Development of Hepatocellular Carcinoma in HCV Patients

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Introduction

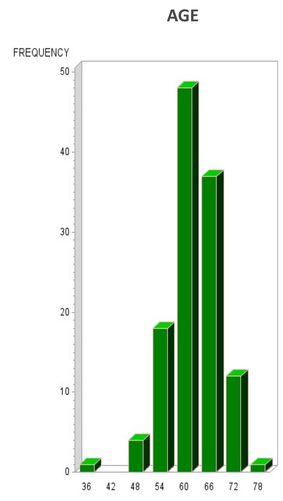
- Hepatocellular Carcinoma (HCC) is a liver cancer that occurs secondary to cirrhosis of the liver and chronic liver infections. As of 2019, 90% of all primary liver cancers reported in the United States were HCC.[1] HCC is also a leading cause of cancer related death worldwide.
- Several studies have indicated a connection between Hepatitis C virus (HCV), and Hepatocellular Carcinoma. Chronic HCV promotes cirrhosis of the liver, which promotes the development HCC.[2] Common risk factors associated with these diseases are IV drug use, alcohol abuse, and tobacco use.
- These two diseases have been found to have many racial, ethnic, socioeconomic, and geographic disparities in their diagnosis, treatment, and mortality. These disparities contribute greatly to the high mortality of these malignancies.
- The objectives of this study are to:
  - Determine if there are any delays in treatment among HCC patients
  - Determine if there are any disparities among HCC patients

Methods

- Epic was queried in order to generate a database of patients meeting the study criteria
  - Study criteria: All HCV positive patients and all HCC positive patients 18 years old or older who were seen in UMC's Emergency Department between January 2015 and April 2021
  - Medical charts of HCV positive patients were reviewed to see if they developed HCC after their HCV diagnosis. Medical charts of HCC positive patients were reviewed to see if those patients had a history of HCV.
- The medical charts of Patients positive for both HCC and HCV were reviewed in order to gauge the time between HCC diagnosis and treatment, the type of treatment initially received, basic demographic information (age, race, and ethnicity), and socioeconomic status (insurance type, homelessness status).
  - This data was statistically analyzed using SAS 9.4.

Demographics

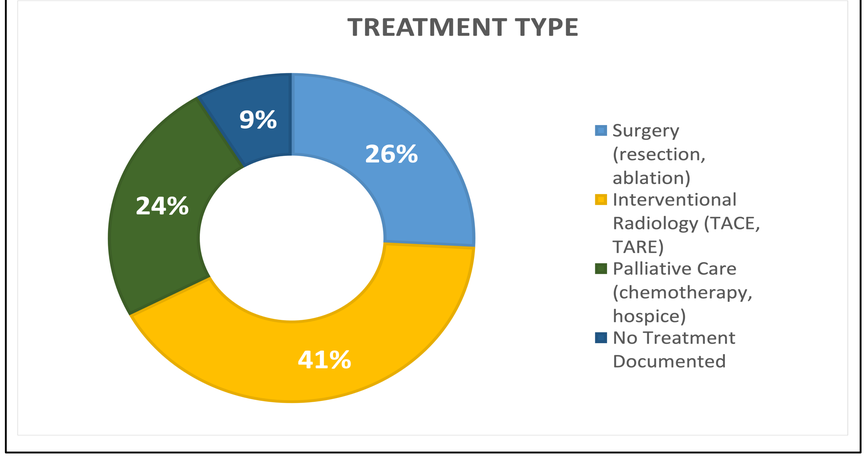
Variable	Frequency	Percent
Gender		
Male	107	88.43
Female	14	11.57
Race		
Black	81	66.94
White	36	29.75
Asian	3	2.48
Other/ Mixed	1	0.83
Insurance Type		
Government (Medicare/ Medicaid)	112	92.56
Other (None, Prison)	9	7.44
Homeless Status		
Not Homeless	116	95.87
Homeless	5	4.13



