

THE RELATIONSHIP BETWEEN LEFT VENTRICULAR EJECTION AND RENAL FUNCTION, BLOOD PRESSURE, SERUM ALBUMIN AND HEMOGLOBIN LEVELS IN CHRONIC KIDNEY DISEASE PATIENTS

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BACKGROUND:

Cardiovascular complications are considered the main cause of morbidity and mortality of chronic kidney disease (CKD) patients.

OBJECTIVES:

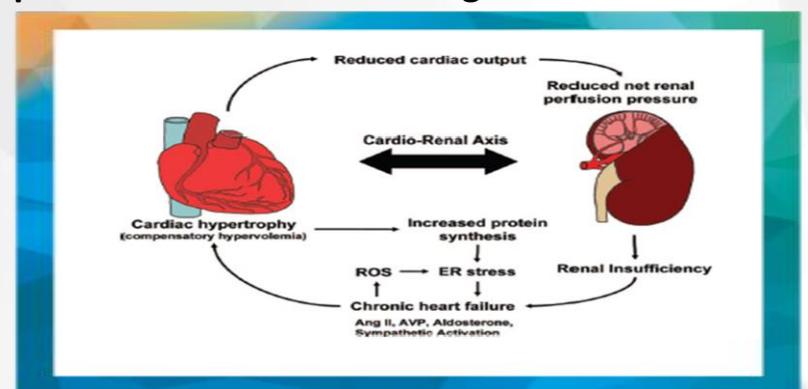
To evaluate retrospectively the relationship between left ventricular ejection fraction (LVEF) and renal function, blood pressure, serum albumin and hemoglobin levels in CKD patients stage 2-4. All patients were managed by multidisciplinary team including nephrologist, cardiologist, dietician and nursing as well as learning meetings with community clinical staff.

METHODS:

The medical records of 70 CKD patients stage 2-4 were evaluated retrospectively. At baseline, demographic variables and LVEF were documented. eGFR, blood pressure, serum albumin and hemoglobin were recorded every 6 months for 24 months.

RESULTS:

- ✓ LVEF of 32 (45.7%) of the enrolled CKD patients was $\leq 35\%$ (mean 29.1 ± 3.7) and their mean eGFR was 23.8 ± 2.7 ml/min/1.73m². LVEF of 38 (54.3%) other enrolled CKD patients was $>35\%$ (mean 55.3 ± 6.7) and their mean eGFR was 36.6 ± 2.1 ml/min/1.73m².
- ✓ LVEF was positively and significantly correlated with eGFR ($r = 0.57$, $p < 0.001$), mean arterial pressure (MAP) ($r = 0.34$, $p = 0.025$), serum albumin ($r = 0.43$, $p = 0.008$) and hemoglobin ($r = 0.36$, $p = 0.017$).
- ✓ Average rate of hospitalizations through the study period was 3.7 admissions among patients with LVEF $\leq 35\%$ compared to 0.9 in those with LVEF $> 35\%$. 25% of patients with LVEF $\leq 35\%$ started dialysis within 24 months compared to 5.3% of those with LVEF $> 35\%$. 18.8% of patients with LVEF $\leq 35\%$ and 15.8% of those with LVEF $> 35\%$ died within the study period. 66.7% of died patients were with CKD stage 4.



CONCLUSION:

Decreased LVEF was associated with worsen renal function, lower blood pressure, decreased serum albumin and reduced hemoglobin levels. Patients with LVEF $\leq 35\%$ had higher rates of hospitalizations and dialysis initiations. Such patients should be strictly managed and followed by multidisciplinary team in order to improve their outcomes.

