Letter to the Editor

Comparison of Safety and Efficacy of Yttrium-90 Radioembolization for Nonalcoholic Fatty Liver Disease-Associated and Hepatitis B Virus-Associated Hepatocellular Carcinoma

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Dear Editor,

We read with great interest the article by Dr. Schotten et al. [1]. In this retrospective single-center cohort study, the safety (treatment-related toxicity) and efficacy (overall survival) of yttrium-90 radioembolization between nonalcoholic fatty liver disease (NAFLD)-associated and hepatitis B virus (HBV)-associated hepatocellular carcinoma (HCC) were compared. The results of this study showed that, at a comparable toxicity profile in the 87 patients with NAFLD-associated and the 62 patients with HBV-associated HCC, median overall survival after yttrium-90 radioembolization for patients with NAFLD-associated HCC was similar to patients with HBV-associated HCC (11.1 vs. 9.3 months, $p = 0.38$). Herein, we would like to raise the following comments.

In this study, the baseline characteristics of patients with NAFLD-associated HCC and HBV-associated HCC were identified and compared. As shown in Table 1 of this study, there were significant or marginally significant differences in many clinical variables between these two groups, including mean age ($p < 0.01$), European Cooperative Oncology Group criteria ($p = 0.07$), the presence of cirrhosis ($p = 0.01$), Child-Pugh score ($p = 0.07$), size of major nodule ($p = 0.05$), etc., which suggests an unbalanced enrollment due to these confounding variables between the two groups. As we all know, propensity score methods have been increasingly used to reduce the selection bias in estimating treatment effects and allow investigators to reduce the likelihood of confounding when analyzing nonrandomized, observational data [2, 3]. Actually, one similar comparative study between NAFLD-associated and HBV-associated HCC in patients undergoing liver resection (but not yttrium-90 radioembolization) has previously been reported, and propensity score matching analysis was well performed in that study [4]. Although the conclusions of both studies indicated that regardless of yttrium-90 radioembolization or liver resection, the safety and efficacy between NAFLD-associated and HBV-associated HCC were comparable, the latter study [4], from the perspective of statistical reliability, is much better than the previous one [1]. Herein, we propose propensity score analysis, adopted in Schotten et al.'s study [1]. In addition, multivariate Cox regression analysis of overall survival should also be performed in the entire cohort to identify whether there was an independent survival difference between patients with NAFLD-associated and HBV-associated HCC.

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The authors have no conflicts of interest to declare.

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Author Contributions

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