**Results** The BNP and serum cystatin C levels were positively correlated significantly with E/E' ratio (r=0.786, p<0.001 and r=0.458, p=0.02). Patients with elevated LV end diastolic pressure (LVEDP), defined as E/E'>15 had highest BNP (321±78pg/mL) and cystatin C (1.1±0.2mg/L) levels. E/E' 10 to 15 group had a mean BNP level of 151±28pg/mL and a mean cystatin C value of 0.78±0.1mg/L. and those with E/E'<10 had a mean BNP value of 69±20pg/mL. A BNP value of 89pg/mL had a sensitivity of 84% and a specificity of 69% for predicting E/E'>15.

**Conclusion** The assessment of the blood concentration of BNP and cystatin C is of potential value for identification of those patients after myocardial infarction to detect early cardiovascular changes, especially LV diastolic dysfunction.

*The author hereby declares no conflict of interest*

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**0540**

**Relationship between functional capacity and diastolic function in chronic heart failure patients**

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**Background** Dyspnea is the frequent cause of exercise intolerance and physical inactivity among chronic heart failure patients. Diastolic dysfunction has shown significant correlation with exercise capacity. The aim is to study whether there is interaction between left ventricular diastolic dysfunction and functional capacity in our CHF patients.

**Methods** 1613 consecutive ambulatory patients with chronic heart failure were enrolled from 2006 to 2013 and registered in the therapeutic unit of chronic heart failure. Clinical, echocardiographic and biological data were investigated. We divided our patients into 2 groups as follow: group 1 with reduced filling pressure (64 years, 67% were male), group 2 with elevated filling pressure (EFP) (69 years, 61% were male). We analyzed New York heart association (NYHA) status and the 6 minutes' walk test. Assessment of diastolic function as determined by Doppler-derived mitral and pulmonary venous flow velocities recorded by transthoracic pulsed Doppler echocardiography.

**Results** There was no significant difference in baseline characteristic and ejection fraction. The mean of 6 minutes’ walk in groups were 349 and 212m respectively.

Group 2 (EFP) was significantly associated with more NYHA grade III/IV (p=0.00001), inversely associated with NYHA grade I/II (p<0.0001). The 6 minutes’ walk test was shorter in EFP patients than others (p<0.01). There was a significant correlation between diastolic dysfunction and cardiac decompensation (p=0.00001), right ventricular dysfunction (p=0.00001), pulmonary hypertension (p=0.00001), dilated vena cava and higher doses of diuretics (p=0.00001). Also, beta-blockers were inversely associated (p<0.0001).

**Conclusion** Diastolic dysfunction is significantly associated with impaired functional capacity and dyspnea among CHF patients.

*The author hereby declares no conflict of interest*

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**0480**

**Factors of improvement of physical ability after exercise training program in heart failure patients with reduced ejection fraction**

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**Introduction** Exercise training is a fundamental part of heart failure with reduced ejection fraction (HF-REF) treatment. It reduces mortality and hospitalizations and improves functional capacities. The aim of this study was to