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The influence of Hypophophatemia on outcomes during CRRT in AKI patients

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Objectives : To assess the role of hypophosphatemia in major clinical outcomes in patients treated with low- or high-intensity continuous renal replacement therapy (CRRT)

Methods : We performed a retrospective analysis of data collected from 620 patients. We divided the patients into two different groups of CRRT intensity (more than or less than 40 mL/kg/hour of effluent generation) and measured serum phosphate level daily.

Results : We obtained a total of 1800 phosphate measurements on days 0, 1, and 2 and identified 49 patients (8%), 93 patients (15%), and 142 patients (23%) with hypophosphatemia on each of these respective days. In patients treated with lower-intensity CRRT, 23 episodes of hypophosphatemia/1000 patient days were identified, compared with 83 episodes/1000 patient days in patients receiving higher-intensity CRRT ($P < 0.01$). Multiple Cox proportional hazards analyses showed that APACHE score, utilization of vasoactive drugs, and arterial pH on the third CRRT day were significant predictors of mortality; however, serum phosphate level was not a significant contributor.

Conclusions : The APACHE score, use of vasoactive drugs, and arterial pH on the 2nd CRRT day were significant predictors of mortality. Hypophosphatemia might not be a major risk factor of increased mortality in patients treated with CRRT.

Keywords : CRRT, Intensity, Mortality, Hypophosphatemia, AKI