

## 유지혈액투석 환자에서 저농도 칼슘 투석액 사용의 비율 및 무기질 지표들에 미치는 영향

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### Proportion of Low Calcium Dialysate Use and Its Impact on Mineral Parameters in Hemodialysis Patients in a Real Clinical Field: a Preliminary Result

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**Background :** Low turnover bone disease (LTBD) is in part associated with chronic use of high calcium dialysate. LTBD reduces the ability to handle an exogenous calcium load and so increased the risk for vascular and soft-tissue calcification. For these reasons, low calcium dialysate (LCD) is increasingly used.

**Methods :** We conducted a prospective study to assess the impact of lowering calcium concentration in dialysate (from 1.75 mmol/L to 1.25 mmol/L) on corrected total calcium (tCa), phosphate (P), calcium-phosphorus product (Ca\*P) and intact parathyroid hormone (iPTH) in hemodialysis (HD) patient with iPTH <100 pg/mL.

**Results :** Among 110 maintenance HD patients in our unit, 16 (14.5%) patients had been dialyzed with LCD (1.25 mmol/L) before the study. Nine of them used LCD to control hypercalcemia (corrected tCa >10.2 mg/dL) and remained 7 patients for LTBD. For the study, we used LCD in all patients with iPTH <150 pg/mL not receiving active vitamin D therapy, and so 54 patients were newly recruited. The proportion of LCD usage increased to 63.6%. Among 54 patients, 45 (M:F=19:26, age 56.3±11.9 years, DM 55.6%, HD vintage 47.9±32.6 months) with iPTH <100 pg/mL, suggesting LTBD, were analyzed. Corrected tCa significantly decreased, but P and Ca\*P levels did not differ 3 months before, at start and 3 month after LCD use. iPTH significantly increased (Table 1). Changes in iPTH level ( $\Delta$ iPTH) before and after LCD use were -5.2±37.3 pg/mL vs. 40.8±54.6 pg/mL (p=0.001). Mean amount of calcium carbonate was similar between two periods (2.6±2.0 tab/day vs. 2.4±1.9 tab/day, p=0.306).

**Conclusion :** LCD seems to be underused in our country despite of K/DOQI recommendation. It is in part due to no conviction for its efficacy and scares to complications such as intradialytic hypotension. Likely other studies, our result suggests that LCD is considered a valuable therapeutic option for LTBD. It, however, is only preliminary data and this cohort should be followed at least over 12 months.

**Key Words :** 뼈, 칼슘, 투석액

Bone, Calcium, Dialysate