Effect of Treatment for HCV on the Development of HCC in a Predominately African American Medical Center Population.

Bassem Farah, Yechiel Mor, Sarvani Surapaneni, Brian Rutledge, Hojun Lee, Hajra Khan, Anshu Wadehra, Neel Patel, Paul Naylor, Murray Ehrinpreis, and Milton Mutchnick.

Wayne State University School of Medicine, Division of Gastroenterology

INTRODUCTION

Chronic Hepatitis C Virus (HCV) infection can result in the development of liver cirrhosis and is a major cause for the development of Hepatocellular Carcinoma (HCC) in the United States. With the initiation of HCV treatment in 2014 by Direct Acting Antivirals (DAA) which are highly effective in clearing HCV infections and safe for administration to patients with cirrhosis, it is anticipated that the epidemiology of HCC will be shifting. Unfortunately, viral elimination may occur in a setting where the HCC development pathway has already begun.

Our objective was to determine whether achieving a sustained virologic response (SVR) in patients with cirrhosis prior to diagnosis of hepatocellular carcinoma (HCC) improved outcomes in our predominately African American population.

METHODS

We reviewed the medical records of 96 HCV patients diagnosed with HCC between 2015 and 2019 (Figure1). Demographics, tumor size, treatment profiles, and outcomes following diagnosis were determined. Primary outcomes were defined as either alive, transplant or death/hospice. Tumor size was measured as non-small (> 5cm or multiple tumors) or small (< 5cm). The study was approved by the WSU IRB and data analysis performed using the SAS-JMP software.

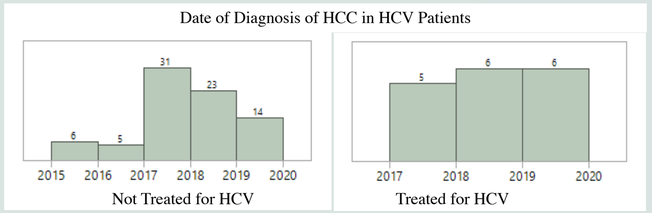

Figure 1 Distribution of patients by date of diagnosis of their HCC and whether they were treated for HCV prior to their diagnosis All of treated patients achieved viral clearance (Sustained Virus Response; SVR)

RESULTS

Only 17 (18%) of the 96 patients with HCV who developed HCC, were treated for their HCV prior to diagnosis (figure 1). There was no significant difference in the gender, race, and age of treated or non-treated patients.

Patients who were treated for their HCV prior to diagnosis were more likely to be alive in 2020 than% patients who were not treated (47% compared to 19& p = 0.0078; figure 2).

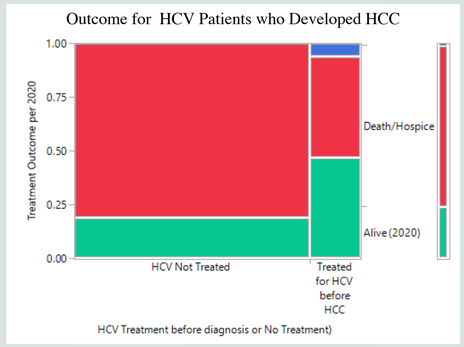

Figure 2: Patient outcomes comparing treated and not treated patients. The red bar is patients who are alive, and the green bar the patients who are dead or in hospice . The blue bar is the patient who received a transplant.

There was no significant difference in tumor size between HCV treated or not treated patients (29% compared to 25%, p = 0.7297; Figure 3).

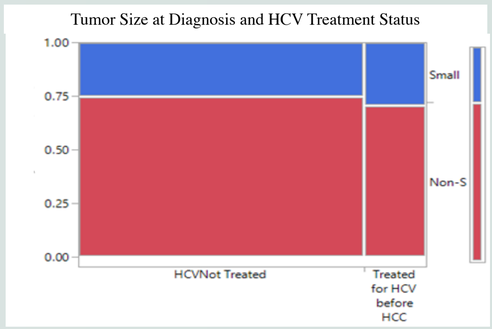

Figure 3: Tumor size at diagnosis and treatment status. Patients who were treated were not more likely to be diagnosed with a small tumor as compared to patients who were not treated for their HCV. Most patients were not identified under a surveillance protocol

RESULTS

Time to death or hospice was shorter for patients who were not treated as compared to patients who were treated.

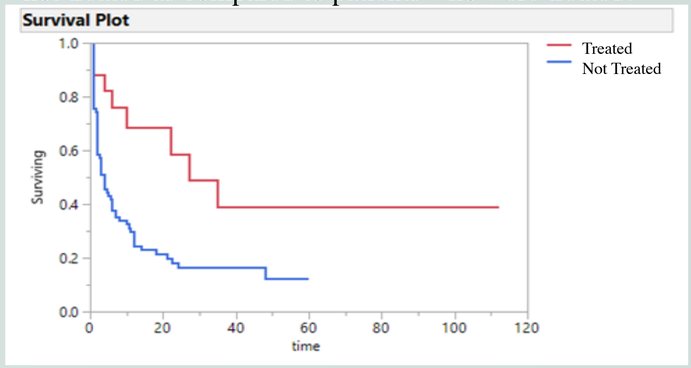

Figure 4: Survival (alive as compared to Death/Hospice)) was plotted as a function of time in months. Patients who were treated and achieved a sustained viral response prior to diagnosis of HCC are compared to patients with HCV who were not treated prior to diagnosis of their HCC.

Most treated patients (15) were diagnosed within three years of treatment. Two patients with the longest time between treatment and HCC diagnosis (12 and 14 years) were treated with Interferon and Ribavirin and had minimal cirrhosis at the time of treatment.

CONCLUSIONS

- Most patients with HCC in this study did not receive treatment for their HCV prior to HCC diagnosis, despite the introduction of treatment in 2014.
- Prior treatment of HCV in patients with cirrhosis leads to better outcomes than with no treatment. Even though tumor size is known to correlate with survival, tumor size at diagnosis was similar between treated and not treated patients. The reason for this discrepancy is not known.
- Since many of our cirrhotic patients treated for HCV with DAA have not yet developed HCC or have not yet reached a final outcomes, we will need to continue to expand and monitor our HCC patient population into the future analysis.