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Title*: Role of creatinine clearance in Treatment Failure of Hepatitis C Virus in Patients Treated with Non-Sofosbuvir containing regimens*

Background: Chronic hepatitis C is the life-long infection with Hepatitis C Virus. If untreated, HCV can cause serious health conditions including liver cancer, cirrhosis, and even death. New direct acting antiviral (DAAs) agents have greatly improved patient treatment outcomes by providing well tolerated, highly effective therapeutic options for treatment of HCV. Unfortunately, these therapy options are very expensive with costing up to $84000(Zepatier) and $99000(Viekira) per average treatment course. Due to the high cost, prediction of treatment failure is crucial.

Methods: A retrospective, single-center, case-control analysis of veteran patients aged 18 through 95 years who completed a treatment course of 12/16 weeks of Viekira or Zepatier therapy for HCV infection from 2/2/2015 through 10/19/2018

Outcomes: Primary endpoint was effects of creatinine clearance>80 on SVR12 success rate. Secondary endpoints were effects of PPI, H2RA, vitamin D, Ribavirin, and non adherence on SVR12 success rate.

Results: 317 patients identified as having received Zepatier or Viekira therapy between 2/2/2015 and 10/19/2018 from the VA Saint Louis Healthcare System. 24 patients discontinued therapy due to adverse reactions, 2 patients were lost to follow-up and 1 patient passed away during treatment. 290 patients met inclusion and exclusion criteria; 9 patients with SVR12 failure and 281 patients with SVR12 success. CrCl >80 mL/min was not associated with SVR12 failure. PPI use and non-adherence were the only two factors that had statistically significant association with SVR12 failure.

Conclusion: Creatinine clearance>80 ml/min was not associated with higher SVR12 failure rate in veterans treated with non-sofosbuvir regimens for treatment of HCV. larger retrospective study of all new DAAs options is required to clarify role of creatinine clearance in SVR12 failure