Abstracts

1159 Systolic and diastolic functions, qt interval and myocardial perfusion imaging in post-viral cirrhosis with and without ascites

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Purpose: The term „Cirrhotic cardiomyopathy“ has been given to describe the cardiac structural and functional abnormalities found in cirrhotic patients. As ascites develops, the quality of life usually becomes worse. Some patients develop dyspnea, edema, dizziness and hemodynamic instability. Therefore, this study aimed to explore some cardiac functions in post-viral cirrhosis; namely the systolic and diastolic functions by Doppler echocardiography, the prevalence of prolonged QT interval by conventional electrocardiogram and evidence of myocardial ischemia by single-photon emission computed tomographic (SPECT) stress imaging.

Methods: The study was conducted in Suez University Hospital. The cohorts were comprised of cirrhotic patients (27 M and 13 F, mean age of 59.7±6.10), 20 of them had ascites. Cirrhosis was due to HCV in 37.92% (55 HBV and in 3 (7.5%). No evidence of schistosomal liver disease was found by ultrasonography. The controls were 10 healthy volunteers (5 M and 5 F, mean age = 57.8±5.0).

Results: Compared to controls, cirrhotics had lower mean arterial blood pressure (p<0.0421), lower cholesterol, LDL and triglycerides (p=0.0001 for each) and HDL (p<0.05). Cirrhotics had normal left ventricular dimensions and significantly enlarged right ventricular dimensions (P=0.440 seconds) was found in 18/40 patients (45%) vs 1/10 controls (10%) (p=0.044) with no relation to the severity of liver disease. A mild perfusion defect was found in only 1/40 cirrhotic (2.5%) vs 2/10 controls (20%) (p=0.097).

Conclusion: Cirrhotic patients showed right ventricular enlargement, normal left ventricular dimensions and normal systolic function. However, patients with ascites were more likely to have diastolic dysfunction. Although prolonged QT interval is common in cirrhotic patients, myocardial ischemia seems to be uncommon.

1160 Predictors of large volume paracentesis induced circulatory dysfunction in patients with massive hepatic ascites

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Purpose: In patients with massive ascites, large volume paracentesis may be associated with cardiovascular complications as circulatory dysfunction. Selection of appropriate patients might reduce such side effects.

Methods: Forty-five patients known to have liver cirrhosis and presenting with massive ascites were included. There were 27 males and 18 females, with age (mean 51.2±10.64). All patients were subjected to full history, clinical examination, complete blood picture, prothrombin time, serum albumin, plasma renin activity measured by radioimmunoassay. Echocardiographic evaluation for cardiac output, pulmonary artery pressure, diastolic and systolic function was performed before and after paracentesis.

Results: The incidence of paracentesis - induced circulatory dysfunction in patients with massive hepatic ascites was 73.3% and increased with the severity of the disease. Younger patients were at higher risk while diabetics and hypertensives were at lower risk. Gender had no influence. Lower limb edema was a good indicator of circulatory dysfunction. Aspartic patients showed higher heart rate.

Neither electrolytes levels nor hematocrite value had an influence (p=0.998) and (p=0.506) respectively. In cirrhotic patients with tense ascites the A wave velocity and deceleration time of the E wave were markedly increased and the E/A ratio was markedly reduced. Ejection fraction had similar values of the normal patients with a tendency to increase after paracentesis (ejection fraction mean 58.6±9.9 and 61.1±11.6 before and after paracentesis respectively p value=0.026).

Conclusion: Left ventricular diastolic function is altered in cirrhosis which is more marked in the presence of ascites. This may represent the early stage of hepatic cardiomyopathy. The incidence of paracentesis-induced circulatory dysfunction in the prevalence of oedematous patients increased with the severity of the chronic liver disease. Younger patients were at higher risk while diabetics and hypertensives were at lower risk.

1161 Left ventricular pump function and myocardial contractility in patients with type-1 myotonic distrophy on beta-blocker therapy

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Purpose: In patients with dilated cardiomyopathy (DCM), the evaluation of the systolic function has an important role for prognosis and therapy. Ejecction fraction, normally used to assess systolic function, is influenced by preload and afterload. Intrinsic myocardial contractility, instead, is the capacity of cardiac myocytes to generate force and to shorten, independently from hemodynamic conditions. Echocardiographic assessment of myocardial contractility is made using the relationship between end-systolic wall stress (ESS) and left ventricular fractional shortening (FS) or between ESS and heart rate corrected velocity of circumferential fiber shortening (VCFc). Circumferential wall stress is more appropriated when left ventricular shape is altered. ESS is inversely correlated to both FS and VCFc.

