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Changing Left Ventricular Hypertrophy After Kidney Transplantation

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Abstract : Background: Cardiovascular mortality in chronic kidney disease (CKD) and end stage renal disease (ESRD) patients have a strong relationship with baseline or progressive left ventricular hypertrophy (LVH) meanwhile in hemodialysis patients 10% decrement in left ventricular mass was associated with 28% reduction in cardiovascular mortality risk. In consonance with these arguments, we designed a study to measure morphological and functional echocardiographic variations early after transplantation. Method: The patients with normal renal function underwent two advanced echocardiographic studies to examine the structural and functional changes in left ventricular mass before and 3-month after transplantation. Results: From a total of 23 participants 21(91.3%) presented with left ventricular hypertrophy, 60.9% in eccentric and 30.4% in concentric group. Diastolic dysfunction improved in concentric group after transplantation. Both in pre and post transplantation global longitudinal strain (GLS)- average in eccentric group was more than concentric (-17.45 ± 2.75 vs -14.3 ± 3.38 p=0.03) and (-18.08 ± 2.6 vs -16.1 ± 2.7 p= 0.04) respectively. Conclusion: Improvement and recovery of left ventricular function in concentric group was better and sooner than eccentric after kidney transplantation. Although fractional shortening and diastolic function and GLS-4C in pre-transplantation in concentric group was worse than eccentric, but therapeutic response to kidney transplantation in concentric was more and earlier than eccentric group.

Keywords : chronic kidney disease, end stage renal disease, left ventricular hypertrophy, global longitudinal strain
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