

만성신부전 환자에서의 비타민D와 알부민요증의 연관성

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Correlation between Vitamin D and Albuminuria in Chronic Kidney Disease Patients: The KoreaN Cohort Study for Outcome in Patients With Chronic Kidney Disease (KNOW-CKD)

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Background: Vitamin D plays an important role in human health. However, vitamin D deficiency is commonly observed in the general population and among patients with chronic kidney disease. Low vitamin D levels have been associated with the pathogenesis of kidney disease. Although albuminuria is a marker of kidney disease, few studies have examined vitamin D levels and albuminuria simultaneously. Hence, this study investigated the association between vitamin D status and degrees of albuminuria.

Methods: This retrospective study included 927 chronic kidney disease patients from the KoreaN cohort study for Outcome in patients With Chronic Kidney Disease (KNOW-CKD). The current study evaluated the serum levels of creatinine, calcidiol (25-hydroxyvitamin D), calcitriol (1,25-dihydroxyvitamin D), estimated glomerular filtration rates, and spot urine albumin-to-creatinine ratios.

Results: Among the 927 patients, 470 (50.7%) were women and 457 (49.3%) were men. The mean serum levels of creatinine, calcidiol, and calcitriol, were 1.95±1.2 mg/dL, 18.29±9.9 ng/mL, and 31.98±17.2 ng/mL, respectively. The mean estimated glomerular filtration rate, determined using the Modification of Diet in Renal Disease (MDRD) equation, was 48.2 mL/min/1.73m². Patients were divided into two groups: normal-to-mild albuminuria (<30 mg/g) and moderate-to-severe albuminuria (≥30 mg/g). Accordingly, there were 498 (53.7%) in the former group, and 429 (46.3%) in the latter group. Negative correlations were observed between albuminuria and serum calcitriol (p<0.001), and moderate-to-severe albuminuria and calcidiol (p=0.002), which were statistically significant.

Conclusions: A significant correlation exists between vitamin D levels and albuminuria. However, it remains to be confirmed if vitamin D deficiency is a causal and reversible factor in the development of albuminuria.

Key Words: 비타민 D, 알부민요증, 만성신부전

Vitamin D, Albuminuria, Chronic kidney disease