Methods: 27 patients with DCM, not still treated with beta-blockers, were included in the study. ESS - FS relationship was assessed at baseline and six months after up-litration phase with carvedilol was ended.

Results: All patients, at baseline, had depressed intrinsic myocardial contractility (red squares in fig. 1. Carvedilol therapy significantly reduced ESS and increased FS (green circles in fig. 1). In 20 of 27 patients (74%) myocardial contractility increased until reentering in the normality range, while in the other 7 patients (26%) there was an increase in FS without normalization of ESS-circumferential VCFc. The term “Cirrhotic cardiomyopathy” has been given to describe the cardiac structural and functional abnormalities found in cirrhotic patients. As ascites develops, the quality of life usually becomes worse. Some patients develop dyspnea, edema, dizziness and hemodynamic instability. Therefore, this study aimed to explore some cardiac functions in post-viral cirrhosis; namely the systolic and diastolic functions by Doppler echocardiography, the prevalence of prolonged QT interval by conventional electrocardiogram and evidence of myocardial ischemia by single-photon emission computed tomographic (SPECT) stress imaging.

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Results: Compared to controls, cirrhotics had lower mean arterial blood pressure (p<0.0421), lower cholesterol, LDL and triglycerides (p=0.0001 for each) and HDL (p<0.05). Cirrhotics had normal left ventricular dimensions and significantly enlarged right ventricular dimensions (P=0.440 seconds) was found in 18/40 patients (45%) vs 1/10 controls (10%) (p=0.044) with no relation to the severity of liver disease. A mild perfusion defect was found in only 1/40 cirrhotic (2.5%) vs 2/10 controls (20%) (p=0.097).

Conclusion: Cirrhotic patients showed right ventricular enlargement, normal left ventricular dimensions and normal systolic function. However, patients with ascites were more likely to have diastolic dysfunction. Although prolonged QT interval is common in cirrhotic patients, myocardial ischemia seems to be uncommon.

1162 Chloroquine cardiotoxicity: a case of reversible cardiomyopathy

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Background: Chloroquine (CQ) is an antimalarial agent used in the treat- ment of rheumatological disease. Severe adverse effects have been described during long-term treatment; respect to cardiac toxicity, this drug may in- duce restrictive or dilated cardiomyopathy and conduction disturbances.

Case report: We report the case of 54 year-old man with rheumatoid arthritis in treatment with CQ (250 mg/d) for 6 years. We was admitted to our hospital with congestive right heart failure. The ECG showed synus bradycardia, first degree AV block and right bundle branch block. The chest radiograph showed mild cardiac enlargement with mild signs of pulmonary congestion. The echocardiogram showed increased wall thickness of both ventricles, LV preserved systolic function and right ventricular dysfunction, with signs of biventricular restrictive physiology (E/A ratio =3 in mitral inflow, IVC diameter =25 mm). The coronary angiography and haemodynamic study revealed no significant coronary artery stenosis, equalization of right and left diastolic pressures and dip-plateau configuration in the ventricular diastolic pressure trac- k. An endomyocardial biopsy of the RV was obtained and the ultrastructural examination demonstrated the presence of curvilinear bodies, myeloid bod- ies and large secondary lysosomes diagnostic of chloroquine toxicity.

Follow up: Once stopped CQ treatment, a definitive pacemaker was im- planted and the patient has been followed-up for 18 months. He has im- proved his functional situation (now, he is in NYHA class II), signs of heart failure have disappeared with lower dosage of furosemide (currently 40 mg/d).

Chloroquine cardiotoxicity parameters have also improved (E/A ratio =1.4, IVC di- ameter =18 mm).

Conclusion: CQ cardiotoxicity is an unusual complication with a few cases reported. The poor prognosis and its potential reversibility make essential an early diagnosis confirmed by biopsy. We have not found any other case in literature with cardiomyopathy and conduction disturbances, with histopatho- logical study and proved reversibility in the follow-up.

1163 Contribution of myocardial performance index to assessment of left ventricular function in patients with type-1 myotonic distrophy

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Background: The myocardial performance index (MPI) is a fairly new mea- surement of myocardial function and may abnormal in a variety of cardiac conditions when standard measures of ventricular function are normal.

Aim of the study: This study was undertaken to determine if the MPI could provide additional information on myocardial function in patients with type 1 myotonic distrophy (DM1) and normal myocardial systolic function.

Methods: 30 patients with DM1 (male 15, mean age 44 ±12 years) and 30 comparable healthy subjects were studied. All subjects performed conven- tional two-dimensional Doppler echocardiography.

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