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## **Increased adiposity, ferritin levels, and mortality among prevalent peritoneal dialysis patients**

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**Objectives:** Obesity is a common health problem in patients undergoing peritoneal dialysis (PD) and is one of the most common causes of high ferritin levels. However, mixed results have been reported on whether high serum levels of ferritin affect the prognosis of PD patients. Here, the effect of increased adiposity on ferritin levels and its relationship with mortality were evaluated in prevalent PD patients.

**Methods:** We conducted a retrospective cohort study of 350 well-nourished PD patients between January 2013 and December 2020. Body composition was measured using a portable whole-body bioimpedance spectroscopic device. We evaluated the effect of high ferritin levels ( $\geq 600$  ng/mL) on all-cause mortality using a Cox proportional hazards model and performed multiple logistic regression analyses to evaluate the clinical determinants of high ferritin.

**Results:** High ferritin was observed in 63 (18.0%) patients and serum ferritin levels were closely associated with age, dialysis duration, anemia and C-reactive protein levels. Also, significantly increased body fat percentage and lower lean tissue index was observed in patients with high ferritin levels than those with lower or normal levels of ferritin. During the median follow-up of 30 months, 65 cases of deaths occurred. Ferritin  $\geq 600$  ng/mL was associated with significantly higher all-cause mortality compared to the group with 200–600 ng/mL ferritin. This effect was independent to comorbidities, anemia or volume status. Additionally, multivariate analysis demonstrated a statistically significant increased risk of high ferritin levels in patients with higher body fat percentage than those without even after adjusting for lean tissue index and volume status.

**Conclusions:** High ferritin increased all-cause mortality in PD patients, and increased fat mass was a major determinant of high ferritin levels. Our results support previous findings that a gain in adiposity during PD treatment may contribute to an adverse clinical outcome.

High ferritin and all-cause mortality