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NON-COMMISSIONED REVIEW

Chronic hepatitis C and chronic kidney disease: Advances, limitations and unchartered territories

M. Mendizabal, K. R. Reddy

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[Corrections added on 24 February 2017, after first online publication: Table 1 has been updated in this version]

Summary

Over the past few years, treatment options for chronic hepatitis C virus (HCV) infection have evolved dramatically. The current approved interferon-free direct-acting antiviral (DAA) regimens have been shown to be safe and effective with sustained virologic response (SVR) rates of >90% in most patients. Unique issues yet remain such as the challenges in patients with impaired renal function or decompensated cirrhosis. Patients with stages 4-5 chronic kidney disease (CKD) have a higher prevalence of HCV infection compared with the general population. Chronic HCV in those on dialysis and in kidney transplant recipients is associated with higher morbidity and mortality than uninfected patients. The HCV-infected population is also at risk of developing extrahepatic manifestations associated with altered immune system function and chronic inflammation with cryoglobulinaemic vasculitis being the most common of these manifestations. Therefore, patients with CKD stages 4-5 have to be considered priority patients for HCV therapy. New antiviral therapies have the potential to improve outcomes in this vulnerable patient population, including those on haemodialysis. Recently published studies conducted in kidney transplant recipients have demonstrated successful outcomes. It is thus essential that we carefully select the most appropriate DAA regimen and the best time for treatment in the context of kidney transplantation or cryoglobulinaemic vasculitis. While sofosbuvir, the only approved nucleotide NS5B inhibitor, has been the backbone of most pangenotypic therapeutic regimens, it has a limitation in those with advanced kidney disease. The currently approved regimens for those with stage 4/5 CKD,

while effective, have challenges in that they apply to genotype 1/4 and may require RBV for genotype 1a. Globally, genotype 3 is a common infection, and thus, this group with CKD presents a huge unmet need for effective therapies. As therapy of HCV in renal transplant recipients has been highly successful, it provides an opportunity to expand the use of HCV-infected organs in solid organ transplantation.

Citing Literature