

지속적 신대체 요법의 시작시 25-Hydroxyvitamin D 결핍과 병원내 사망률과의 관계

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Severe Low 25-Hydroxyvitamin D Deficiency at Continuous Renal Replacement Therapy Initiation Predicts In-Hospital Mortality

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Purpose: The low 25-hydroxyvitamin D (25(OH)D) level has been partially explained to be associated with the development and prognosis of acute kidney injury (AKI) in critically ill patients. However, the association between serum 25(OH)D level and outcome of severe AKI requiring continuous renal replacement therapy (CRRT) remains to be clarified.

Methods: This prospective observational cohort study included patients with severe AKI requiring CRRT between May 2010 and April 2013. Patients with 25(OH)D level below the median were included in the Low group and those with 25(OH)D level above the median were included in the High group. The primary outcome was in-hospital mortality, and the secondary outcome was duration of ventilator support and RRT.

Results: A total of 131 patients were analyzed. The mean age was 66.3 years and male patients were 73 (55.7 %). The mean APACHE II score was 29.1±8.0. The median of serum 25(OH)D level was 6.90 ng/mL, and the mean serum 25(OH)D level were 3.97±1.56 ng/mL and 12.47±5.48 ng/mL in the Low group and the High group, respectively. There was no significant difference in baseline clinical characteristics. There was no significant difference in ventilator free days and RRT free days between two groups. However, the mortality rate was significantly higher in the Low group than in the High group (86.6 vs. 71.9%, $p=0.038$). In survival analysis, low 25(OH)D level was independently associated with mortality after adjustment for age, sex, mean arterial pressure, APACHE II, SOFA score, c-reactive protein, hemoglobin, BUN and serum albumin (Hazard Ratio 1.63, 95% confidence interval 1.08-2.45; $P=0.018$).

Conclusions: we demonstrated that critically ill patients with AKI requiring CRRT showed severe 25(OH)D deficiency. Moreover, low 25(OH)D level at the time of CRRT initiation might predict the mortality.

Key Words: 25(OH)D 수치, 급성신부전, 사망률
25(OH)D level, CRRT, Mortality