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Hypoalbuminemia is related with short- and long-term mortality in patients undergoing continuous renal replacement therapy

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Objectives: Hypoalbuminemia reflects several pathologic conditions such as nutritional deficiency and chronic inflammation. However, its relationship with short- and long-term mortality in patients undergoing continuous renal replacement therapy (CRRT) remains unresolved.

Methods: A total of 1,571 patients who underwent CRRT due to acute kidney injury between 2010 and 2016 were retrospectively reviewed. Patients were categorized by the tertiles of albumin levels at the time of starting CRRT. Odds ratio (OR) and hazard ratio (HR) for the risk of all-cause mortality were calculated before and after adjustment of multiple covariates.

Results: Mean albumin level was 2.7 ± 0.6 g/dL. During the median follow-up period of 12 days (maximum 4 years), 1,034 patients (65.8%) died. The 1st tertile had a higher risk of mortality than the 3rd tertile with an HR of (1.9 [1.64–2.20]). Although the mortality rate was stratified by the timeframe, the 1st tertile had a higher risk than the 3rd tertile as following ORs: 3.0 (2.30–3.83) in 2-week mortality; 2.8 (2.13–3.55) in 1-month mortality; 2.7 (2.03–3.48) in 6-month mortality; and 2.7 (2.08–3.57) in 1-year mortality. These results remained consistent despite the adjustment of multiple covariates such as comorbidities, laboratory findings, and Acute Physiology and Chronic Health Evaluation scores

Conclusions: Because hypoalbuminemia is associated with short- and long-term mortality after CRRT, serum albumin levels should be monitored during the period of CRRT.