



The Impact of Race on the Overall Survival Rate of Hepatocellular Carcinoma in the African American Population



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(The authors have no conflicts of interest as it relates to the content of this abstract)

Introduction

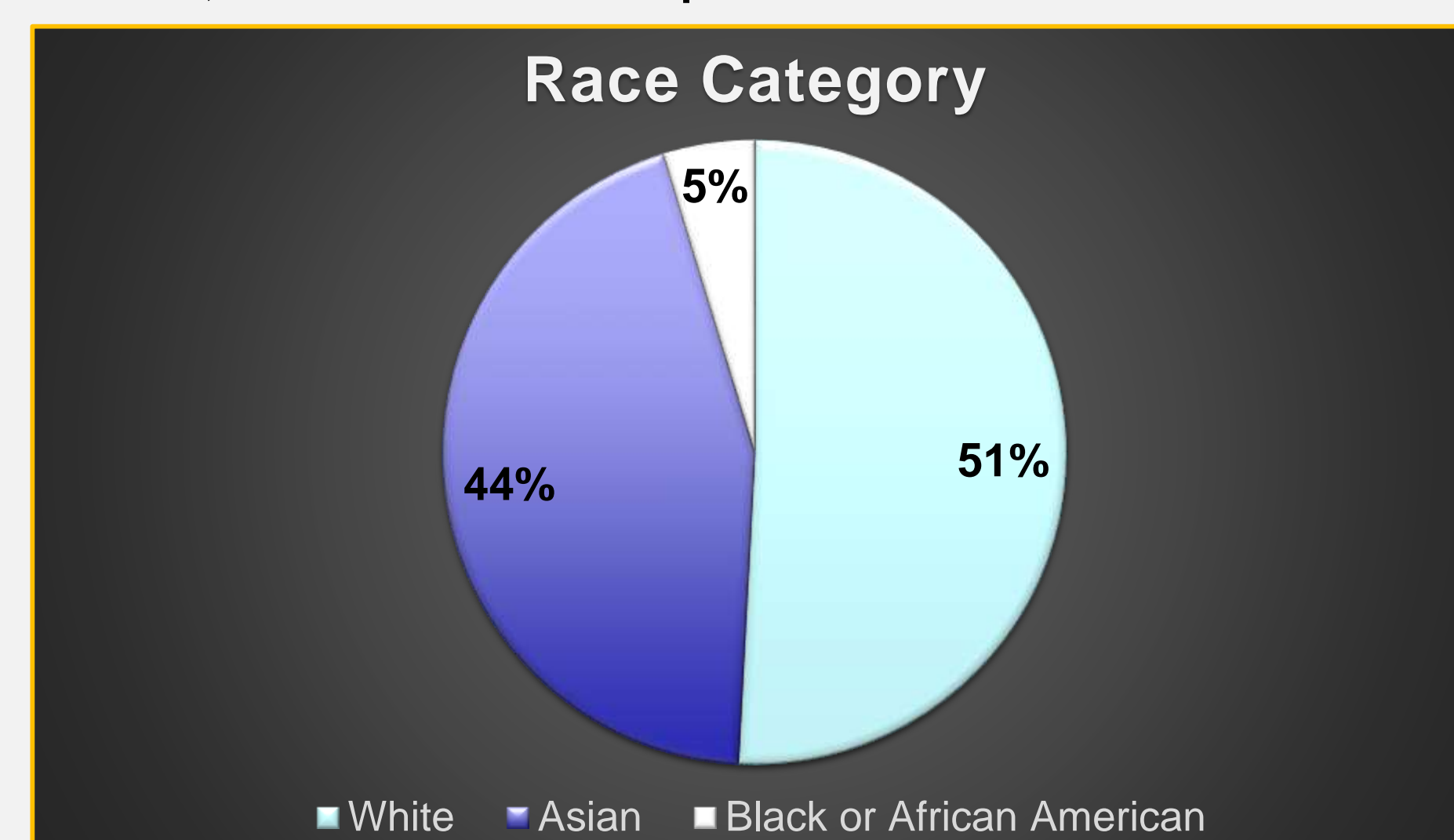
- Hepatocellular carcinoma (HCC) accounts for approximately 90% of the incidence of all primary liver cancers.
- It is also the fifth most prevalent malignancy worldwide and the third most common cause of cancer mortality.
- Cirrhosis represents the greatest risk factor for this malignancy; however, HCC has several interesting epidemiologic features such as, variation among race and gender, dynamic temporal trends, and potentially preventable environmental risk factors.
- Of note, HCC incidence is increasing at differential rates depending on race.

