Hypertension is common in patients with chronic renal failure (CRF) and although it has been related with higher cardiovascular mortality, this is controversial. The relationship between hypertension before introducing to the first treatment for end-stage renal disease, and mortality during kidney transplantation was studied. Other potential risk factors such age, sex, renal disease, comorbidity, past history of atherosclerosis (heart, cerebral or peripheral arteries ischemic disease), electrocardiographic left ventricular hypertrophy (LVH), X-ray vascular calcifications (VC) and serum albumin concentration were also taken into account. Patients and Methods. From the 242 patients, 230 were enrolled. Prevalence of NH, c-HT and un-HT was 28% (n = 66), 43% (n = 99), and 29% (n = 65) respectively. Left ventricular hypertrophy was higher in hypertensive patients (NH 10% (n = 7) vs c-HT 43% (n = 39) vs un-HT 46% (n = 31), p = 0.000), as well as X-ray vascular calcifications (NH 8% (n = 2) vs c-HT 52% (n = 12) vs un-HT 39% (n = 9), p = 0.1157). Survival rates at 1, 3, 5, and 10 years of the un-HT group were significantly worse (Log-Rank test, p = 0.0087). Uncontrolled hypertension (RR: 3.89 (1.44-10.5), p = 0.007), past history of atherosclerosis (RR: 2.80 (1.12-6.98), p = 0.025) and vascular calcifications (RR: 2.38 (1.07-5.25), p = 0.029) were independent predictors of mortality. Serum albumin concentration showed a protecting effect (RR = 0.5 (0.27-0.99), p = 0.044). In addition, the percentage of uncontrolled hypertensive patients during kidney transplantation was significantly higher in the uncontrolled hypertensive group in predialysis regarding the controlled hypertensive and normotensive groups in predialysis (22% (n = 14) vs 6% (n = 3) vs 4% (n = 2)). Conclusion. Predialysis uncontrolled hypertension and comorbidity are independent predictors of mortality in hemodialysis patients. Uncontrolled hypertensive patients during predialysis are worse controlled during hemodialysis. In addition, these results suggest association between history of atherosclerosis and left ventricular hypertrophy with hypertension.

Key Words: Hypertension, Hemodialysis, Survival