Incidence Risk of Various Types of Digestive Cancers in Patients with Pre-Dialytic Chronic Kidney Disease: A Nationwide Population-Based Cohort Study

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Objectives: Renal function impairment has been known to be involved in a higher incidence of malignancies. However, there is no study investigating the relative incidence rate of specific types of digestive cancer in patients with pre-dialytic chronic kidney disease (CKD) compared to the general population.

Methods: Using data from the National Health Insurance Service-National Sample Cohort in the Republic of Korea, this study was conducted on newly-diagnosed pre-dialytic CKD patients (n=35,547). We compared the standardized incidence rate (SIR) of digestive cancer between the cohort and national data from the National Cancer Registry.

Results: During the median follow-up of 54.9 months, an incidence risk of digestive cancer in CKD patients was significantly higher than the general population [SIR; 1.54, 95% confidence interval (CI); 1.46-1.62]. Additionally, the SIRs of hepatoma [SIR; 5.88, 95% CI; 1.52-10.23] and colorectal cancer [SIR; 4.51, 95% CI; 1.56-7.45] were remarkably greater in CKD patients younger than 40 years. However, the incidence risk of specific types of digestive cancer seemed to be similar irrespective of sex except for bile duct and gall bladder cancer. In addition, when those patients were stratified into two groups based on the part of the year 2008 in which CKD was diagnosed, the SIRs exhibited similar trends irrespective of the CKD-diagnosed time-point.

Conclusions: This study showed that CKD is associated with an increased risk of digestive cancer incidence compared to the general population. Moreover, the SIRs of hepatoma and colorectal cancer were exceptionally higher in CKD patients younger than 40 years.