

DIALYSIS. PROTEIN-ENERGY WASTING, INFLAMMATION AND OXIDATIVE STRESS

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MALNUTRITION INFLAMMATION SCORE PREDICTS MORTALITY IN MAINTENANCE HEMODIALYSIS PATIENTS

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Introduction and Aims: Malnutrition is a strong predictor of mortality in hemodialysis patients, mainly when it is associated with inflammation. Malnutrition Inflammation Score (MIS) is a scoring method for the diagnosis of malnutrition. Thus, the purpose of this study was to assess if MIS is associated with mortality in hemodialysis patients and which is the cutoff that can predict it.

Methods: This observational study included prevalent maintenance hemodialysis patients between July 2012 and August 2014. MIS was used to assess malnutrition.

Patients were followed until October 2014 and they were censored if they were switched off dialysis, underwent renal transplantation, or were transferred to another facility. ROC curves were used to determine a cutoff point of MIS that predicts mortality. Kaplan-Meier method was used to calculate cumulative survival probabilities, and the difference between survival curves was assessed by the log rank test. MIS values were used in Cox proportional hazard analysis to evaluate if they are independent predictors of survival.

Results: Two hundred fifteen patients followed for 13.6 ± 7.8 months, mean age was 58.4 ± 14.6 years and mean body mass index 26 ± 6 kg/m²; 56.3% were men and patients had been on dialysis for 16.6 (1 - 304) months. Twenty-nine deaths (13.5%) occurred during the follow-up period, 19 received kidney transplants (8.8%) and 3 patients were transferred to another facility (1.4%). Median of MIS was 5 (0-26). According to ROC curves, the cutoff point of MIS that predicts mortality was 7.5 (AUC 0.737; CI 95% 0.642-0.832; $p < 0.01$; sensitivity 58.6% and specificity 76.9%). Using this cutoff point, we fitted Kaplan-Meier curves that showed that the group with higher MIS had a significant lower cumulative survival ($p < 0.01$). A model was fitted using multivariate Cox proportional hazards analysis. MIS showed significant increased risk of mortality (HR 1.15; CI 95% 1.08-1.23; $p < 0.01$), even after adjustments to demographic, biochemical and anthropometrical variables.

Conclusions: The cutoff of MIS that predicts mortality was 7.5. This cutoff was useful to predict mortality in prevalent hemodialysis patients in univariate analysis. MIS was an independent predictor of mortality.