HIGH EFFECTIVENESS OF DIRECT ACTING ANTIVIRALS FOR THE TREATMENT OF HIV/HCV COINFECTED PATIENTS: EXPERIENCE IN AN URBAN CLINIC IN MIAMI, FLORIDA

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INTRODUCTION

A recent estimate of worldwide HCV prevalence places between 64-103 million individuals with chronic HCV infection.[1] It is also estimated that around 30 million people with HIV also have coinfection with HCV.[2] HIV/HCV coinfected hosts are less likely to spontaneously clear the HCV viremia, have higher HCV viral load, and also have an accelerated progression of liver disease and cirrhosis.

In the past, treatment regimens consisting of interferon and ribavirin for HIV/HCV coinfected patients had lower rates of sustained virologic response (SVR) than those without HIV infection. With the use of Direct Acting Antivirals (DAA) higher rates of cure have been documented in HCV mono-infected patients, over 90% for several drug combinations. Cure rates in real life studies have been less favorable in HIV/HCV coinfected populations, likely due to lack of adequate attendance at follow-up visits and medication adherence.[3]

We present our study looking at the effect of DAA on cure rates in HIV/HCV coinfected population in an urban clinic setting in Miami, Florida.

METHODS

- We conducted a retrospective chart review of HIV/HCV coinfected patients treated with DAA at the Ryan White Clinic of Jackson Memorial Hospital from January 2014 to March 2017.
- Aim: To evaluate rate of HCV cure defined by undetectable HCV RNA at 12 weeks post-treatment (SVR 12).
- We collected demographic, clinical and laboratory variables.
- We also analyzed the number of patients with advanced liver disease defined as either: Fib-4 score >3.25, transient elastography score >9.5 kPa or biopsy fibrosis stage ≥ F3.
- Data was analyzed using SPSS 22, New York, U.S.A

RESULTS

- We had 70 eligible patients, 22 (31%) females and 48 (68%) males. Mean age was 56 years (SD ±7.43). Most patients were African American (57%)
- There were 97% patients on ART for HIV. Mean CD4 count was 651 cells/uL (SD ± 330.06)
- Most common HCV Genotype was 1a with mean baseline HCV viral load of 6.16 log10IU/ml (SD ±0.77).
- Liver biopsy was done in 47% cases and transient elastography in 17% cases.
- The most common DAA regimens were Ledipasvir/Sofosbuvir (70%) and Simeprevir/Sofosbuvir (17.1%), given for 12 weeks. (Figure 1)
- There were 84% of cases with undetectable HCV RNA at 4 weeks of therapy.
- There were 23 (30%) patients identified with advanced liver disease, of which 12 had cirrhosis.
- Treatment was completed by 66 patients (94%). Only 3 patients were lost to follow up.
- Overall SVR12 with intention to treat analysis was 82.3%, which reached 95.1% with modified intention to treat analysis. (Figure 2)
- Only 19 patients (27%) had mild side effects: fatigue, headache, etc.

Figure 1: Direct Acting Antiviral Regimens used in our cohort

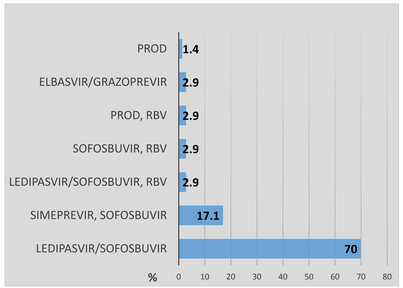
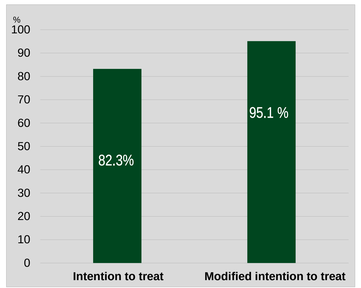


Figure 2: Cure rates of HCV



DISCUSSION

The cure rate in our study was 82.3% with intention to treat analysis; however, this number reached 95.1% when we excluded non-virologic failures (modified intention to treat).

In comparison with other real life studies, Alcaide et al [3] had shown similar cure rates (83%), which was related to low attendance at follow-up clinic visits as well as medication adherence. On the other hand, Hawkins et al [4] and Falade-Nwulia et al [5] have both demonstrated higher SVR12 rates of 92% and 96% respectively. They have also identified medication compliance as well as stringent follow up as keys to higher success rate, regardless of HIV coinfection status or other socioeconomic variables such as race and IV drug use.

In our study, only 3 patients did not achieve SVR12, and all 3 had advanced liver disease. One explanation is that 2 of these patients were on Simeprevir/Sofosbuvir, which is no longer recommended as first line in patients with compensated or decompensated liver cirrhosis, due to clinical trials showing lower cure rates.

In closing, we can state that HIV coinfection was not a limiting factor to achieve high cure rates with DAA in our population, comparable to other recent real world studies.

CONCLUSIONS

- Treatment with DAA in HIV/HCV coinfected patients was highly effective in our population
- Our study suggests that HIV is not a limiting factor to achieve high HCV cure rates in HIV/HCV coinfected populations
- Further studies are required to look at cure rates in advanced liver disease

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