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Features of Hepatocellular Carcinoma in Hispanics Differ from African Americans and Non-Hispanic Whites

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Patient characteristics were first summarized using mean $\pm$ SD for normally distributed continuous variables, median and interquartile range for non-normally distributed continuous variables, and percentages for categorical variables. Analysis of variance was used to examine mean differences by race for continuous variables with regards to demographics, comorbidities, liver disease etiology and characteristics, tumor parameters, and treatment patterns. Two-sided Chi-square tests or Fishers' exact test ($\leq$ 5 patients) were conducted to assess specific pairwise differences by race (between Hispanics, African Americans, and Whites) for variables that showed significant overall differences by race ($p<0.05$). Further analysis was not performed for groups including $\leq$ 5 patients. A Cox proportional hazard regression model was developed to evaluate survival adjusted by demographic and clinical factors, and a stepwise model was used for variable selection. Variables approaching statistical significance in univariate analysis ($p=0.10$) and clinically meaningful variables were included in a forward stepwise selection. Potential confounders examined included gender, race, insurance, stage at diagnosis, MELD at diagnosis, Milan Criteria, receipt of locoregional therapy, HCV, hepatic encephalopathy, metabolic syndrome, diabetes, ascites, NASH, smoking history, and AFP level. Only variables reaching statistical significance at 0.05 α level were retained in the final multivariable model. Multivariable analysis rather than multivariate analysis was conducted to best assess for multiple independent variables and relationships while adjusting for potential confounders[13,14].
The Kaplan-Meier method was utilized to estimate survival distribution for two overall survival analyses, first with inclusion of all patients, and second with exclusion of liver transplant recipients. Overall survival was defined as the interval between date of HCC diagnosis and date of death due to any cause, or date of data censorship (June 6, 2013) for patients still alive. All tests were two sided. Analysis was performed via SAS 9.3 (SAS Institute, Cary, NC).

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