Identification of Patient Factors Associated with Hepatitis C Treatment Failure in a Pharmacist Managed Hepatitis C Program

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Background: Data regarding the incidence of and risk factors for hepatitis C (HCV) treatment failure (TF) with direct acting antiviral agents (DAAs) has not been well described in real world clinical practice. Due to the high levels of efficacy of DAAs, variables associated with TF may be related to patient (p) specific parameters (e.g. comorbidities) and pt adherence to therapy. Pharmacists are poised to appropriately manage interventions at DAA initiation. The objective of this study was to identify p factors that are associated with an increased risk of TF with DAAs during HCV therapy in a pharmacist managed HCV program.

Methods: Pts were considered for inclusion if they were >18 years old, HCV mono-infected, managed for HCV treatment through the Northwestern Medicine Specialty Pharmacy, and completed HCV therapy. Treatment failures (TFs) were matched 1:4 with treatment successes (TSs) based on HCV regimen and post-transplant status. Pt demographic, HCV, and pharmacist intervention variables were assessed. Stepwise multivariate regression was performed to assess predictors of HCV TF.

Results: 19 TFs were matched with 76 TSs. All pts received baseline pharmacist counseling and follow-up phone calls to identify treatment issues. There were more male pts (n=16, 84%) vs. 44%, 59% p=0.04) and pts with diabetes (n=13, 35% vs n=24, 32% p=0.002) in the TFs vs than TSs group. Pts with a lower education level (grade school vs college or above) were more likely to fail (p=0.01) as were pts that were unemployed (n=18, 95% vs n=56, 74%, p=0.03). An adverse effect (p>0.05), and pt-reported missed doses (>5, p>0.05) were also associated with TF. More pts in the TSs group had >1 outpatient clinic visit with a pharmacist vs the TF group (n=58, 76% vs n=9, 47%, p=0.01). It is unclear why the number of DDIs (median, 8.1) between HCV meds (55.8) was lower in the TSs than TFs group. Pts with a history of HCV comorbidity diabetes remained a significant predictor of TF (OR 2.7, 95% CI 1.7-3.8).

Conclusion: Pharmacists may be able to target resources to pts with these TF risk factors for intensive intervention. Increased pharmacist contact was associated with treatment success. Further study is needed to elucidate the impact of education level and diabetes on successful HCV treatment.