Objective

We aimed to identify the association and overall survival after HCC diagnosis in a diverse American population.

Methods

- Using the cBioPortal platform and systematic bioinformatical-analysis of The Cancer Genome Atlas (TCGA) PanCancer Atlas dataset, we analyzed the effect of race on overall survival rate.
- A total of 360 patients were included in the study, of which there were 234 living patients and 126 deceased patients.
- The patients were further categorized by race which included 183 white patients, 17 African American patients, and 160 Asian patients.



Results & Figures

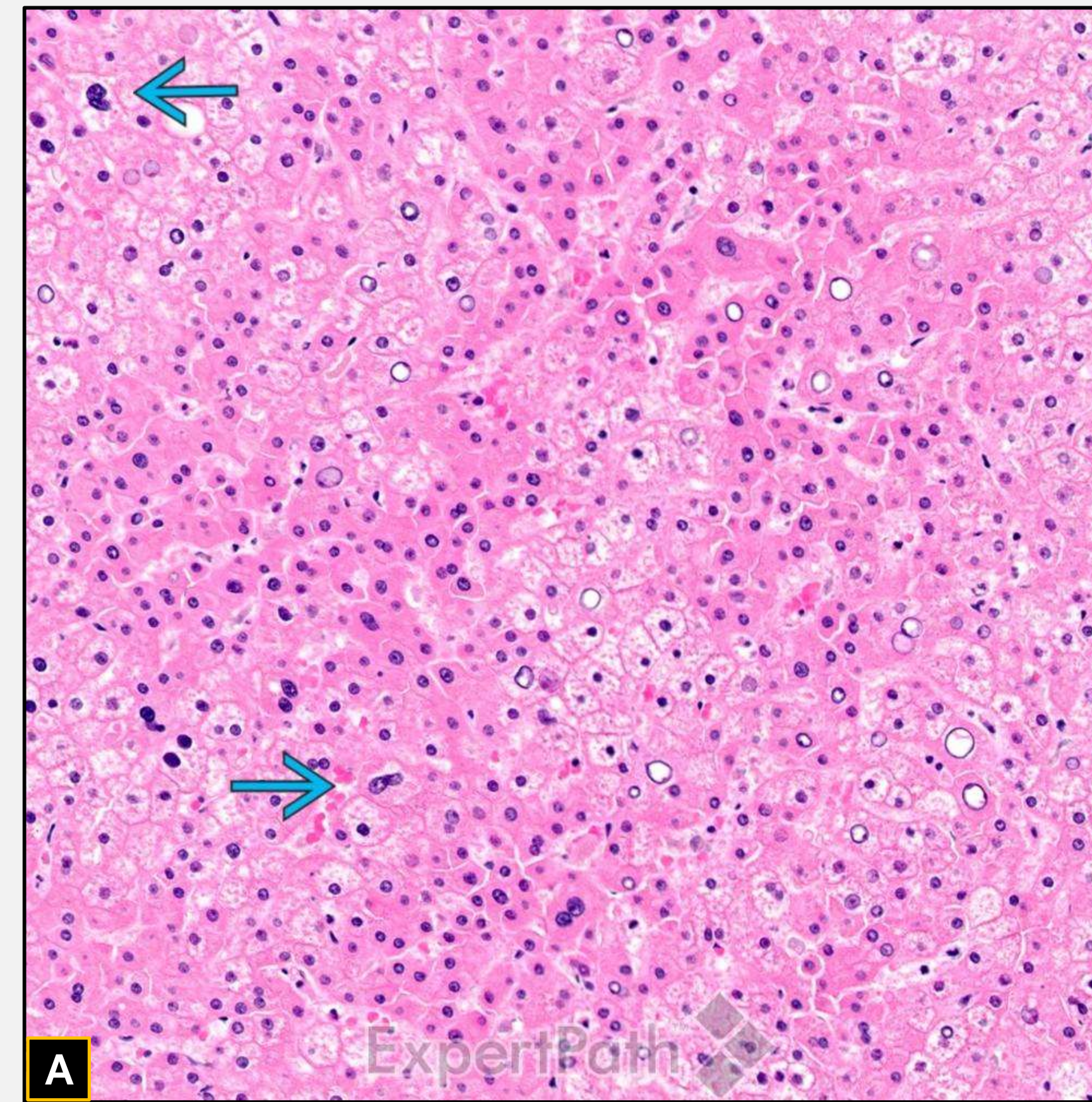


Figure A. An example of an extremely well-differentiated HCC comprising diffuse and cord-like growth patterns is shown. Scattered foci of larger atypical tumor cells are present (cyan solid arrow). Morphologic diagnosis of HCC is difficult based on H&E stain alone.