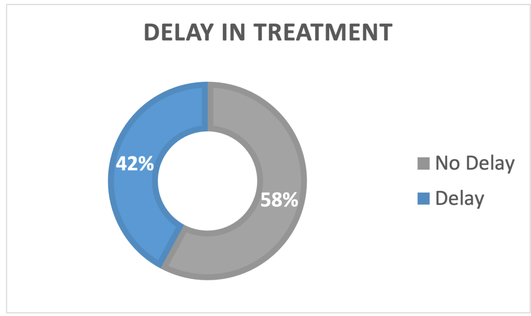
Mean	Std Dev	Minimum	Maximum
61.182	6.113	37.000	79.000

n= 121 HCC patients with a history of HCV

HCC Treatment Types



HCC Treatment Delays



Mean	Std Dev	Minimum	Maximum
100.131	204.113	0.000	1764.000

A delay in treatment was defined as more than 51.7 days between diagnosis and initial treatment.

Conclusions

- No correlation was found between the two study groups in terms of demographics or treatment.
- Patients who are African American and/or male are diagnosed with HCC more.
- While HCC mostly occurs in those of age 60 years or older, it can be seen that HCC is starting to affect those in their late 30s and 40s as well.
- Most of the patients (91%) received some type of treatment for their HCC. However, only the surgery treatment type (which accounts for 26% of the treatments for HCC cases) is potentially curative.
- Great delays in treatment have been associated with worse survival among HCC positive patients.
- One limitation of our study was a lack of follow up information due to some patients seeking care at outside hospitals and clinics. Also, there were inconsistencies in the recording of diagnosis and treatment dates.
- Next steps will be to continue data collection to determine if our observations hold true.

1.Zhu, XD., Sun, HC. Emerging agents and regimens for hepatocellular carcinoma. J Hematol Oncol 12, 110 (2019). https://doi.org/10.1186/s13045-019-0794-6

2. Jeong, S. W., Jang, J. Y., & Chung, R. T. (2012). Hepatitis C virus and hepatocarcinogenesis. Clinical and Molecular Hepatology, 18(4), 347. https://doi.org/10.3350/cmh.2012.18.4.347

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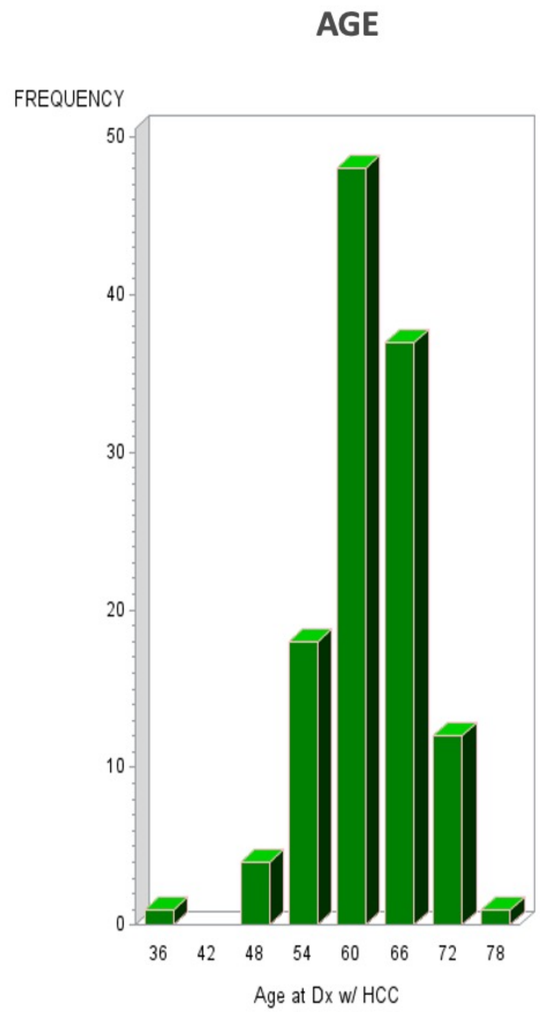

