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Topic : **Liver**

CLINICAL IMPACT OF RESECTION MARGIN IN HEPATOCELLULAR CARCINOMA

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Background : Surgical resection is recommended in Hepatocellular carcinoma as the first-line treatment when surgery is feasible. And studies suggest that surgical margins should be adjusted when preoperative tumor markers are elevated. In this context, this study aims to appropriate surgical margins by analyzing preoperative test results in HCC expected to have a high risk of recurrence.

Methods : The study encompassed 876 patients with HCC who underwent surgery at SNUH from October 2005 to July 2024. Propensity score matching, Kaplan-Meier survival estimates, and Cox regression analyses were employed to compare recurrence-free survival.

Results : After propensity score matching, 552 were included by margin 5mm. The lower margin group had a higher tendency of resection margin recurrence (p-value 0.062) with no statistically significant difference in other factors in baseline characteristics. Univariate and multivariate analysis showed T stage and resection margin as risk factors for recurrence in the entire cohort and for the PET hypermetabolic HCC subgroup. Kaplan-Meier analysis showed statistically significant difference in progression free survival in hypermetabolic HCC by margin (p-value 0.003, 5-year survival 0.583, 0.393, respectively). When divided by surgical technique in hypermetabolic HCC, larger margin showed a tendency of better survival in the anatomical resection group after 1 year (p-value 0.06, 1-year 0.73, 0.717, 5-year survival 0.557, 0.384, respectively). In the non-anatomical resection group, larger margin showed better survival rates (p-value 0.02, 5-year survival 0.628, 0.411, respectively).

Conclusions : This study shows HCC expected to be more vulnerable to recurrence, especially those with hypermetabolism, will benefit from adequate resection margin regardless of surgical technique.

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