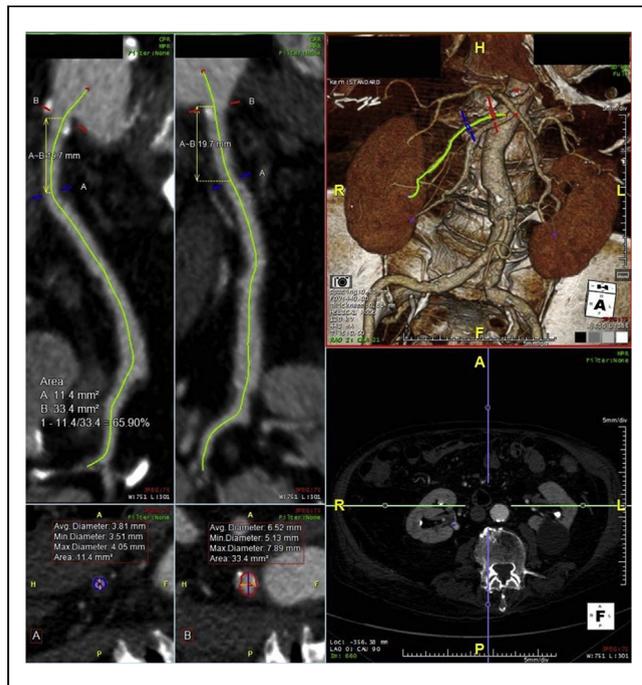


BACKGROUND Renal artery stenosis (RAS) has shown to be an adverse factor for developing Acute Kidney Injury (AKI). This relationship has not been evaluated in the context of TAVR. We aimed to evaluate on the relationship between RAS and AKI following TAVR.

METHODS 302 patients underwent TAVR between 2011 and 2017. 6 patients with end-stage renal disease were excluded. We used propensity-matching analysis including age, sex, BMI, contrast volume, glomerular filtration rate and comorbidities to select matched pairs for analysis. AKI defined as an increase in serum creatinine by 0.3 mg/dl or more within 48 hrs or increase in serum creatinine to 1.5 times baseline or more within 7 days. CT angiograms of the abdomen were used to measure the minimum luminal diameter (MLD) and the average area at the ostium and the site of maximum stenosis in the renal arteries, proximal to any major branch. An area-stenosis of 60% or more was considered significant.

RESULTS We obtained 43 matched pairs for analysis. AKI patients had significant diameter stenosis of at least one of the renal arteries versus non AKI patients. (60.6 mm vs 47.76 mm, $p=0.003$). AKI patients had a significant area stenosis in at least one of their renal arteries (77 mm² vs 67 mm², $p=0.006$). Prevalence of bilateral RAS among the AKI cohort was 53.5%, versus 23.3% in controls ($p=0.004$). There was a trend towards statistical significance on comparison of any sided RAS in AKI cohort and controls (79.1% vs 62.8%, $p=0.09$).

CONCLUSION RAS was associated with increased incidence of AKI following TAVR. Patients with bilateral RAS had a statistically significant risk of AKI compared to those without bilateral RAS.



CRT-700.24
Outcomes of Transcatheter Aortic Valve Replacement in Patients with Mitral Regurgitation: A Propensity-Match Analysis

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INTRODUCTION Transcatheter aortic valve replacement (TAVR) outcomes have recently emerged as an alternative therapy for moderate to high surgical risk patients with aortic stenosis. In this study we

describe the effect of concomitant mitral valve regurgitation (MR) on TAVR periprocedural outcomes.

METHODS The study population was extracted from National Readmission Data (NRD) 2014 using International Classification of Diseases ninth (ICD-9) codes for TAVR, MR and periprocedural outcomes. Propensity matching was used to extract a matched control group of TAVR patients without MR (TAVR-C) to the TAVR with concomitant MR group (TAVR-MR). Both groups were comparable in terms of baseline characteristics and number of co-morbidities. Study endpoints included all-cause in-hospital mortality, length of index hospital stay (LOS), acute myocardial infarction (AMI), acute kidney injury (AKI), bleeding, mechanical complications of heart valve prosthesis (including paravalvular leak and valve dislodgement), vascular access complications (VAC), need for new pacemaker implantation (PPM) and 30-day readmission rates.

RESULTS A total of 1143 patients unweighted (2491 weighted) were identified in each group. Average age was 81.5 years, and 49% were male. There was no significant difference between both groups in terms of all-cause in-hospital mortality (4.4% versus 4%, $p=0.67$), mean LOS (9.7 versus 9.4 days, $p=0.58$), AMI (4.0% versus 3.3%, $p=0.32$), AKI (19.0% versus 20.6%, $p=0.33$), bleeding (33.5 versus 35.6%, $p=0.28$), mechanical complications of heart valve prosthesis (2.2% versus 2.6%, $p=0.48$), VAC (0.8% versus 1.3%, $p=0.22$), PPM (0.7% versus 0.5%, $p=0.59$) or 30-day readmission rates (19.0% versus 19.1%, $p=0.95$).

CONCLUSION When compared with TAVR-C, TAVR-MR had similar outcomes of all-cause in-hospital mortality, LOS, AMI, AKI, bleeding, mechanical complications of heart valve prosthesis, VAC, PPM or 30-day readmission rates.

CRT-700.25
The Impact of Left Ventricular Diastolic Dysfunction on Clinical Outcomes After Transcatheter Aortic Valve Replacement

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BACKGROUND Left ventricular (LV) hypertrophy in response to afterload increase promotes the development of LV diastolic dysfunction (DD) and represents an early stage in the progression to valvular heart failure. The objective of this study is to address the impact of LVDD on clinical outcomes in patients undergoing transcatheter aortic valve replacement (TAVR).

METHODS A total of 632 patients undergoing TAVR between August 2007 and December 2015 received detailed echocardiographic assessment prior to the intervention. LVDD was categorized into 3 stages from mild to severe using mitral flow velocities (E/A ratio and peak E velocity), E/e' ratio, peak velocity of tricuspid regurgitation jet, and left atrium maximum volume index according to the latest guidelines. The primary endpoint was all-cause mortality at 1 year.

RESULTS Among 400 (63.3%) patients with LVDD 98 (24.5%), 198 (49.5%), and 104 (26.0%) patients were categorized into grade I, II, and III, respectively. As compared to patients with normal diastolic function, advanced stages of LVDD were associated with gradually increasing risk profiles, NYHA functional class, and brain natriuretic peptides, respectively. While there were no significant differences in aortic valve area or mean transvalvular gradient, patients with LVDD had a lower LVEF (grade I: $50.1 \pm 14.0\%$; grade II: $52.4 \pm 14.5\%$; grade III: $41.6 \pm 16.6\%$) as compared to patients with normal diastolic function ($62.3 \pm 7.8\%$; $p < 0.001$). At 1 year, the incidence of all-cause mortality was higher in patients with LVDD grade I (16.3%; HR_{adj} 2.39, 95% CI 1.19-4.79), II (17.9%; HR_{adj} 2.72, 95% CI 1.51-4.92), and III (27.6%; HR_{adj} 3.79, 95% CI 2.04-7.05) compared to those with normal diastolic function (6.9%). The difference in clinical outcome emerged within the first 30 days, was driven by cardiovascular death, and maintained in a sensitivity analysis of patients with normal systolic LV function. In a multivariable analysis, LVDD grade I, II, and III (HR_{adj} 2.36, 95% CI 1.17-4.74; HR_{adj} 2.58, 95% CI 1.42-4.66; and HR_{adj} 4.41, 95% CI 2.37-8.20,