

# Longitudinal Myocardial function assessment namely MAPSE can be a prognostic implication in cardiac syndrome X patients

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## Introduction

Cardiovascular syndrome X defines patients with chest pain, positive stress test, typically ST segment depression and normal coronary arteries in angiography with possible extra cardiac causes of chest pain should be excluded. Several possible causes for small artery dysfunction that are thought to be present in microvascular angina including insulin resistance, inflammation and estrogen deficiency and different patients may have different causes.

## Objective

Evaluation of longitudinal Myocardial function in cardiac syndrome X patients, (patients with coronary microvascular disease CMVD) (patients with chest pain, positive exercise ECG and have normal coronary angiograms) non-invasively using TTDE technique for detection of MAPSE (mitral annular plane systolic excursion) marker .

## Patient & Methods

This study included suspected patients with coronary artery disease ( 90 cases that divided them into two groups ( patients group of 60 patients and 30 normal ) referred for doing routine investigations which done In medical research institute in Alexandria: 1. 12- lead resting ECG. 2. Treadmill stress ECG. 3. Coronary angiography. 4. Transthoracic Doppler Echocardiography TTDE. 5. Dobutamin stress Echocardiography DSE.

## Results

Treadmill exercise ECG taht swohs atad patient group who have exercise time 1.5 mm and post recovery time >6 min are highly risk patients with obstructive coronary diseases. • Mitral annular plane systolic excursion MAPSE marker in detection of longitudinal Myocardial function in patient group has lower MAPSE than control group. • The correlation between CFVR ( coronary flow velocity reserve) and contractile reserve (% change in MAPSE) is a linear relation, as in patient group has lower CFVR so, they have also low contractile reserve.

## Conclusion

Our study concluded that impaired coronary microvascular function could be correlated with a MAPSE reserve as a contractile reserve marker for CMVD and a highly positive results of ETT in form of the long post recovery time and with increased St. segment depression.

TTDE is a non-invasive tool for assessment of CFVR and contractile reserve (%change in MAPSE) even with those having poor windows endocardial contrast echocardiography can be utilized.

A non-invasive echocardiographic marker MAPSE is a predictive marker and may be a prognostic marker in detection of obstructive coronary artery disease and these needs extended future trials to confirm its prognostic value in assessment of CMVD.