Prevalence and predictors of left ventricular diastolic dysfunction in chronic hemodialysis patients : tissue Doppler study

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The incidence of heart failure with preserved left ventricular systolic function (HFPSF) has recently increased and now comprises nearly 50% of congestive heart failure patients. E/e’ has been widely used for assessment of LV diastolic function, because parameters from TDI are less influenced by LV preload than parameters from conventional Doppler echocardiography.The study was done on 50 patients who were aging from 30 to 50 years old, on H.D. from ≥ 3 months to ≤ 5 years and not diabetic, hypertensive or cardiac before. They were submitted to history taking, measuring of systolic and diastolic blood pressure in mmHg, heart rate in beat/min, body weight in Kg, height in m., body mass index, some laboratory tests, convensional echocardiographic and TDI assessment.This study showed that age (p=0.001) and history of dialysis (p=0.000) was significantly higher in group II. There was no significant difference in other patient characteristics. There was no significant difference in biochemical characteristics. Analysis of the echocardiographic data of the two groups showed no significant differences in aortic dimension, left atrial dimension, LVDd, EF, DT, and PWT between the two groups. However, the values of the LVMI was higher in the E/e’ > 15 group than the ≤ 15 group and E/A ratio was higher in the E/e’≤15 group. There was a significant positive correlation between LVMI and E/e’ (p = 0.022).So we demonstrated in this study that LVMI is a determinant of LV diastolic dysfunction assessed by the TDI method. Prevention of progression to LVH may preserve LV diastolic function in patients on HD.