

혈액 투석 환자에게서 단순 촬영 상 나타나는 혈관 석회화의 예측 인자로서의 혈청 부갑상선 호르몬의 역할

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Intact PTH Serum Levels Predict a Simple Vascular Calcification in Hemodialysis Patients

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Purpose : Cardiovascular morbidity and mortality are highly prevalent in hemodialysis patients and associated with vascular calcifications. In addition to high turnover bone disease that is frequently associated with vascular calcification, there is substantial evidence that low levels of serum intact PTH (iPTH) in hemodialysis patients is also associated with increased vascular and cardiac calcium deposits, due to decreased buffering capacity of bone in low turnover bone disease. The objective of this study was to evaluate the association between a simple vascular calcification score with serum intact iPTH levels.

Methods : The study has been carried out in a cohort of 113 patients, who were on hemodialysis treatment for 45.88 ± 42.86 months. There were 56 males and 57 females and 46 patients had diabetes mellitus. Average age was 58.33 ± 14.21 years. Patients were divided into three groups according to level of iPTH levels, 0–150 (A), 150–400 (B) and >400 (C) pg/mL. We used a simple vascular calcification score that was established in the previous study based on plain radiographic films of pelvis and hands.

Results : The values of simple vascular calcification scores in the PTH groups were as were follows: (A) 2.92 ± 2.72 (B) 0.83 ± 1.41 (C) 1.73 ± 2.62 . The difference between vascular calcification scores were significant ($p = 0.001$). A logistic regression analysis identified serum calcium, age, diabetes and serum iPTH as independent factors of calcium deposits in hemodialysis patients.

Conclusion : Significant association between low PTH serum levels and the vascular calcifications in hemodialysis patients was found and diabetes, age, serum calcium levels are thought to be considered major risk factors of vascular calcifications.

Key Words : 혈관 석회화, 혈청 부갑상선 호르몬,
혈액 투석
Vascular calcification,
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Table 1. Vascular Calcification: Regression Analysis

Variable	p value	Risk	Confidence Interval (95%)
Sex	0.544	0.724	0.255-2.504
Age	0.006	1.064	1.018-1.112
iPTH	0.016	0.995	0.991-0.999
serum Ca	0.001	151.895	8.443-2,732.577
serum P	0.742	1.089	0.657-1.804
Cholesterol	0.174	1.015	0.994-1.036
Albumin	0.354	2.220	0.412-11.973
CRP	0.744	1.013	0.939-1.093
Hemodialysis age	0.874	1.001	0.990-1.012
DM	0.001	6.699	2.250-19.946

Dependent variable: vascular calcification