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Assessment of the LA myocardial function and size using tissue doppler imaging echocardiography in end-stage renal disease patients on regular hemodialysis

Concerning the high mortality and morbidity rates among the end stage renal disease patients the cardiovascular disease is a major cause of mortality and morbidity. The purpose of this study was to assess the LA myocardial function and size using tissue Doppler imaging echocardiography (TDI) in end-stage renal disease (ESRD) patients on regular hemodialysis to be used as a mirror of left ventricular function for early prediction of subclinical left ventricular diastolic dysfunction prior to heart failure in hemodialysis patients. We studied 75 subjects (30 women and 45 men, mean age 48 years). The study population was then divided in two groups: group I hemodialysis patients (50) and group II apparent normal subjects (25). Trans mitral and pulmonary vein flow velocity tracings were obtained simultaneously by pulsed wave tissue Doppler echocardiography then pulsed tissue Doppler interrogation of the left atrial wall, a tri phasic signal was recorded in all patients, consisting of a positive wave (A1) followed by two negative waves (A2 and A3) which revealed that hemodialysis patients (group I) showed a pattern with a prominent A2 wave and an A2/A3 ratio >1. In normal subjects (group II) peak velocity of the A2 wave diminished and peak velocity of the A3 wave also diminished, so that the A2/A3 ratio was >1. We found a differences in peak velocity of the A1 wave between the two groups (13.5 (4.9) cm/s in group I vs. 8.1 (2.4) cm/s in group II; $P < 0.001$). Significant concordance was observed between the Trans mitral flow pattern and the left atrial pulsed tissue Doppler tracing ($\kappa = 0.584$; $P < 0.0001$). We concluded that evaluation of the left atrial wall using pulsed tissue Doppler imaging is feasible and reproducible. Tissue Doppler imaging provides new quantitative insights of potential use in the assessment of left atrial size and function for early prediction of subclinical left ventricular diastolic dysfunction in hemodialysis patients

Biography

Hesham Mohamed Hussien Abdelkawy Hassan is an Egyptian Physician. He has completed his MD at Cairo University in 1994; Master's degree in Nephrology and Renal Dialysis with training in Lyon, France and; PhD clinically attached in Kidney Transplantation from Pisa University, Italy. He has published his papers in reputed journals. He has experience in Nephrology, Renal Replacement Therapies and Transplantation through direct contact with excellent staff of university institutions, hospitals and dialysis centers in Egypt, France, Italy, Kuwait and Saudi Arabia

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