**NON-INVASIVE DIAGNOSTIC DILEMMA FOR LOW FLOW LOW GRADIENT AORTIC STENOSIS**

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Aortic stenosis (AS) is most prevalent in developed countries with an incidence of 2-9% in the elderly population. A subset of patients with AS are those with low left ventricular ejection fraction (LVEF) and low flow low gradient AS (LF-LG). These patients comprise about 5-10 % of the total patients with AS. The underlying etiology for this phenotype is either primarily due to myocardial disease that results in low flow state (decreased stroke volume) and subsequently low gradient or true AS. The discrimination between these two entities is crucial for risk stratification for aortic replacement surgery. LF-LG true AS benefit from surgery because of the decreased three year survival prognosis if treated medically (< 50%). Many non-invasive diagnostic tests have been developed for appropriate differentiation between pseudo and true AS. Low dose dobutamine stress testing is a simple test that differentiates between both entities depending on the degree of augmentation of stroke volume in response to the inotropic effect of the dobutamine and the subsequent changes in the aortic valve area and the trans-valvular gradient. Equivocal test results are a common daily practice dilemma that may require either repeating the test or seeking other expensive non-invasive multimodality imaging e.g.; MDCT, CMR. Recently a new echocardiographic concept called the projected aortic valve (AVAproj) area started to gain broad use given its high predictive ability for underlying true (AS). When (AVA proj) is less than 1.2 cm2, it suggests true severe aortic stenosis. In one of the studies, (AVA proj) had 91 % correct classification for AS compared to other conventional echocardiographic variables. The validity of the (AVAproj) was tested by many and showed more prognostic value for patient outcomes compared to other echocardiographic aortic valve indices.