



CHANGE IN AORTOMITRAL ANNULAR ANGLE AND ANTERIOR MITRAL VALVE LEAFLET LENGTH AFTER TRANSCATHETER AORTIC VALVE REPLACEMENT: IMPLICATIONS FOR TRANSCATHETER MITRAL VALVE REPLACEMENT?

Poster Contributions
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Background: Patients undergoing transcatheter aortic valve replacement (TAVR) often have concomitant severe mitral regurgitation. A portion of these patients are not anatomical candidates for a mitral clip procedure. Transcatheter mitral valve replacement (TMVR) is a promising alternative, but has a risk of potential left ventricular outflow tract (LVOT) obstruction. We aim to determine the effect of TAVR on aortomitral annular angle (AMAA) and anterior mitral leaflet length (AMLL). AMAA and AMLL are known predictors of LVOT obstruction after TMVR. A low AMAA < 120° may increase the risk of LVOT obstruction.

Methods: Of 41 consecutive patients who underwent TAVR with the Edwards SAPIEN valve between 2/2012 and 7/2014, AMAA and AMLL were measured from a standard parasternal long axis view in mid systole on transthoracic echocardiography. Transthoracic echocardiography was performed prior to and one month (on average) after TAVR. All measurements were performed and reviewed by expert echocardiographers. The mean AMAA values of three separate measurements obtained for each angle before and after TAVR were measured and compared using paired sample T-Test.

Results: AMAA increased from 124±11.6° pre-TAVR to 128.2±13.4° post-TAVR, a mean increase of 4.13° (P=0.016). In patients whose AMAA was less than 120° pre-TAVR, AMAA increased to more than 120° in 44% patients after TAVR. The AMVL increased from 21.35±4.34 mm to 22.74±4.48 mm, a mean increase of 1.39 mm (P=0.002).

Conclusions: AMAA significantly increased after TAVR with Edwards SAPIEN valve; predicting a lower likelihood of LVOT obstruction if the same patients were to undergo TMVR. Further studies are required to confirm and determine the mechanism and significance of these results.