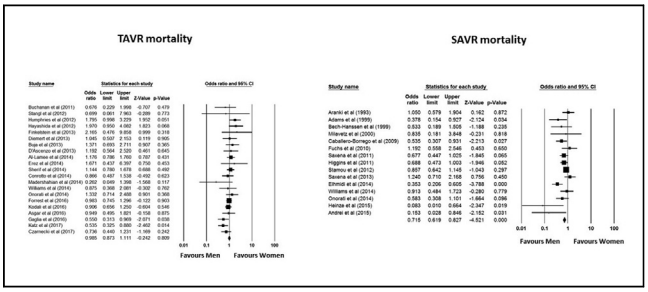
SAVR, and 2 involved both TAVR and SAVR. Rates of 30-day all-cause mortality following TAVR was noted to be similar in men and women [odds ratio (OR) 0.99, 95% confidence interval (CI), 0.87 to 1.11]. Men had lower rates of 30-day all-cause mortality following SAVR compared to women (OR 0.72, 95% CI, 0.62 to 0.83) (Figure).

CONCLUSIONS Female gender is associated with higher rates of mortality following SAVR. No significant differences in mortality were noted in men versus women following TAVR.



CRT-700.35

Slope of Left Ventricular Filling as an Index of Valvular and Paravalvular Regurgitation in Native and Prosthetic Aortic Valves

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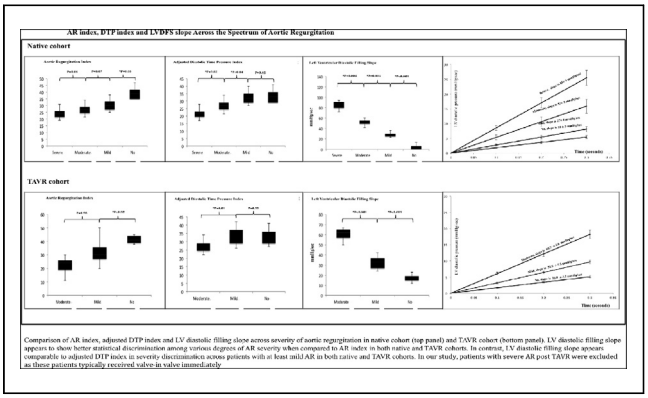
BACKGROUND Precise quantification of paravalvular aortic regurgitation (PAR) is challenging. Aortic regurgitation index (AR index) has been validated in transcatheter aortic valve replacement (TAVR) cohorts; however, accuracy is limited by heart rate dependency. Diastolic pressure time (DPT) index has been suggested as an alternative and also predicts mortality after TAVR. We chose to evaluate the left ventricular diastolic filling slope (LVDFS) as a surrogate of AR, and suggest it is less heart rate dependent than the AR index and comparable to DPT index.

METHODS For initial validation, we compared the LVDFS between 3 cohorts of patients with native aortic valves referred for hemodynamic assessment: (1) Patients without AR; (2) moderate AR; and (3) severe AR. We then retrospectively identified TAVR patients between January 2012-2017, and compared LVDFS to echocardiographic PAR.

RESULTS In both TAVR patients and patients those with native aortic valve disease, the LVDFS showed a stepwise increase with increasing echocardiographic AR severity. When compared to AR or DPT indices, LVDFS better discriminated the degree of AR in native valves and post-TAVR when AR is primarily paravaluvlar. Additionally, the slope did not considerably change across a spectrum of heart rates in both native or post-TAVR populations.

CONCLUSION The LVDFS is a simple, reproducible metric that can be operationalized in patients undergoing TAVR, as well as those with native valve regurgitation. Additional studies are necessary to determine the relationship between LVDFS and post-TAVR outcomes.



CRT-700.36

Dual Antiplatelet Therapy Versus Single Antiplatlet Therapy After Transaortic Valve Replacement: Meta-Analysis

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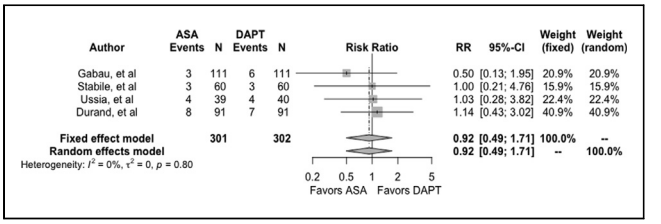
BACKGROUND The current American College of Cardiology/American Heart Association (ACC/AHA) recommends empirical therapy with dual antiplatelet (DAPT) regimen of ASA and clopidogrel for six months after aortic valve replacement (TAVR). This recommendation is based on the expert consensus rather than clear clinical evidence. Given the lack of clear consensus on treatment strategy for ischemic events prevention following TAVR, we performed a meta-analysis of studies comparing aspirin based mono-antiplatelet therapy (MAPT) with DAPT in patients who have undergone TAVR.

