Impact of Directly Acting Antivirals (DAAs) Treatment on Rates of Hepatocellular Carcinoma (HCC) in Hepatitis C Virus (HCV) and HIV Infected Patients

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Background

- HCV and HIV co-infection is known to be associated with increased risk of HCC.
- While we have data showing significant decline in the rate of HCC in HCV patients undergoing treatment with DAA, the rate of HCC in HCV-HIV co-infected patients treated with DAA is not known.
- The aim of our study was to evaluate the impact of DAA therapy on the incidence of HCC in HCV-HIV co-infected patients.

Methods

- This retrospective analysis included all patients co-infected with both HCV and HIV, followed at Grady Memorial Hospital between January 2012 and December 2017.
- Patients were divided into two groups based on whether they received or did not receive DAA therapy and followed for development of HCC.
- Data included age, sex, race, HCV genotype, type of DAA regimen and SVR (in the treated group), cirrhosis, hepatitis B status,
- HIV control, CD4 trend and rates of HCC in both groups. Chi-square and Hazard ratio were used to calculate levels of statistical significance.

Results

Table 1: Characteristics of HCV and HIV co-Infected Patients who received or did not receive DAA therapy and followed for development of HCC

	TREATED	UNTREATED	p-value
n	387	432	ns
Age	57	56	ns
Sex			
Male, n (%)	306 (79%)	337 (78%)	ns
Female, n (%)	81 (21%)	95 (22%)	-
Race			
African America, n (%)	704 (86%)	397 (92%)	ns
Others, n (%)	115 (14%)	35 (8%)	-
Cirrhosis, n (%)	37 (9.6%)	42 (10%)	ns
HbsAg positive, n (%)	20 (5.2%)	11 (2.3%)	p<0. 05
Poorly controlled HIV, n (%)	14 (3.6%)	147 (38%)	p<0. 00001
HCC, n (%)	1 (0.3%)	10 (2.3%)	p<0. 01

Table 2: Association with the development of HCC

Characteristic		p-value	
Poor HIV Control	8 (73%)	-	
Low CD4 count, median (cells/µl)	119	-	
HbsAg positive	3 (30%)	p<0. 00001	
Cirrhosis	8 (73%)	p<0. 00001	
Relative risk of HCC in the HCV HIV co-infected Cohort treated with DAA n (95% CI)	0. 11 (0. 014 to 0. 868)		p=0. 03

Conclusion

- DAA therapy significantly reduced rates of HCC in HCV-HIV co-infected patients.
- Eradicating HCV appears to overcome the significant role of HBV and cirrhosis in the development of HCC in these patients.
- Poor HIV control appears to be a big reason for withholding DAA therapy in these patients. .

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Author Disclosures

None