

more severe mitral regurgitation and larger LA volume rather than to the aetiology of cardiomyopathy.

<http://dx.doi.org/10.1016/j.ehj.2013.12.075>

Tissue Doppler image during dobutamine stress for detection of sub-clinical myocardial dysfunction in diabetic patients

Tarek H. Aboelazem, Shaimaa A. Mostafa

Benha faculty of medicine, Cardiovascular department, Egypt.

Background: The prevalence of type 2 diabetes mellitus is rapidly increasing. Myocardial dysfunction may be a consequence of diabetic cardiomyopathy and it contributes to the poor prognosis of diabetic patients.

Aim: Evaluation of subclinical myocardial dysfunction in diabetic patients.

Methods: Thirty patients with type 2 diabetes and thirty control subjects without clinical signs of coronary artery disease and with normal left ventricular function by standard 2D echocardiography, were investigated with DTI at rest and at peak stress echocardiography (DSE). Myocardial function was calculated as mean value from four basal left ventricular segments for the peak velocity at systole (Sm), early diastole (Em), atrial contraction (Am) and ratio E/A.

Results: At rest diabetic patients had significant compromised Em ($P < 0.01$), higher Am ($P < 0.02$), lower E/A ($P < 0.001$) and insignificant Em than in the control group. At stress patients with diabetes showed increased Em by 17.6%, Am by 11.8%, E/A by 6.6% and Sm by 14.6% compared to baseline values. In the control group changes in myocardial function induced by stress were more pronounced: Em increased by 34.3%, Am 15.8%, E/A by 15.4% and Sm by 37.8%. Impaired response of myocardial function during (DSE) in diabetic patients resulted to more significant difference in Em ($P < 0.001$) and significant difference in Sm ($P < 0.001$) between diabetic patients and controls after stress.

Conclusion: Patients with type 2 diabetes have early signs of diastolic and systolic myocardial dysfunction which are more expressed at DSE. Which can be identified by DTI before appearance of signs of cardiovascular disease.

<http://dx.doi.org/10.1016/j.ehj.2013.12.076>

Upregulation of CD40/CD40L system in rheumatic mitral stenosis with or without atrial fibrillation

Hanan Azzam^a, Nashwa K. Abousamra^a, Ahmad A. Wafa^b, Mona M. Hafez^c, Abdel-Hady El-Gilany^d

^a Faculty of Medicine, Department of Clinical Pathology, Mansoura University, Mansoura, Egypt, ^b Faculty of Medicine, Department of Cardiology, Mansoura University, Mansoura, Egypt, ^c Faculty of Medicine, Department of Pediatric, Mansoura University, Mansoura, Egypt, ^d Faculty of Medicine, Department of Public Health, Mansoura University, Mansoura, Egypt.

Abstract: Platelet activation occurs in peripheral blood of patients with rheumatic mitral stenosis (MS) and atrial fibrillation (AF) and could be related to abnormal thrombogenesis.

The CD40/CD40 ligand (CD40L) which reflects platelet activation, mediate a central role in thrombotic diseases.

However, the role of CD40/CD40L system in rheumatic MS with or without AF remains unclear. Expressions of CD40 on monocytes and CD40L on platelets were determined by whole blood flow cytometry and serum levels of soluble CD40L were measured by enzyme-linked immunosorbent assay in group 1 (19 patients with MS) and group 2 (20 patients with MS and AF) compared to group 3 (10 controls).

Patients with groups 1 and 2 had a significant increase in expression of CD40 on monocytes (P1 and P21/40.000) and serum levels of sCD40L (P11/40.014 and P21/40.033, respectively), but nonsignificant increase in expression of CD40L on platelets (P11/40.109 and P21/40.060, respectively) as compared to controls. There were no significant difference in all the parameters in group 1 compared to group 2. Correlation analysis demonstrated that there was a significant direct relationship between the severity of MS and serum levels of sCD40L ($r = 0.469$, $p = 0.043$). In conclusion, rheumatic MS patients with or without AF had upregulation of the CD40/CD40L system as well as elevated sCD40L levels. The levels of sCD40L had a significantly direct relationship with the severity of MS and it was the stenotic mitral valve, not AF, that had a significant impact on platelet activation.

<http://dx.doi.org/10.1016/j.ehj.2013.12.077>

Usefulness of right ventricular isovolumic relaxation time in predicting systolic pulmonary artery pressure

Mohamed Salem El-Baz, Aly Aly Ramzy, Abd-El Aziz Rezk Hassan.

Objective: Assessment of usefulness of right ventricular isovolumic relaxation time measured by Tissue Doppler imaging in predicting systolic pulmonary artery pressure.

Methods: 30 patients, 10 males and 20 females were included in the study. The mean age was (43.7 ± 14.96) years and SPAP was (52.77 ± 23.19) mmHg. 6 patients were hypertensive, 8 patients were diabetic, Referral diagnoses were valvular heart disease ($n = 8$), cardiomyopathy ($n = 3$) and coronary artery disease ($n = 19$) at Bab Al-She'eya University Hospital – Al-Azhar University – Cairo – Egypt, from April 2009 to November 2009. Patients were classified according to systolic pulmonary artery pressure (SPAP) measured invasively through right heart catheterization into two groups: Group I – Patient with systolic pulmonary artery pressure less Than 40 mmHg and this group include 10 patients (normal group). Group II – Patient with systolic pulmonary artery pressure equal or more than 40 mmHg and this group include 20 patients (pulmonary hypertensive group). All the patients had been subjected to the following: Informed consent, Brief history taking, Transthoracic echo-Doppler study with standard views to calculate ESPAP and Tissue Doppler Imaging (TDI) taking the following parameters: – Right ventricular isovolumic relaxation time (r IVRT') & peak systolic tricuspid annular exertion(S').

Results: An analyzable Doppler tricuspid diastolic signal could not be obtained in 2 patients. all of them were in the group of patients without PAH, which means that TR was not recordable in 20% of patients in this group. All patients of the PAH group had an analyzable tricuspid regurgitant jet, there were extremely significant statistical positive correlation between SPAP measured invasively through right heart catheterization and r IVRT' measured by tissue Doppler imaging. (P value < 0.0001 , $r = 0.80$). this correlation improved maximally when patients with elevated RAP (above 8 mmhg) and patients