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Albumin is a Prognostic Factor in Patients with Acute Kidney Injury receiving Continuous Renal Replacement Therapy

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Objectives:

This study aimed to assess how hypoalbuminemia (albumin <3.0 g/dL) affects the outcomes of patients treated with Continuous Renal Replacement Therapy

Methods:

We collected data from 1,549 patients with acute kidney injury who received continuous renal replacement therapy from October 2012 to August 2018. Patients without albumin values on the first day of Continuous Renal Replacement Therapy (n=159) were excluded. Data from 1,390 patients were analyzed. Patients were divided into two groups: those with albumin levels < 3.0 g/dL (n=684) and those with albumin levels \geq 3.0 g/dL (n = 706).

Results: Patients with albumin levels < 3.0 g/dL had a mortality rate of 59.8%; the mean albumin value on the first day of continuous renal replacement therapy was 2.49 g/dL. Patients with albumin levels \geq 3.0 g/dL had a mortality rate of 38.1% with a mean value of 3.53 g/dL on the first day of continuous renal replacement therapy. Patients with lower albumin levels (<3.0 g/dL) had significantly higher mortality rates ($p < 0.001$; Table 1). Table 2 shows the treatment characteristics pertaining to continuous renal replacement therapy for the two groups. There were no statistical differences in the clinical settings between the two groups. We found that hypoalbuminemia (<3.0 g/dL) was a prognostic factor in patients with acute kidney injury requiring continuous renal replacement therapy. We also found that the Acute Physiology, Age, Chronic Health II score was a prognostic factor ($p < 0.001$).

Conclusions: The results show that hypoalbuminemia (<3.0 g/dL) is a significant predictor of mortality in patients with acute kidney injury receiving continuous renal replacement therapy.