Background: The SHARP and Asia-Pacific (AP) trials showed that S improves OS compared to placebo in advanced HCC. However, OS was worse in the AP trial, which included predominantly East Asian (EA) patients. The purpose of this study was to determine whether ethnicity affects OS in patients with advanced HCC being treated with S.

Methods: Patients who received S for the treatment of HCC between 01/01/08 and 30/06/16 in the provinces of British Columbia and Alberta, as well as Princess Margaret Cancer Centre and Sunnybrook Odette Cancer Centre in Toronto, Ontario were included. Patient demographics and clinical variables were retrospectively collected. Patients were dichotomized by ethnicity as either EA or not according to a validated list of surnames. Survival outcomes were assessed with Kaplan-Meier curves and compared with the log-rank test. A Cox-proportional hazard model was constructed with ethnicity and relevant clinical characteristics to assess their impact on survival.

Results: A total of 757 patients were included. Mean age was 64 years. 81% men. 36% East Asian, and 86% Child-Pugh (CP) A at initiation of S. Underlying cause of liver disease was 51% hepatitis B Virus (HBV) and 30% hepatitis C Virus (HCV). Majority of patients had a performance status of 0 (30%) or 1 (58%). EA compared to non-EA were more likely to have HBV (68 vs 11%) and less likely to have HCV (13 vs 39%), p < 0.01. Median OS was 8.6 months for EAs and 9.6 months in non-EAs (p = 0.89). On multivariate analysis, ethnicity (HR 1.01, 95% CI 0.82 - 1.27, p = 0.89) was not a significant prognostic factor for OS. However, no previous localized treatment (HR 1.66 95% CI 1.39 - 1.99, p < 0.01), higher ECOG (HR 1.63 95% CI 1.34 - 1.97, p < 0.01), CP B at initiation of S (HR 1.72 95% CI 1.34 - 2.20, p < 0.01) and HBV compared to HCV (HR 1.39 95% CI 1.08 - 1.80, p = 0.01) were associated with worse survival.

Conclusions: Ethnicity does not affect OS in HCC patients treated with S. However, patients treated with S who have a history of HCV appear to have a better OS than those with HBV. Higher baseline ECOG, no previous localized treatments and CP B liver function appear to negatively affect OS.

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