

LACK OF ASSOCIATION BETWEEN CHRONIC HEPATITIS C VIRUS INFECTION AND CHRONIC KIDNEY DISEASE

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Purpose: The presence of chronic kidney disease (CKD) negatively impacts the receipt of and response to antiviral treatment and the association between chronic hepatitis C (CHC) and the increased risk of developing CKD, if confirmed, may have important implications. We sought to determine whether CHC status has an independent effect on the risk of developing CKD in a national sample of patients.

Methods: Using data from the national United Health Care database between January 2003 and December 2006, we conducted a retrospective cohort study to compare the baseline prevalence of CKD, defined as glomerular filtration rates (GFR) $<60\text{ml}/\text{min}/1.73\text{m}^2$, and to examine the percent annual change in GFR between patients with (n=23,236) versus without a positive CHC test (n=146,768). We conducted multivariable regression models to control for patient age, gender, diagnosis of cirrhosis, comorbidities, CHC treatment, and use of medications that may impact renal function.

Results: Compared with CHC patients, those without CHC were younger (mean age 40 ± 12 versus 43 ± 12) and had a majority of females (55% versus 52%). Patients with CHC were more likely to have cirrhosis, HIV co-infection, hypertension, diabetes, coronary artery disease, and drug and alcohol abuse disorders. There was no difference in the baseline prevalence of CKD between patients with or without CHC (5.13% versus 5.26%, $p=0.41$). There was no difference in the magnitude of annual GFR change across the 2 study groups (1.22% versus 1.08%, $p=0.43$) during a mean follow-up of 16.3 months. The results did not change after adjusting for the pre-specified covariates in the regression analysis or after sensitivity analysis.

Conclusion: In this large national cohort of adult patients, we did not find any association between CHC and CKD. In contrast to recent data from the Veterans Administration, our study suggests that patients with CHC seen in routine clinical practice may not be at a higher risk for developing chronic kidney disease compared to non-CHC patients.