MODIFIED CHARLSON COMORBIDITY INDEX FOR PREDICTING LONG-TERM SURVIVAL AFTER ORTHOTOPIC LIVER TRANSPLANTATION: A VALIDATION COHORT STUDY
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Introduction: The Charlson Comorbidity Index for Orthotopic Liver Transplantation (CCI-OLT) was recently developed to predict survival at 5 years after OLT[1].

Objectives: The purpose of this study was to determine the ability of the CCI-OLT and other pre-transplant recipient factors to predict long-term survival after OLT. Secondly, we aimed to develop a new model to predict 5-year mortality after OLT.

Methods: This single center retrospective cohort study included 524 consecutive adult cirrhotic patients who underwent OLT between 2002 and 2012. External validation of CCI-OLT used the Kaplan-Meier method. Derivation of the new predictive model used Cox proportional hazards regression.

Results: The 1-, 3-, and 5-year cumulative survival after OLT was 89%, 80%, and 73%, respectively. CCI-OLT was not associated with 5-year mortality after OLT (P = 0.34). We derived and internally validated a new predictive model of 5-year mortality after OLT based on six easy-to-know pre-transplant characteristics of patients: age, body mass index, hepatitis C, hepatic encephalopathy, ICU stay at transplant, and live donor transplant. Based on this predictive model, we further developed a nomogram to allow clinicians to easily estimate individual probability of 1-, 3-, and 5-year survival after OLT.

Hazard ratio

Body mass index (20-25 Kg/m²)
Age (45-65 years)
ICU at transplant
Hepatic encephalopathy
Hepatitis C
Live donor transplant

Points
Body mass index (Kg/m²)
Age (years)
ICU at transplant
Hepatic encephalopathy
Hepatitis C
Live donor transplant
Total points
1-year survival
3-year survival
5-year survival