Right ventricular affection assessed by tissue Doppler in pediatric dilated cardiomyopathy patients

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Dilated cardiomyopathy is not purely a disease of the left ventricle. Tissue Doppler imaging plays an essential role in evaluation of left and right ventricular functions. Aim of the work: we aimed to assess right ventricular systolic and diastolic functions in patients with dilated cardiomyopathy and to detect how much the right ventricular function impairment is correlated with the left ventricular function using tissue Doppler echocardiography.

Methods: cross sectional analytical study was conducted on 30 cases with dilated cardiomyopathy their ages ranging from 2 months to 12 years with median age of 2.2 years in addition to 30 age and sex matched controls. Both cases and controls were subjected to tissue Doppler echocardiography. LV dimensions were measured from M-mode and LV systolic function was calculated. Right ventricular function was assessed by Doppler tissue S', E' and A' waves; RVMPI; TAPSE and RVFAC.

Results: Right ventricular systolic and diastolic functions in dilated cardiomyopathy were significantly impaired. Tricuspid S', E' and TAPSE were significantly reduced (p < 0.05). Tricuspid S' and E' waves were decreased significantly with decreasing LV FS (r=0.518, r=0.481) respectively. Conclusion: right ventricular function is definitely impaired in patients with dilated cardiomyopathy and this function impairment is correlated to the severity of left ventricular dysfunction.