METHODS We performed a systematic review and meta-analysis from randomized clinical trials (RCTs) and prospective studies that tested DAPT vs. MAPT for all-cause mortality and major bleeding. The primary efficacy outcomes were 30-days mortality and stroke. The primary safety outcomes were major bleeding and major vascular complications. Secondary safety outcomes included minor bleeding and minor vascular complications.

RESULTS The meta-analysis included 603 patients with 301 receiving MAPT and 302 receiving DAPT. The use of MAPT was associated with similar mortality (MAPT 5.9% vs. the DAPT 6.6%; RR= 0.92; = 95% CI 0.49 to 1.71; P= 0.68) or in major strokes (1.3% vs. 1.3%; RR 1.04; 95% CI 0.27 to 4.04; P=0.81). MAPT was associated with significantly less risk of major bleeding (4.9% vs. 14.5%; RR 0.37; 95% CI 0.20 to 0.70; P<0.01). However there was no difference in major vascular complication (4.2% vs. 8.9%; RR 0.52; 95% CI 0.23 to 1.18; P=0.17), minor bleeding (4.2% vs. 3.6%; RR 1.16; 95% CI 0.43 to 3.10; P= 0.85) or minor vascular complication (4.2% vs. 7.3%; RR 0.58; 95% CI 0.25 to 1.34; P=0.14).

CONCLUSION MAPT use post TAVR is associated with lower risk of major bleeding comparing to DAPT with no significant difference in mortality, stroke or vascular complications risk.



CRT-700.37

Accurate Model to Predict Coronary Obstruction during TAVR

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BACKGROUND Coronary Obstruction (CO) occurrence during TAVR often proves fatal. Existing CO predictive parameters based on coronary height (h) and Sinus of Valsalva diameter (SOVd)[(1,2)] lack 3D geometric information on the aortic root and calcific lesions, and are prone to error. In this study we aim to improve predictive power by incorporating leaflet length (L), coronary artery diameter (d) and calcium nodule size (t).

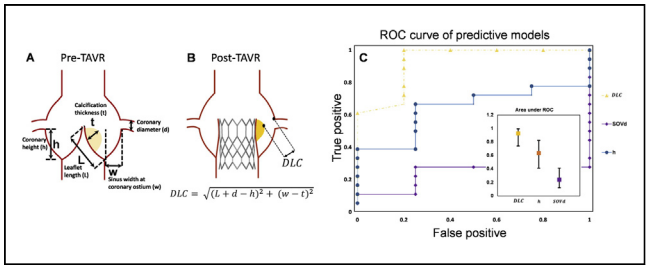
METHODS The study population includes 600 patients who underwent TAVR at The Ohio State University Wexner Medical Center January 2014 to August 2017. To enrich the population in patients at higher risk of CO, patients with h > 14 mm and SOVd > 32 mm were excluded from the screening process, resulting in total 23 patients, 15 women [65.2%], aged 80 ± [8] years (mean ± [SD]). The standard variables (h and SOVd) along with L, d, and t were measured for all

patients (Figure 1A), and the predicted Distance between the Leaflet tip and Coronary ostium after TAV deployment was calculated (Figure 1B).

RESULTS CO had an incidence of 21.7% (5/23) in high-risk population equivalent to 0.83% (5/600) in total, mostly occurring in left coronary artery. The left h and SOVd were 10.7mm +- [3.9] and 30.9mm ± [4.2] respectively. The novel CO predictive parameter *DLC* was 0.97mm ± [0.5]. SOVd and *h* resulted in area under ROC curves [95% CI] = 0.24 [0.12-0.41] and 0.63 [0.41-0.82] respectively, while *DLC* significantly increased the area under ROC curve to 0.92 [0.74-0.99] (Figure 1C).

CONCLUSION With this study a novel criterion was successfully developed to screen for CO during TAVR and assist cardiologists in the pre-TAVR decision-making process. Additional measurements of aortic root variables are recommended for patient at high risk of CO.

REFERENCES: 1. Ribeiro HB, et al. J Am Coll Cardiol 2013;62:1552-62. 2. Yamamoto M, et al. Int J Cardiol 2016;217:58-63.



