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Research Article

Efficacy, Tolerability, and Safety of Direct Acting Anti-Viral (Daa) Therapies in Octogenarian Patients with Chronic Hepatitis C Infection

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Introduction

Our greater understanding of the Hepatitis C Virus (HCV) genome has led to the development of multiple direct- acting antivirals (DAAs) which are targeted medications at specific steps of the HCV life cycle. Antiviral therapy has become the cornerstone of treatment of chronic Hepatitis C (CHC) infection. With current antiviral therapies, CHC is easily treated and can be eliminated in almost all patients. The main targets of the DAAs are the HCV-encoded proteins that are vital to the replication of the virus. DAA therapies are efficacious up to 95%, tolerable, and safe with a mild side effect profile for the treatment of CHC. The clinical trials for HCV regimens did not include patients 80 years and older. Although widely used, there is limited data on their efficacy, tolerability, and safety in an active octogenarian population. We studied the outcomes of a cohort of 90 octogenarians treated by DAA for CHC.

Methods

We conducted a retrospective chart review of 1900 CHC patients from December 1st, 2014 to September 20th, 2018 at a tertiary medical center AND identified 90 patients aged 80 years and older who were treated with DAA therapies. Our study inclusion criteria were patients aged 80 and older who were treated for CHC. Patients younger than 80 years of age were excluded from this study. A comprehensive database was formulated to include all demographic information, concurrent diseases and medications while on DAA therapies [1,2].

Results

The demographics of our study were divided between patients in Group 1, aged 80-85 years old (n=51, 57%) and Group 2, aged 86 years and older (n=39, 43%), 47 (52%) of whom were Caucasian by race. Of the total 90 identified patients, 48 (53%) were female and 42 (47%) were male. No significant adverse events were reported. All patients underwent vibration control transient elastography (fibroscan). Sustained virologic response (SVR) was achieved in all patients (100%) 12 weeks post treatment. The predominant HCV genotype was 1b, seen in 60 patients (67%). Sixty-four patients (71%) had a fibrosis score <F3 while 26 patients (29%) had F3-F4 disease [3,4]. Fifteen patients (17%) had compensated F4 disease and no patients had decompensated F4 disease. While 21 patients (23%) were treated with Interferon based therapy, the majority of patients (n=69, 77%) were prior treatment naïve. The most common side effects from DAAs include headache, fatigue, insomnia, nausea, and diarrhea; none of which were reported among the 90 patients evaluated in this study. Drug-drug interactions between DAAs and several medication classes were closely examined including HAART, statins, herbal medications, and PPIs. All 90 octogenarians were HIV negative and were not treated with anti-retroviral agents. Five patients (6%) were on a statin (Atorvastatin or Simvastatin) and 31 patients (34%) were taking Cardiac medications (including Amiodarone) prior to treatment with DAA therapies. No patients were using herbal medications, other OTC's, or PPI during treatment [5,6].

The predominant DAA therapy utilized in our study was Sofosbuvir/ Ledipasvir (n=72, 80%) while other patients were treated with Sofosbuvir / Velpatasvir (n=13, 14%) and Elbasvir/ Grazoprevir (n=5, 6%). The transaminase levels pretreatment was used to assess the effect of DAA therapies on liver tests. Abnormal liver tests were present in all 90 patients prior to DAA therapy and normalized post treatment. Kidney function pre and post treatment showed no evidence of decrease in GFR in all cohorts. No patient stopped treatment for any reason during therapy for any reason (Tables 1 & 2).

Table 1: Direct Acting Anti-Viral Agents (DAAs).

DAA Therapy	Number and Percentage, N (%)
Sofosbuvir/ Ledipasvir	72 (80)
Sofosbuvir/ Velpatasvir	13 (14)
Elbasvir/ Grazoprevir	5 (6)

Table 2: Demographics and Concurrent Diseases.

	Group 1 (80-85 years old)	Group 2 (86 ≥ years old)
Age (Mean)	83.4	87.3
Gender (Male/ Female)	26/24	16/24
Ethnicity	Caucasian- 27	Caucasian- 20
	African American-10	African American-16
	Asian-3	Asian-8
	Other-2	Other-4
BMI (Mean)	27.4	23.8
HIV	0	0
HBV coinfection	0	0
Hepatic Steatosis	0	0
Diabetes	12	13

Conclusion

All 90 patients achieved SVR post DAA therapies. DAA therapies are safe and efficacious for use in octogenarian patients with CHC, including those with compensated cirrhosis. Active octogenarians should be considered for DAA therapies if there are no contraindications to treatment. Our study is limited by sample size and few comorbidities. Larger series with diverse demographics will further validate our understanding of the efficacy, tolerability, and safety of DAA therapy in the Octogenarian population. We encourage all health care providers to consider DAA therapy in this population.

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