**TRANSCATHETER AORTIC VALVE IN VALVE REPLACEMENT: EVALUATION OF MEAN AORTIC ECHOGRAPHIC GRADIENTS**

**R. Radjef1**, D.D. Wang2, B. Fuller3, A. Taylor4, J. Wyman2, J. Borgi5, G. Paone5,

M. Eng2, A. Greenbaum2, W.W. O'Neill2

1. Department of Internal Medicine, Henry Ford Hospital, Detroit, MI, USA

2. Department of Structural heart disease, Henry Ford Hospital, Detroit, MI, USA

3. Department of Cardiovascular Medicine, Henry Ford Hospital, Detroit, MI, USA

4. Department of Public Health Science, Henry Ford Hospital, Detroit, MI, USA

5. Department of Cardiac/thoracic Surgery, Henry Ford Hospital, Detroit, MI, USA

*Background*: Transcatheter Aortic Valve Replacement (TAVR) is performed in deteriorating surgical aortic valves (SAVR) in patients deemed high operative risk. However, there is limited data on acceptable post aortic valve (AV) gradient. This study examines the impact of TAVR in SAVR on mean AV gradient on post procedure follow ups.

*Method*: Between 9/2012-15, 35 patients were referred. Pre, post procedural, 1 month and 1 year follow up echocardiographic data, Brain Natriuretic Peptide (BNP) and New York Heart Association (NYHA) functional class were analyzed.Results:35 patients underwent TAVR in SAVR (12 Edwards Sapien, 17 XT, 5 Medtronic CoreValves, 1 Melody). Mean time interval between surgery and SAVR valve degeneration was 10 ± 2 years; 57% due to stenosis. Post procedure AV gradient (mmHg) decreased from 34.29 ± 18.29 to 16.8 ± 6.77 (p<0.001, n=25), with an increase at 1month to 18.8 ± 8.66 (p=0.001, n=24) and 1 year to 21.91 ± 7.73 (p<0.001, n=16). BNP level decreased at 1 month follow-up (p<0.001) with a trend towards further decrease at 1 year. NYHA functional class improved from baseline III/IV to I at 1 year.

*Conclusion*: Despite variation in echocardiographic follow up of valve in valve mean aortic valve gradients, patients had objective sustained clinical improvement by stable BNP and NYHA classification. Given the variation in surgical valve sizes and TAVR valve sizes, larger studies will be needed to assess for acceptable mean gradients variation post TAVR in SAVR.