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Efficacy of Combination With mTOR and Sorafenib alone for recurrence of HCC after liver transplant

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Background/Aims: There is no consensus on the most suitable immunosuppressive agent for the recurrent hepatocellular carcinoma (HCC) after liver transplantation (LT). We investigated the efficacy of the combined use of sorafenib and a mammalian target of rapamycin (mTOR) inhibitor for the patients with recurrent HCC after LT. **Methods:** 38 patients, who used tacrolimus as an immunosuppressive agent, diagnosed with recurrent HCC after LT and initiated sorafenib between 2008 and 2019, were retrospectively analysed. Kaplan-Meier analyses were used to calculate progression-free survival (PFS) and overall survival (OS). **Results:** The median age of 33 males and 5 females was 53.7 years. 35 (92.1%) and 2 (5.3%) patients had chronic hepatitis B and C, respectively. The median OS from LT was 837.5 days. The median OS and PFS from sorafenib initiation were 453 and 178 days, respectively. 21 patients (55.3%) added mTOR inhibitor (everolimus or sirolimus) with tacrolimus at the time of initiating sorafenib. There was no significant difference of baseline variables whether mTOR inhibitor user or not, except male gender (12 [70.6%] in mTOR inhibitor user vs. 21 [100%] in tacrolimus-mono users, p=0.012). The treatment outcomes of sorafenib in combined mTOR inhibitor users were not significantly better compared to tacrolimus-mono users: the median OS and PFS from sorafenib initiation were 659 (vs. 398) and 230 (vs. 120) days, respectively (All p>0.05). **Conclusions:** Combined treatment with tacrolimus and mTOR inhibitor was not superior comparing to tacrolimus-mono therapy when perform sorafenib treatment for recurrent HCC after LT.

Figure 1. Kaplan-Meier curves of overall survival from initiating sorafenib treatment for recurrent hepatocellular carcinoma after liver transplantation. Median OS = 398.0 (170.0-593.0) vs. 659.0 (232.0-900.0), P value = 0.429