Usefulness of Intima Media Thickness in Predicting Coronary Artery Disease in Valve Patients (Mitral and Aortic) About to Undergo Valve Replacement

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Background --- We encounter valve patients (mitral and aortic) most of the time at Philippine Heart Center. Evaluation of CAD is needed in most patients before heart valve surgery to minimize morbidity in patients with significant CAD. Coronary angiography is the reference standard, but this invasive procedure is expensive and also carries risk. The recommended work ups for the usual CAD patients are Treadmill Stress Test and 2DEcho but these has limitations especially among valve patients. The signs and symptoms of CAD and risk stratification using the age and gender are not that reliable in assessing risk for CAD. Ultrasound imaging of the arterial wall intima media thickness (IMT) provides information about the vessel wall. Application of this simple non invasive test can provide important prognostication tool to better risk stratify patients at higher risk of cardiovascular events.

Objectives --- To determine the value of IMT in predicting coronary artery disease in valve (mitral and aortic) patients about to undergo valve replacement underwent coronary angiogram.

Methods --- Study population consisted of 19 valve patients who underwent coronary angiogram for suspected CAD. Concomitant carotid scan was done in these patients to measure the carotid intima media thickness.

Results --- Out of 19 patients gathered, 9 (47%) were males and 10 (53%) were females. The mean age of patients was 58 $\pm$ 8 (range: 47 to 75) years with mean BMI of 22 $\pm$ 4. The risk factors of the patients were hypertension 5 (26%), diabetes 5 (26%) and smoking 3 (16%). Mean IMT was 1.04 $\pm$ 0.15 mm. Coronary Angiogram results of patients showed coronary artery disease in 5 (27 %); 1 vessel disease in 2 (11 %) and 2 vessel disease in 3 (16 %). Valve involvement were severe mitral stenosis in 7 (36 %), severe mitral regurgitation in 2 (11%), combined severe mitral stenosis and severe regurgitation in 2 (11%), severe aortic regurgitation in 6 (32%), severe aortic stenosis in 1 (5 %) and combined severe aortic stenosis and severe mitral regurgitation in 1 (5%). In our study, the level of intima media thickness is within normal limits which was correlated with the coronary angiogram result in 74% of the patients which showed insignificant/normal findings. The trend of higher IMT was observed in 2 vessel disease patients. Recommendation for a higher sample size in this study.

Conclusion --- In this study, the level of IMT was not correlated with coronary artery disease which might be due to almost normal findings in the coronary angiogram in 74% of the patients and due to insufficient valve patients undergoing coronary angiogram. However, the trend of higher IMT was observed in 2 vessel disease patients. Recommendation for a higher sample size in this study. ***Phil Heart Center J 2012;16:79.***