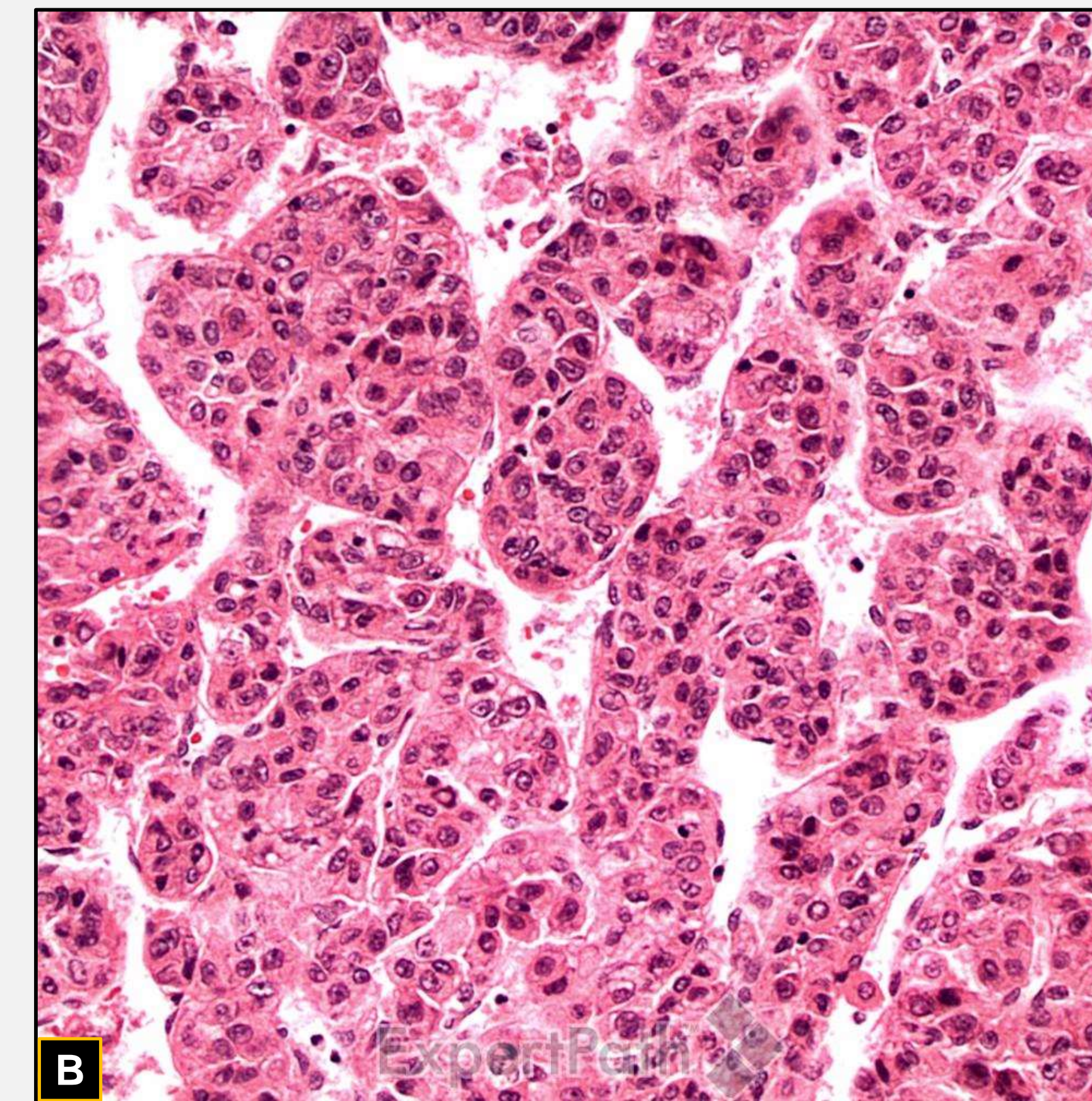


Figure B. Neoplastic cells resembling hepatocytes show moderate cytologic atypia and a trabecular growth pattern.

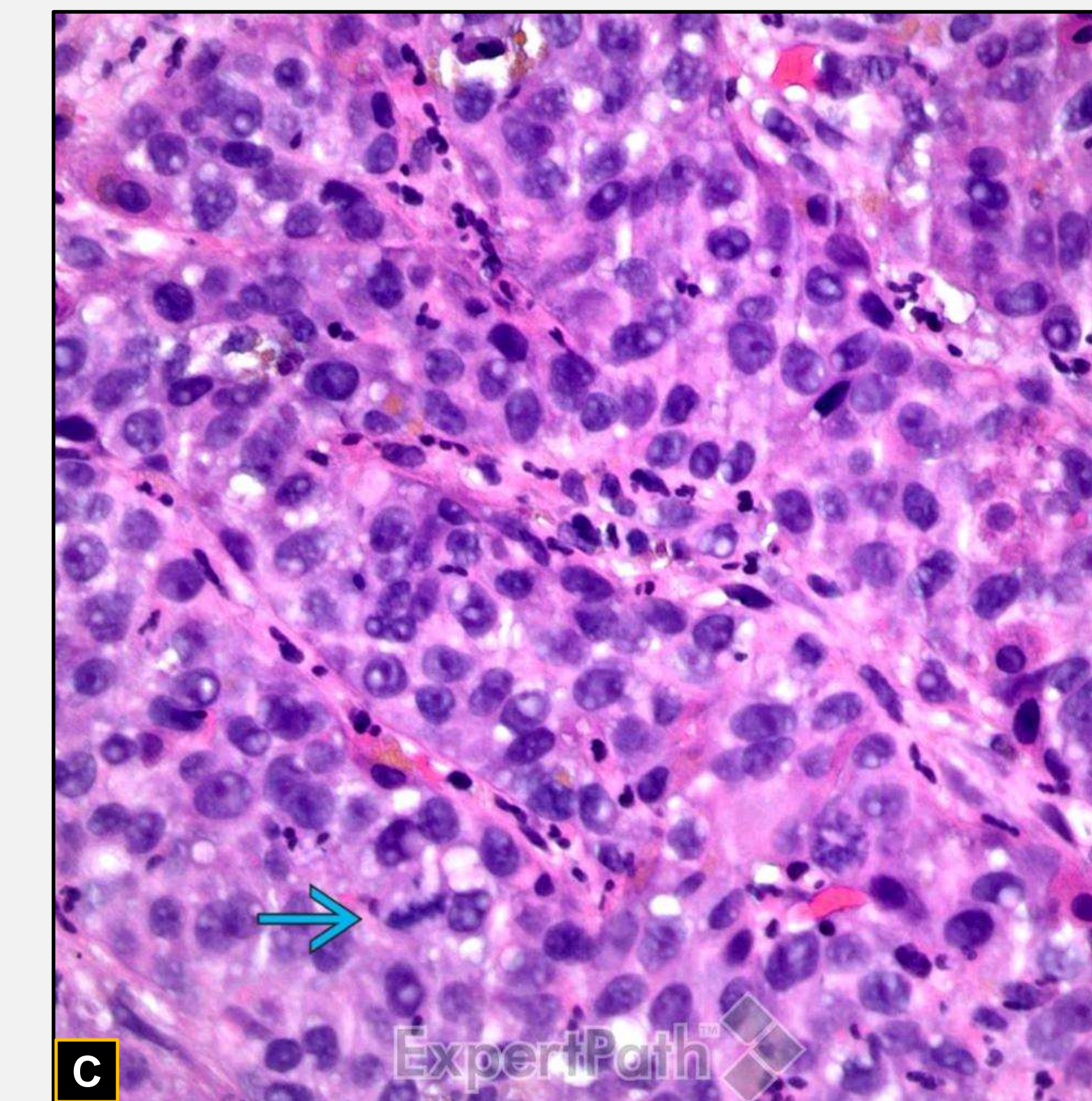


Figure C. Marked cytologic atypia and frequent mitoses (cyan solid arrow) are shown. The tumor was positive for both arginase-1 and CK19; other hepatocellular markers were negative.

