P-156

만성신부전환자에서 오메가-3 복용에 따른 비타민 D의 수치

동아대병원

정유진, 안원석, 김성은, 손승현, 손영기

Comparison of Active Vitamin D Levles According to Taking Omega-3 Fatty Acid in Patients with Chronic Kidney Disease

Eugene Jeong, Won Suk An, Seong Eun Kim, Sung Hyun Son, Young Ki Son

Dong-A University Hospital

Introduction and Aims: The level of 1, 25-dihydroxyvitamin D decreases according to decreased activity of 1α-hydroxylase caused by reduced renal function in chronic kidney disease (CKD). Recent report showed that administration of omega-3 fatty acids increased 1, 25-dihydroxyvitamin D levels in dialysis patients. The purpose of this study is to evaluate whether administration of omega-3 fatty acids increase 1, 25-dihydroxyvitamin D levels in patients with CKD.
Methods: We retrospectively analyzed data of CKD patients who have checked 25-hydroxyvitamin D and 1, 25-dihydroxyvitamin D simultaneously from March 2009 to March 2013. We enrolled patients aged between 20 and 80 years and excluded CKD patients with stage 1, 2, 5.
Results: The percentage of patients with 25-hydroxyvitamin D levels <20 ng/mL was 73% and the percentage of patients with 1, 25-dihydroxyvitamin D levels <25 pg/mL was 15.9%. Patients taking omega-3 fatty acids were 31 cases (CKD stage 3: 80.6%) and patients not taking omega-3 fatty acids were 32 cases (CKD stage 3: 81.3%). There was no significant difference of age (59.8±12.7 vs. 64.3±10.1 years), gender (male 48.4% vs. 62.5%), the prevalence of diabetes (25.8% vs. 45.6%), 25-hydroxyvitamin D (16.4±9.0 vs. 21.7±23.1 ng/mL), phosphorus, intact parathyroid hormone, creatinine (1.63±0.38 vs. 1.75±0.45 mg/dL), glomerular filtration rate (42.3±10.9 vs. 40.3±11.0 ml/min/1.73 m^2) and cystatin C (1.80±0.55 vs. 1.89±0.49 mg/dL) between patients taking omega-3 fatty acids and patients not taking omega-3 fatty acids. group and. The levels of calcium (9.1±0.5 vs. 8.8±0.5 mg/dL, p=0.022), hemoglobin (13.4±1.9 vs. 12.2±1.8 g/dL, p=0.015), and 1, 25-dihydroxyvitamin D (41.3±16.2 vs. 33.7±12.8 pg/mL, p=0.043) were significantly higher in patients taking omega-3 fatty acids compared to patients not taking omega-3 fatty acids. The 1, 25-dihydroxyvitamin D levels were positively correlated with glomerular filtration rate (r=0.380, p=0.002) and hemoglobin levels (r=0.376, p=0.003).
Conclusions: Most patients with CKD stage 3 and 4 had vitamin D insufficiency but their active vitamin D levels were not lower than normal levels. Omega-3 fatty acids supplementation may involve with vitamin D activation and anemia prevention in CKD patients and further prospective studies are necessary to confirm the effectiveness of omega-3 fatty acids.

Key Words: 비타민 D, 만성신부전
Vitamin D, CKD