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Modified Charlson Comorbidity Index As A Survival Prediction Tool For Older Patients After Liver Transplantation

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Background : An increasing number of older patients now undergo liver transplantation. Although the overall outcomes in older patients are not different from those of younger patients, there is no tool to predict liver transplantation prognosis in older patients. We hypothesized that a modified Charlson Comorbidity Index and 5-Factor Modified Frailty Index can predict outcomes in elderly patients after liver transplantation.

Methods : This retrospective study included 155 patients (>65 years) who underwent liver transplantation at Seoul National University Hospital. The recipients were subcategorized into two groups based on the modified Charlson Comorbidity Index score and 5-Factor Modified Frailty Index: the low- (0–1) and high modified Charlson Comorbidity Index groups (2–5), and low- (\leq 0.4) and high 5-Factor Modified Frailty Index (>0.4) groups. The independent effect of each variable on post-liver transplantation survival was determined using the modified Charlson Comorbidity Index subgroup, age at transplantation, sex, Child-Turcotte-Pugh score, Model for End-Stage Liver Disease score, and 5-Factor Modified Frailty Index subgroup.

Results : The high modified Charlson Comorbidity Index group, which included 41 patients, showed significantly lower 1- and 3-month and 1-, 3-, and 5-year survival than the low modified Charlson Comorbidity Index group. Using the Cox regression model, the modified Charlson Comorbidity Index, sex, and Model for End-Stage Liver Disease score remained significant. The 5-Factor Modified Frailty Index was not a significant factor to predict patients' survival.

Conclusions : Thus, the modified Charlson Comorbidity Index and Model for End-Stage Liver Disease scores could be used to predict post-liver transplantation survival in elderly patients.

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