SECONDHAND SMOKING IS A RISK FACTOR FOR INCIDENT CHRONIC KIDNEY DISEASE DEVELOPMENT

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INTRODUCTION AND AIMS: Smoking is a well-known risk factor for renal function decline. However, the risk of CKD development in nonsmokers exposed to secondhand smoke is not well elucidated yet. This study aimed to investigate the association between secondhand smoking and the risk of CKD development among never-smoking adults.

METHODS: Subjects who participated in the Korean Genome and Epidemiology Study (KoGES) from 2001 to 2014 were enrolled. A total of 4856 subjects with normal renal function and without a history of smoking were included in the final analysis. The subjects were divided into two groups depending on secondhand smoke exposure (SSE). The primary outcome was development of CKD defined as estimated glomerular filtration rate (eGFR) < 60 mL/min/1.73m².

RESULTS: In the SSE and non-SSE groups, the mean ages of the subjects were 49.5 ± 7.4 and 51.6 ± 7.9 years, the numbers of male subjects were 289 (14.0) and 466 (16.7), and the mean estimated glomerular filtration rates (eGFR) were 95.1 ± 12.7 and 93.9 ± 12.8 ml/min/1.73 m², respectively. Among the subjects in the SSE group, the duration of SSE showed a significant positive correlation with BMI and HbA1c. Cox analysis revealed that SSE was a significant risk of CKD development even after adjustments were made for confounding factors (Hazard ratio, 1.15; 95% confidence interval, 1.02-1.33; P = 0.049).

CONCLUSIONS: Secondhand smoking significantly increased the risk of CKD development. In addition, factors such as obesity and insulin resistance may be affected by SSE. Avoiding SSE may have an effect on preventing the development of CKD.