Background Incidence of hepatocellular cancer (HCC) in the Bronx in 2019 was 61% higher than New York State as a whole.1 The advent of immune checkpoint inhibitors (ICI) has changed HCC therapy. ICI efficacy has not been extensively studied in underserved populations often excluded from clinical trials.

Methods 183 patients treated with nivolumab (n = 118), pembrolizumab (n = 22), nivolumab with ipilimumab (n = 4), atezolizumab (n = 6) and atezolizumab with bevacizumab (n = 33) between 2017 and 2021 (data cut-off) at the Montefiore-Einstein Cancer Center were identified based on electronic medical record (EMR) review. Kaplan Meier and Chi-squared analysis were performed.

Results

Racial and ethnic composition was: 42.1% Hispanic, 21.3% Black, 13.1% White, 4.9% Asian and 18.6% unknown. Hepatitis C and alcoholism were more commonly the sole cause of liver disease relative to the SEER database (13.7% vs 4.7% and 39.3% vs 8.2% respectively).2,6 64.33% of patients were diagnosed with HCC upon symptomatic presentation rather than by screening. Child-Pugh score at start of ICI was: A (51.4%), B (36.1%), and C (10.4%). (table 1). Median overall survival (mOS) after immunotherapy initiation was 9.0 (95% confidence interval, 7.0-13.0) months. Child-Pugh A, B, and C patients had a mOS of 16.0, 5.0, and 1.0 months respectively (p=0.003). 145 patients were evaluated on follow-up imaging. Disease control rate (DCR) was 39.3%. 8 patients (5.52%) had a complete response (CR). Patient achieving disease control were more likely to be diagnosed based on screening than were progressing patients (p=0.045), and all patients with Child-Pugh C cirrhosis progressed. There was no difference in survival when data were stratified by etiology of cirrhosis or race/ethnicity. 50 patients (27.3%) reported any immune related adverse event (irAE). 8 patients (4.4%) experienced grade ≥3 irAEs. One patient died of perforated immune colitis.

Conclusions In an underserved population of patients in the Bronx, enriched for alcoholism and hepatitis C, ICI to treat HCC yielded a DCR of 39.3%, mOS of 9 months, and toxicity in line with published reports.7 Etiology of cirrhosis did not predict benefit of immunotherapy, but baseline liver function and diagnosis made based on screening correlated with mOS and disease control. These results highlight a need for earlier HCC diagnosis and immunotherapy administration.

REFERENCES

Ethics Approval The study was approved by the Albert Einstein College of Medicine institution’s Ethics Board, approval number 2021-13514.

Abstract 932 Figure 1 Kaplan-Meier analysis of overall survival in HCC patients in The Bronx treated with ICI. Survival rates are shown for: A. All patients. B. Patients stratified by Child-Pugh score at initiation of ICI. C. Patients stratified by baseline serum AFP prior to ICI therapy. Survival is presented as the median (95% confidence interval). AFP, a-fetoprotein protein; CP, Child-Pugh; ICI, immune checkpoint inhibitor.

Abstract 932 Figure 2 AFP Response Correlates with Overall survival. Kaplan-Meier analysis of overall survival is shown stratified by AFP response at 3 months.
Abstract 932 Figure 3  Overall survival based on HCC presentation. Survival is shown from time of diagnosis, stratified by cancer presentation; found at screening, incidentally, or based on symptoms.

Abstract 932 Table 1  Patient characteristics. HBV, chronic hepatitis B; HCV, chronic hepatitis C; NAFLD, nonalcoholic fatty liver disease; CLIP score, Cancer of the Liver Italian Program score; AFP, a-fetoprotein protein