

## Correlation of body mass index with left ventricular function

Rajesh Pandey, D.S. Chadha, S.K. Malani, P.K. Hasija, A.K. Ghosh, N. Bajaj

MH (CTC), Pune, India

**Background:** Obesity is associated with increased cardiovascular morbidity and mortality. A direct effect of isolated obesity on cardiac function is not well established. Study was designed to determine the direct effect of different grades of isolated obesity on echocardiographic indices of systolic and diastolic left ventricular function.

**Methods:** Fifty one obese and 25 normal weight serving personnel were studied. They had no other pathological condition. Group I consisted of subjects with normal weight ( $n=25$ , body mass index (BMI)  $<25$ ), group II consisted of overweight subjects ( $n=34$  BMI 25–29.9 kg/m<sup>2</sup>), and group III consisted of obese subjects ( $n=17$  BMI  $>30$  kg/m<sup>2</sup>). Echocardiographic indices of systolic and diastolic function were obtained, and dysfunction was assumed when at least two values differed by  $1.2$  SD from the normal weight group.

**Results:** Ejection fraction, fraction shortening were increased ( $p<0.05$ ) in group II and III. Left ventricular dimensions were increased ( $p < 0.001$ ) but relative wall thickness was unchanged. Systolic dysfunction was not noted in any of the obese patients. The mitral valve pressure half time ( $p < 0.01$ ), left atrial diameter ( $p < 0.01$ ) and the deceleration time were increased ( $p < 0.01$ ) in obese subjects; all other diastolic variables were unchanged. No differences were found between obesity subgroups. Sub clinical diastolic dysfunction was more prevalent among obese subjects. BMI correlated significantly with indices of left ventricular systolic and diastolic function.

**Conclusions:** Sub clinical left ventricular diastolic dysfunction was noted in all grades of obesity and correlates with BMI.

## Left ventricular non compaction – A tertiary care study

H.J. Pawar, Z.F. Shaikh, A.R. Taksande, H. Shah, A.U. Mahajan, P.J. Nathani

LTMG Hospital, Mumbai, India

**Background:** To analyse the clinical profile of cases of Left Ventricular Non Compaction (LVNC), a condition characterized by excessive and prominent Left Ventricular (LV) trabeculations which may be associated with LV systolic dysfunction.

**Methods:** Eighteen cases from January 2013 to July 2014 with echocardiographic evidence of hypertrabeculation of LV were evaluated by clinical examination, electrocardiographic (ECG) and echocardiographic features. Diagnosis was based on 3 published definitions.

**Results:** Out of 18 cases of LVNC (12Males: 6Females) aged between 3yrs and 60 years, isolated LVNC was seen in 12 cases and rest of the cases were associated with congenital heart disease (CHD), Rheumatic Heart Disease (RHD) and Coronary Artery Disease (CAD). All patients were previously undiagnosed cases of LVNC. Left ventricular ejection Fraction ranged from 15 – 50 % in these cases.

**Conclusions:** This study demonstrates the increased detection of patients fulfilling echocardiographic criteria of LVNC and its association with other disorders. It shows that milder phenotypes exist and the disease is detected incidentally detected in some cases.

## Role of dynamic echocardiography in the assessment of aortic regurgitation

P. Anandharaj, M.S. Ravi, K. Meenakshi, D. Muthukumar, N. Swaminathan, G. Ravishankar, G. Justin Paul, S. Murugan, G. Manohar, S. Venkatesan

Madras Medical College, Chennai, India

**Background:** Dynamic auscultation is done in bedside to aid clinical diagnosis. Aortic Regurgitation murmurs increases on sustained hand grip. Hand grip exercise increase sympathetic tone which leads to increase in peripheral vascular resistance. There is increase in regurgitation and murmur increases. This study is done to assess echocardiography changes of Aortic Regurgitation with isometric hand grip exercise.

**Methods:** Study consist of 30 patients with predominant Aortic Regurgitation with normal LV function are assessed for Aortic Regurgitation with continuous wave and color doppler. Pressure Half Time, Venacontracta and regurgitation color jet width assessed at rest and with sustained hand grip for 30 seconds.

**Results:** In patients with mild Aortic Regurgitation, at rest, the mean PHT, Vena contracta and color jet width are 529 msec, 0.28cm and 23% respectively. On sustained hand grip, the mean PHT, Vena contracta and color jet width are 479 msec, 0.35cm and 33% respectively. There is a decrease of 50msec in mean PHT and the vena contracta and color jet width increases by 0.7cm and 10% respectively. In patients with moderate Aortic Regurgitation, at rest, the mean PHT, Vena contracta and color jet width are 300 msec, 0.46cm and 50% respectively. On sustained hand grip, the mean PHT, Vena contracta and color jet width are 260 msec, 0.51cm and 57% respectively. There is a decrease of 40msec in mean PHT and the vena contracta and color jet width increases by 0.5cm and 7% respectively.

**Conclusion:** We conclude that isometric hand grip has a distinct effect on the echocardiography parameters of aortic regurgitation. Dynamic echocardiography can be a useful modality in the assessment of aortic regurgitation.

## Assessment of RV function following percutaneous transvenous mitral commissurotomy (PTMC) for rheumatic mitral stenosis

H.S. Natraj Setty, K.S. Ravindernath, Kumar Swamy, C.N. Manjunath

Sri Jayadeva Institute of Cardiovascular Sciences and Research, Bangalore, India

**Background:** Abnormalities of right ventricular function play an important role in the development of clinical symptoms and the overall prognosis of patients with mitral stenosis. RV function may be affected either by the rheumatic process directly or through haemodynamic changes due to pulmonary vascular