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The association between transferrin saturation and all-cause mortality in chronic kidney disease

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Objectives: This study aimed to evaluate the association between transferrin saturation (TSAT) and all-cause mortality in patients with non-dialysis chronic kidney disease (CKD).

Methods: We analyzed 2,169 subjects from a CKD cohort whose TSAT levels were evaluated at enrollment. Subjects were categorized into quintiles according to TSAT. The primary outcome was all-cause mortality during the follow-up period. Cox proportional hazards models with adjustments were used to analyze the association between TSAT and mortality.

Results: The mean subject's age was 53.7 ± 12.2 years and the estimated glomerular filtration rate was 53.0 ± 30.7 ml/min/1.73m^2. During the follow-up period of 66.9 ± 26.8 months, 137 (6.4%) subjects died. There were many dead subjects in the 1st quintile TSAT group (TSAT min, max: 2.9-21.8 %, n = 44 (10.2%); P = 0.004). After adjustment, the 2nd (Hazard ratio [HR]: 0.55; 95% confidence interval [CI]: 0.32–0.96; P = 0.035), 3rd (HR: 0.39; 95% CI: 0.20–0.75; P = 0.005), and 4th (HR: 0.38; 95% CI: 0.17–0.86; P = 0.020) quintiles concerning TSAT showed significantly decreased all-cause mortality compared to the 1st quintile group. The 5th quintile TSAT group (TSAT min, max: 40.3-99.6%) was not significantly different in all-cause mortality compared to the 1st quintile group.

Conclusions: The 2nd, 3rd, and 4th quintile TSAT groups showed significantly decreased mortality compared to the 1st quintile TSAT group. Proper control of TSAT is important in CKD patients.