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Charson Comorbidity index와 미세알부민뇨와의 관계: 유형별 만성신장질환자 생존 및 신기능 보존 10년 추적 조사 연구

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Association between Age-adjusted CharIson Comorbidity Index and Microalbuminuria: Result from the KoreaN cohort study for Outcome in patients With Chronic Kidney Disease (KNOW-CKD)

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Background: Microalbuminuria has been known to be correlated with cardiovascular morbidity and mortality in chronic kidney disease (CKD) patients. However, data regarding the effect of non-cardiovascular morbidities on microalbuminuria were limited. Therefore, we thought to investigate the association of comprehensive morbidities using age-adjusted Charlson comorbidity index (ACCI) and microalbuminuria in CKD.

Method: A prospective cohort of 1,272 CKD patients from 9 centers of the the KoreaN cohort study for Outcome in patients With Chronic Kidney Disease (KNOW-CKD) between June 2011 and October 2012 was included. Patients were categorized into two groups according to microalbuminuria (random urinary albumin to creatinine ratio >30 mg/g). Moreover, patients were divided into three groups by the ACCI score; ACCI group1 (0 or 1), group 2 (2 or 3), and group 3 (≥4). The risk of each ACCI group for the presence of microalbuminuria was ascertained by logistic regression analysis.

Result: Among 1,272 patients, 738 (58.0%) were male and mean age was 53.5 years. The mean Modification of Diet in Renal Disease-estimated glomerular filtration rate was 48.26 mL/min/1.73m^2. The mean proteinuria was 1199.8 mg/g and proportion of patients with microalbuminuria were 969 (76.2%). The ACCI groups were consist of 402 (33.9%), 437 (36.8 %), and 347 (29.3%) patients, respectively. Urinary albumin to creatinine ratio increased in higher ACCI groups (group1, 500 mg/g; group2, 800 mg/g; group3, 1200 mg/g). In addition, logistic regression analysis demonstrated that the risk for the presence of microalbuminuria was greater as increasing ACCI groups, compared to group 1 [group 2, odds ratio (OR): 2.08, 95% confidence interval (CI): 1.45-3.00, p<0.001; group 3, OR: 3.06, 95% CI: 1.99-4.72, p<0.001].

Conclusion: The present study showed that higher ACCI increased the risk of microalbuminuria in CKD patients, suggesting that the ACCI could be useful to stratify the risk of microalbuminuria. Therefore, screening of microalbuminuria might be recommended in CKD patients with high ACCI.

Key Words: 만성신부전, 동반질환, 미세알부민뇨
Chronic kidney disease, Comorbidity, Microalbuminuria