR) has increased the treatment options for patients with severe aortic stenosis (AS). The trends in referral patterns and reasons for exclusion from TAVR remain uncertain.

**METHODS** We retrospectively analyzed all patients referred to our center for TAVR from 2010 to 2016. The patients were then stratified based on initial treatment assignment (TAVR vs excluded from TAVR). The reasons for exclusion were then divided into cardiac, valvular/anatomical, vascular access, and other (patient refusal, other