ASD/PFO OCCLUDERS

CRT-700.38

Patent Foramen Ovale is Not Associated with Neurologic Events in Patients Undergoing Liver Transplantation

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BACKGROUND Patent foramen ovale (PFO) is present in approximately 20% of individuals and may result in transient intra-cardiac shunting, a causative factor for those with cryptogenic cerebrovascular accident (CVA). During liver transplantation (LT), intra-operative transesophageal echocardiography can observe transient intracardiac shunting of atheromatous debris via a PFO. Closure of PFOs prior to LT has thus been suggested as a potential treatment to reduce perioperative CVAs. The objective of this study was to assess if the presence of a PFO is associated with CVAs in patients undergoing LT.

METHODS Three hundred fifty-eight patients undergoing LT at a single academic institution were included. All patients underwent standardized cardiac evaluation including a detailed cardiovascular history and physical examination, electrocardiogram and transthoracic echocardiogram (TTE). Five patients were excluded because of poor TTE image quality, and 3 patients were excluded because of PFO closure prior to LT, yielding a study population of 350. In-hospital events including major adverse cardiovascular events (MACE), death, myocardial infarction and CVA were collected.

RESULTS Mean age was 53.4±10.2 years; 61% male and 5% of patients had a prior history of CVA. Alcohol and hepatitis C were the most common etiologies for liver disease. MELD score at the time of LT was 28.7±11.3. Forty-six patients (13.1%) were diagnosed with a PFO. In-hospital CVA occurred in 6 patients (1.7%). The prevalence of a CVA was not significantly higher in patients with a PFO compared to patients without a PFO, 2.2% vs 1.6%, p=0.57. In-hospital mortality was similar in patients with a PFO compared to patients without a PFO, 4.4% and 5.3%, p=1.0.

CONCLUSIONS The presence of a PFO in patients undergoing LT is not associated with peri-operative neurologic events. Prophylactic closure of PFOs, in the absence of other accepted indications, does not appear to be warranted in patients undergoing LT.

CLOSURE OF VALVE LEAKS

CRT-700.39

Elective Percutaneous Paravalvular Leak Closure Under Monitored Anesthesia Care, Procedural and Clinical Outcomes. First Reported Experience in the United States

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BACKGROUND Paravalvular leaks (PVL) are a well-recognized complication of prosthetic valve replacement. Most are asymptomatic and benign, but some may cause symptoms due to a large regurgitant volume or hemolysis. Surgical repair of paravalvular leak carries significant morbidity and mortality. The percutaneous approach of paravalvular leak is emerging as an alternative treatment for high-risk surgical candidates.

METHODS We investigated a cohort of patients admitted electively for catheter-based treatment of symptomatic prosthetic paravalvular regurgitation from Jan 2013 to June 2017. Both mitral and aortic valve PVLs were studied. Patients demographics, risk factors, procedural indications and outcomes, In-hospital and thirty-day mortality were all reported.

RESULTS A total of 22 patients were included (55% aortic & 45% mitral). Average hospital stay was 1-2 days (1.5 days overall cohort, less than 24 hours for the aortic subgroup). All cases were performed under moderate sedation. Technical success of the procedure was 100%. Procedural success as defined by any significant residual shunt was 77%. No procedural death reported. Short-term mortality during the first 30 days was less than 1%.

CONCLUSION Elective catheter-based repair of symptomatic prosthetic paravalvular regurgitation appears to be safe and effective. The use of moderate sedation with monitored anesthesia care resulted in short hospital stay.

LEFT ATRIAL APPENDAGE

CRT-700.40

Patients Undergoing Left Atrial Appendage Closure Aged Over 80 Years Present More Bleeding Events Than Predicted by HAS-BLED Score. Results of the Ii Iberian Registry

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BACKGROUND The elderly is a sub-group of patients with an increased risk of bleeding events. We explored whether age affects the risk of gastrointestinal (GI) and major bleeding in non-valvular atrial fibrillation patients undergoing left atrial appendage closure (LAAC).

METHODS AND RESULTS The II Iberian Registry compared two populations with non-valvular atrial fibrillation aged < or ≥80 years (465 *vs* 133 patients). Mean age was 71 *vs* 83 ($p<0.001$). CHA_2DS_2-VASc scores were 4.2±1.5 *vs* 5.1±1.4 ($p<0.001$) and HAS-BLED scores were 3.3±1.2 *vs* 3.5±1.1 ($p=0.248$). Events are presented as follow-up adjusted rate deaths: 5.7% *vs* 13.7% ($p<0.001$), stroke: 1.8% *vs* 2.5% ($p=0.56$), ICH: 0.7% *vs* 0.5% ($p=0.64$), GI bleeding: 2.8% *vs* 9.1% ($p<0.001$), and major bleeding: 4.3% *vs* 13.3% (p<0.001) patient-years. A significant decrease in GI bleeding events appears after 1 year with patients aged <80 years (0.5% *vs* 2.9% patient-years).