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만성 신부전 환자에서 맥파 전달 속도와 골밀도에 역의 상관관계로 미치는 Adiponectin의 역할

분당 서울대학교 병원 내과[1], 서울대학교 병원 내과[2]

백선하[1], 안신영[1], 이성우[1], 유미연[1], 김세중[1], 진호준[1], 나기영[1], 채동완[1], 안규리[2]

Suggested Role of Adiponectin in Reciprocal Relationships between Pulse Wave Velocity and Bone Mineral Density in CKD Patients

Seon Ha Baek[1], Shin Young Ahn[1], Sung Woo Lee[1], Mi-Yeon Yu[1], Sejoong Kim[1]
Ho Jun Chin[1], Ki Young Na[1], Dong-Wan Chae[1], Curie Ahn[2]

Department of Internal Medicine[1], Seoul National University Bundang Hospital
Department of Internal Medicine[2], Seoul National University Hospital

Background: Although adiponectin plays a beneficial role in the regulation of insulin action and atherosclerosis, the role of adiponectin remains a controversy in patients with chronic kidney disease (CKD).

Methods: A total of 1,310 patients (male/female=794/516) with CKD stage 1 to 5 who enrolled in the KoreaN cohort study for Outcome in patients With Chronic Kidney Disease (KNOW-CKD) from April 2011 to December 2013. We measured serum total adiponectin and examined the association between adiponectin, bone mineral density (BMD) measured by dual energy X-ray absorptiometry, and pulse wave velocity (PWV) calculated by mean value of both brachial-ankle (ba) PWV.

Results: Increasing quintiles of serum adiponectin levels were associated with lower body mass indices, estimated glomerular filtration rate, triglycerides, BMD, albumin and higher urinary protein creatinine ratios, PWV, phosphorous, intact PTH. Femur neck T-score inversely correlated with ba PWV (r=-0.092, p=0.005) in male CKD, however, this association was no significant for female CKD (r=-0.031, p=0.456). Adiponectin was inversely associated with femur neck T-score for both male and female CKD patients (male: r=-0.127, p=0.001; female: r=-0.138, p=0.002). Adiponectin was positively associated with ba PWV for male CKD (r=0.091, p=0.008), but not for female CKD (r=-0.024, p=0.545).

Conclusion: Adiponectin, BMD, and PWV were associated with each other in male CKD patients. The findings suggested that adiponectin have the role in reciprocal relationships between PWV and BMD in not female but male CKD patients.

Key Words: Adiponectin, 맥파 전달 속도, 골밀도
Chronic kidney disease, Adiponectin, Pulse wave velocity, Bone