

HCV infection in chronic kidney disease patients

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Hepatitis C virus (HCV) infection is a major health problem with significant clinical and economic burdens in patients with chronic kidney disease (CKD). Because HCV is associated with glomerular and tubular interstitial injuries in the kidney, epidemiological studies have confirmed a strong link between HCV and CKD. The diagnosis of HCV in CKD is challenging, because most patients are asymptomatic and only have mildly elevated serum alanine transaminase (ALT) levels. The mortality and morbidity are significantly compromised in patients with CKD if HCV is left untreated. In contrast, the prognosis is improved once HCV is eradicated with antiviral treatment. Therefore, screening of HCV in patients with CKD, particularly those at risk of infection, with HCV antibody as well as molecular tools is important to early detect the presence of HCV.

In the era of interferon (IFN), the antiviral response rates and on-treatment tolerance are unsatisfactory. The advent of direct-acting antivirals (DAAs) has made a paradigm shift in the care of HCV patients with CKD. Evidence has shown that the sustained virologic response (SVR) rates and tolerance are similar with DAA treatment, regardless of CKD stage. Furthermore, patients with HCV after renal transplantation can have comparable antiviral responses and safety profiles with DAAs. Of particular interest is the feasibility HCV-aviremic recipients with HCV-viremic kidney transplants, followed by prophylactic or pre-emptive DAA treatment. While the use of DAAs is satisfactory in HCV CKD, assessing drug-drug interactions (DDIs) before treatment is vital to secure on-treatment safety.

Patients with CKD, either before or after kidney transplantation have improved overall survival due to the decrease of hepatic and extrahepatic-related outcomes. Current evidence indicate the potential beneficial effects of kidney reserve once SVR is achieved with antiviral agents in patients with CKD. Mass screening, scale-up treatment uptake, and post-SVR surveillance are needed to eliminate HCV in patients with CKD to meet World Health Organization (WHO)'s goal by 2030.