Summary

Left atrial enlargement is closely related to the chronicity and intensity of the burden of increased ventricular filling pressure, typically ischemic heart disease (IHD) has a long period of subclinical dysfunction, increased filling pressure reflected by enlarged left atrial size, left atrial volume index (LAVI) is hypothesized to mirror the burden of subclinical and overt IHD, left atrial volume index (LAVI) is a preferred method for determining LA size and provides incremental prognostic information beyond that afforded by clinical risk factors.***(Lester SJ et al., 1999)(Pritchett AM et al., 2003).***

Several reports on the use of DSE in the evaluation of CAD have appeared. Sensitivity has ranged between 68% and 96% and specificity between 60% and 100%. Sensitivity was higher in populations with a significant prevalence of previous myocardial infarction or multi-vessel disease 50% to 95% ***(Nagueh et al., 1996).***

The aim of our study is demonstration that left atrial volume index (LAVI) is a predictor of stress echocardiographic results and consequently as an indicator of ischemic risk.

This study included fifty patients presented to Mahalla Cardiac Center asking for medical examination or for follow up in the period from March 2007 to March 2008.

Inclusion criteria:

Known to be suffering from chronic ischemic heart disease proved by clinical symptoms (e.g. typical chest pain and/or ischemic equivalents) and/or by investigations, or suspected to be ischemic heart disease clinically (complaining from typical chest pain).

Exclusion criteria:

Valvular diseases, Cardiomyopathies, Systemic hypertension, LVH, Contraindications for dobutamine stress echo (DSE) and poor echocardiographic images qualities.

All the patients were subjected to the following:

Careful history taking, Physical examination, ECG (resting), transthoracic echocardiography (resting) to estimate LAVI, Dobutamine stress echocardiography (DSE), and Coronary angiography.

The net result stated that there was significant statistical relation as regard the normal and abnormal LAVI compared with DSE results in the studied patients ($p = <0.001$**)**.

There was a significant relation between a normal LAVI and a

normal stress echocardiogram; thus, a normal resting LAVI could be used as a predictor of low ischemic risk, the negative predictive value for normal LAVI is 70%.

An abnormal LAVI was more likely found with the presence of abnormal wall motion and consequently with abnormal DSE with positive predictive value 78.1%.

Recommendation:

LAVI should be assessed by uniplane Simpson's disk method further for its complementary role in stress testing as a means of enhancing prediction of IHD.