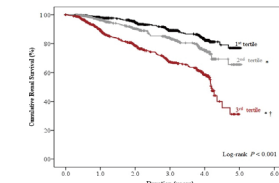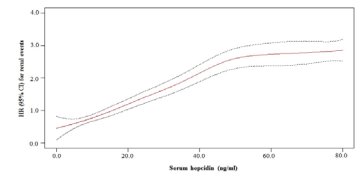# Serum hepcidin levels independently predict the progression of chronic kidney disease: KoreaN cohort

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Background/Aims: Studies which examined the clinical significance of serum hepcidin levels on the progression of chronic kidney disease (CKD) have been sparse. We examined the association between serum hepcidin levels and the renal events development in CKD patients. **Methods:** We reviewed data of 2238 patients from a large-scale multicenter prospective CKD cohort study and excluded 198 patients with missing data on serum hepcidin, hemoglobin, transferrin saturation, ferritin, and usage of erythropoiesis-stimulating agents or iron, and 130 patients who missed the follow-up of renal events. We finally included 1910 patients. Renal events were defined as a >50% decrease in kidney function from the baseline values, doubling of serum creatinine, or dialysis initiation. **Results:** During a mean of 2.4 years, 333 patients developed renal events (17.4%). In penalized smoothing splines curve analysis, the hazard of renal events steadily increased with the increase of serum hepcidin levels. In multivariate Cox-proportional hazard regression analysis, the hazard ratio and its 95% confidence interval in the second and third serum hepcidin tertile were 1.475 (1.051-2.070, p=0.025) and 1.679 (1.190-2.369, p=0.003), respectively, compared to the first serum hepcidin tertile. In subgroup analysis, young male patients with lower levels of hemoglobin and transferrin saturation, and higher ferritin were affected more by increased serum hepcidin levels. **Conclusions:** Increased serum hepcidin levels independently predict the progression of CKD in non-dialysis CKD patients. Young male anemic patients with disturbed iron metabolism tended to be affected more by the increased serum hepcidin levels.