CHRONIC KIDNEY DISEASE.
NUTRITION, INFLAMMATION AND
OXIDATIVE STRESS

SP415 SERUM FERRITIN LEVEL IS AN INDEPENDENT RISK FACTOR FOR ALL-CAUSE MORTALITY IN INCIDENT HEMODIALYSIS PATIENTS

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Introduction and Aims: Serum ferritin has been regarded as an indicator of inflammation as well as a marker of body iron storage in patients with end-stage renal disease (ESRD). In addition, high serum ferritin levels were significantly associated with poor clinical outcomes in prevalent dialysis patients. However, little is known about the prognostic impact of serum ferritin concentrations on the clinical outcome in incident hemodialysis (HD) patients.

Methods: A prospective cohort of 939 incident HD patients from 36 dialysis centers of the Clinical Research Center for ESRD in Korea was selected for this study. Serum ferritin levels were measured at the time of HD initiation. Patients were divided into tertiles according to log ferritin concentrations: <2.17, 2.17-2.50, and >2.50 ng/mL. Cox proportional hazard analysis was performed to determine the independent prognostic value of serum ferritin levels for all-cause mortality.

Results: The median ferritin concentrations were 217.8 (118.7-381.1) ng/mL. Pearson’s correlation analysis showed that log ferritin levels were positively correlated with white blood cell counts (r=0.108, P=0.001) and log C-reactive protein concentrations (r=0.151, P<0.001), while negatively associated with serum albumin levels (r=-0.116, P<0.001). During a median follow-up duration of 20.7 months, 85 (9.1%) patients died. Kaplan-Meier analysis showed that all-cause mortality rates were significantly higher in the highest tertile ferritin group compared to the lowest tertile group (P<0.001).

Multivariate Cox proportional hazard analysis demonstrated that log ferritin was independently associated with an increase in all-cause mortality risk after adjustment for confounding variables (per 1 ng/mL increase, hazard ratio=2.62, 95% confidence interval=1.45-4.73, P<0.001).

Conclusions: Serum ferritin concentration was a significant independent predictor of all-cause mortality in incident HD patients, suggesting that determining serum ferritin levels might be helpful to stratify mortality risk in these patients.