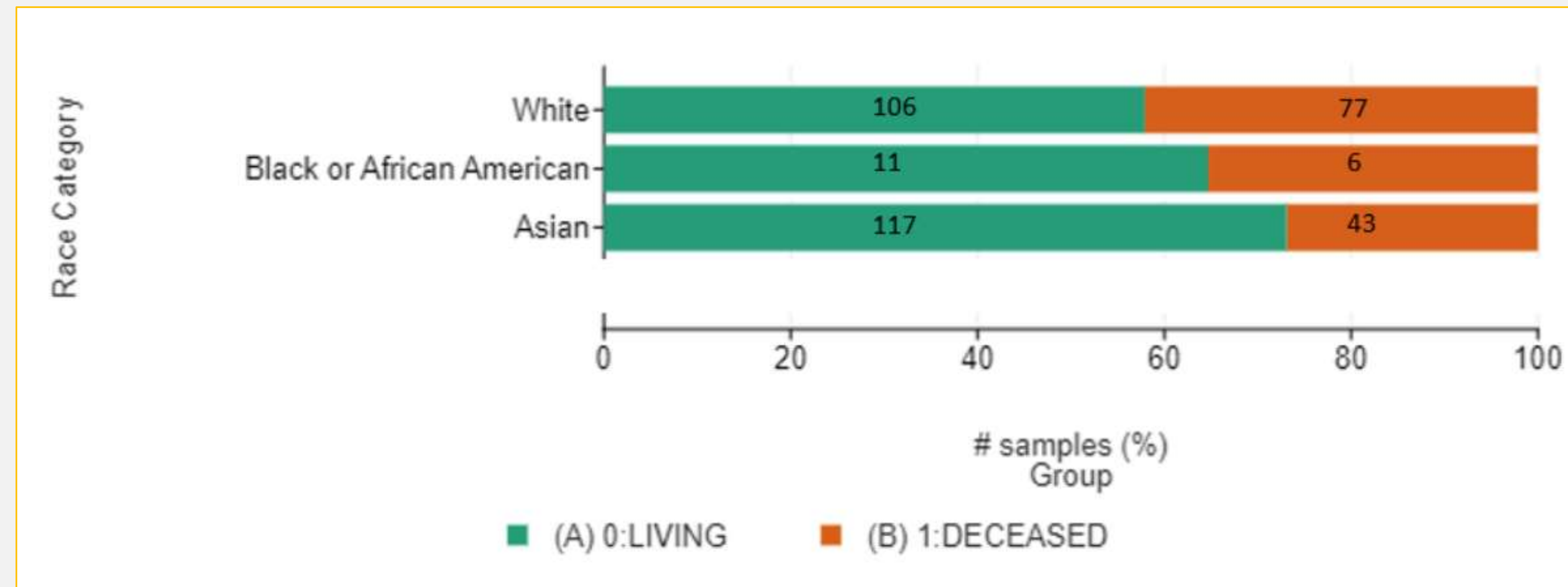


Figure E. Graphical representation of overall survival rate vs. race category.

Discussion

- Remarkably, the impact of race on the overall survival rate of HCC was statistically significant as the African American population had the lowest number of HCC cases (17) and a higher overall survival rate compared to the white population (64.71% vs. 57.92%, $p < 0.0206$).
- However, the Asian population had the highest overall survival rate (73.13%) with an increased number of HCC cases (160) compared to the African American population.

Conclusion

The findings in this study suggest that race may play a role in the risk of developing hepatocellular carcinoma and potentially treatment options.

Further studies are warranted to evaluate the impact of overall survival status and incidence of HCC cases among various races.

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