



Noninvasive evaluation of coronary flow reserve in cardiac syndrome X patient

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Objective:

Evaluation of the coronary flow reserve 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 and MAPSE marker.

Methods:

This prospective study included 90 patients with suspected CAD, 60 patients with cardiac syndrome X as a (patient group) and 30 patients as a (control group) referred for treadmill exercise ECG, dobutamin stress Echocardiography DSE and transthoracic doppler Echocardiography TTDE.

Result:

- * Coronary flow velocity reserve CFVR measured by TTDE, resulted that, patient group has lower hyperemic CFR than control group.
- * Treadmill exercise ECG data shows that patient group who have exercise time <6 min, st. segment depression >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 CMVD resulted that, patient group has lower MAPSE than control group.
- * The correlation between CFVR and contractile reserve is a linear relation, as in patient group has lower CFVR so, they have also low contractile reserve.

Pharmacotherapy:

According to 2019 ESC guidelines, we should use:

- * Statins
- * Aspirin.
- * Beta blockers(BBs).
- * Calcium channel blockers (Non DHP-CCBs).
- * Angiotensin converting enzyme inhibitors (ACEi).
- * Nitroglycerin.

Conclusion:

- * TTDE is a good non invasive tool for assessment of CFVR●
- * MAPSE marker is the future for assessment of CMVD.