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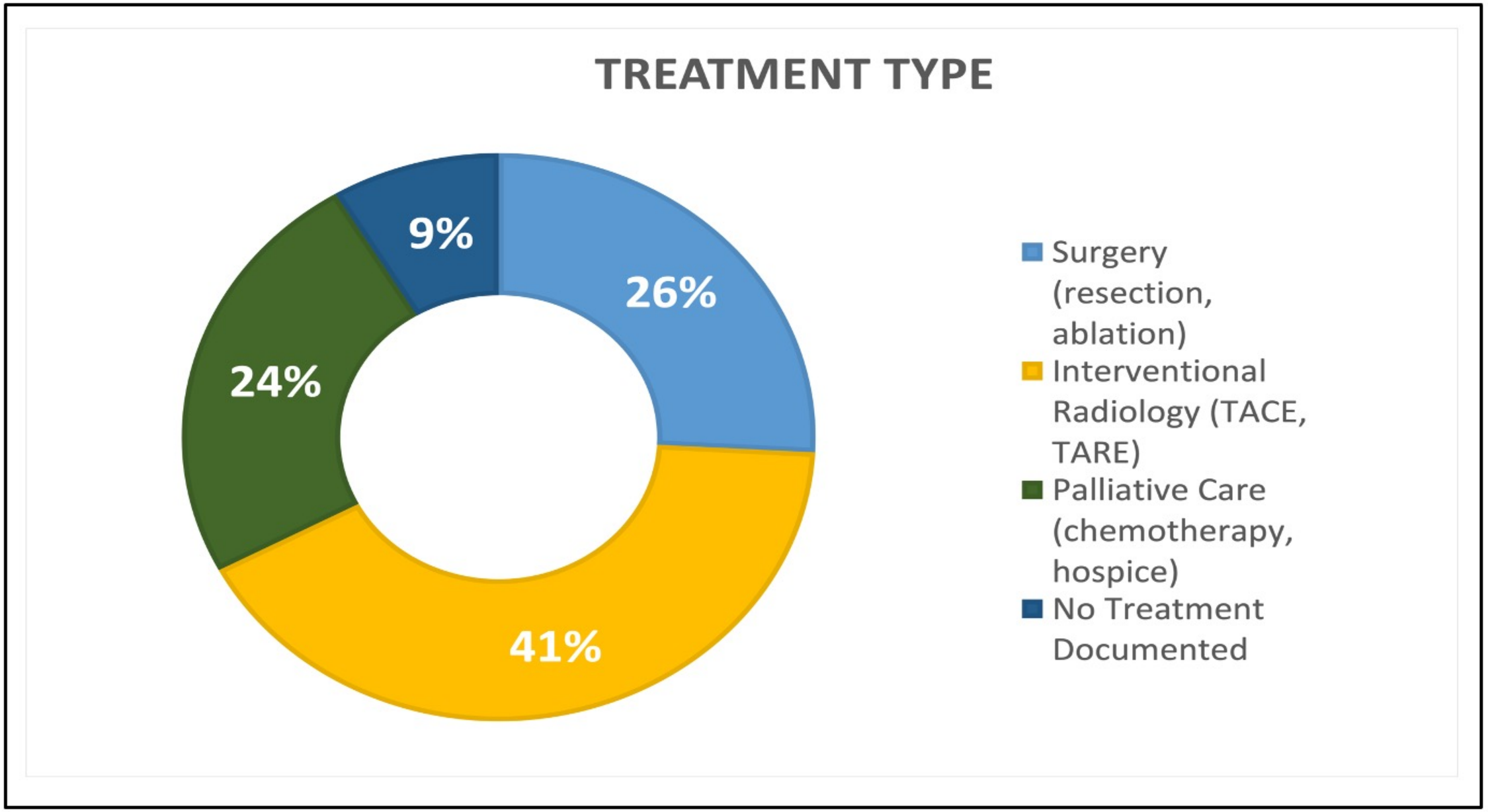

