

만성 콩팥병 환자에서 말초 동맥 질환의 유병률과 위험 인자

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Prevalence and Risk Factors of Peripheral Arterial Disease in Chronic Kidney Disease

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Background: Cardiovascular disease is a major cause of morbidity and mortality among patients with chronic kidney disease (CKD). Peripheral arterial disease (PAD), an atherosclerotic process manifested in the lower extremities, is a common problem associated with mortality in CKD. The exact role of PAD in CKD patients remains to be elucidated. We investigated the prevalence of PAD across the CKD stages and explored the risk factors of PAD in CKD patients.

Methods: Two hundred consecutive CKD patients (age of 18 or above) were enrolled who visited outpatient clinic at the Seoul National University Hospital and Gachon University Gil Hospital. Glomerular filtration rate (GFR) was calculated based on serum creatinine (sCr) using the MDRD formula. CKD was an estimated GFR (eGFR) of less than 60 ml/min/1.73m². PAD can be defined using the ankle-brachial index (ABI) and toe-brachial index (TBI), simple, noninvasive, and reliable methods. We defined PAD on the basis of ABI and TBI measurement, as an ABI value lower than 0.9 or TBI value lower than 0.6 in either leg. In addition we also estimated abdominal aortic calcification score using lumbar plain radiographs.

Results: In our study, 55% of patients were male, mean age was 61.8±11.7 yrs and 27.5% of patients were older than 70 yrs. Each proportion of patients with CKD stages 3, 4, and 5 was 48.5%, 30.8%, and 20.7%. 95% of the patients had hypertension, 40% had diabetes and about 49.5% had smoking history. The prevalence of PAD was 20.5%. Prevalence of PAD across the CKD stages were 19.8% (stage 3), 23% (stage 4) and 19.5% (stage 5). Risk of PAD was associated with old age (≥70 yrs) (p<0.001), diabetes (p=0.001), coronary artery disease (p=0.012), smoking history (p=0.019), level of HDL-cholesterol (p<0.001) and abdominal aortic calcification (p=0.003) in univariate analysis. After binary logistic regression analysis, old age (≥70 yrs) (p=0.025), diabetes (p=0.012), and decreased level of HDL-cholesterol (p=0.010) were found to be the independent risk factors for PAD.

Conclusion: The prevalence of PAD in CKD patients was higher than that in general population. But, there was no difference in the prevalence of PAD across the CKD stages. Traditional risk factors such as old age, diabetes, dyslipidemia were associated with PAD in CKD, as well. However, our study did not show the association between CKD-specific risk factors and PAD.

Key Words: 말초 동맥 질환, 죽상 동맥 경화증, 만성 콩팥병
Peripheral arterial disease, Atherosclerosis, CKD