Moderated Poster Contributions
TCT@ACC-i2 Moderated Poster Theater, Poster Hall B1
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Background: Transcatheter aortic valve replacement (TAVR) is increasingly being performed in cardiac catheterization laboratories using transthoracic echocardiography (TTE) to guide valve deployment. This minimalist approach has been shown to be less costly, and associated with procedural outcomes equivalent to the standard approach that uses transesophageal echocardiography (TEE) guidance for valve deployment. The risk of paravalvular leak (PVL) remains a concern. Whether TTE-guided valve deployment is associated with a higher incidence of paravalvular leak (PVL) is unclear.

Methods: Medical records of 316 consecutive patients (mean age 83±8, 58% male, 89% Caucasians) who underwent TAVR at Emory University Hospital from 2007 to 2013 specifically via the transfemoral approach were reviewed and compared. One hundred and sixty one patients underwent TAVR in the cardiac catheterization laboratory using the transfemoral approach and under TTE guidance, while 155 patients underwent TAVR using the conventional, TEE-guided approach in the hybrid operating room. All patients received an Edwards SAPIEN valve. Clinical characteristics, procedural outcomes and echocardiograms at baseline and follow-up were compared.

Results: There were no significant differences in baseline demographics and echocardiographic characteristics between patients who underwent TTE (EF 48±15%, stroke volume index 39±14, aortic valve area 0.68±0.18, mean gradient 43±16) versus TEE-guided transcatheter valve deployment (EF 47±15, stroke volume index 40±14, aortic valve area 0.66±16, mean gradient 47±17). All procedures performed in the cath lab were successful, without any cases of valve embolization, coronary artery occlusion and annulus rupture. Most importantly, there was no significant increase in mild (23.6% versus 21.0%, p=0.7) and moderate PVL (2.4% versus 4.3%, p=0.3) in patients who underwent TEE and TTE-guided valve deployment respectively.

Conclusion: We found no evidence of increased PVL or complications in patients undergoing TAVR using the minimalist approach. Multicenter studies with larger sample sizes are required to confirm these findings.