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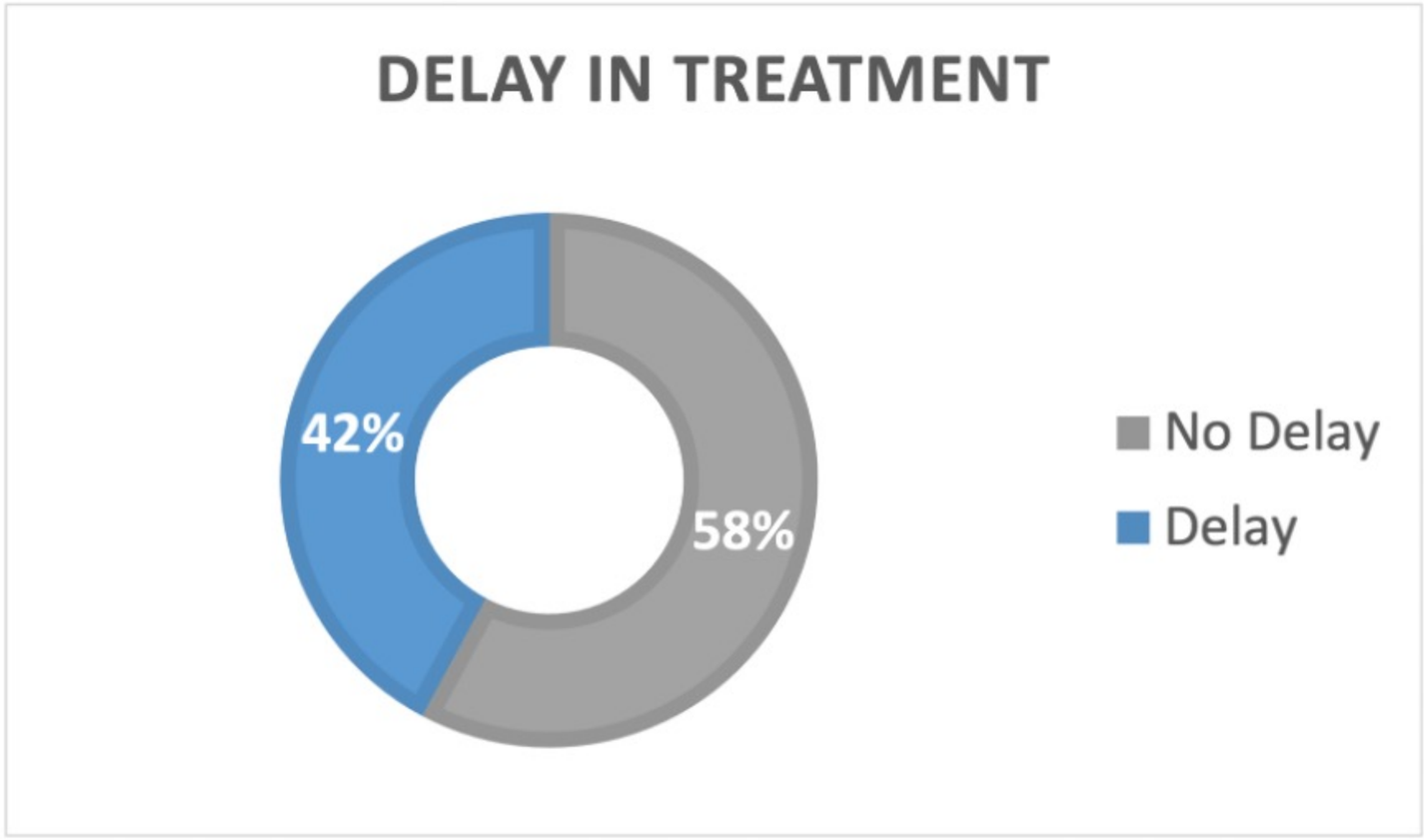

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