INTRODUCTION

The new United States Acute Liver Failure Study Group (USALFSG) model to predict 21 day survival without liver transplantation (LT) in patients with acute liver failure (ALF) is based upon encephalopathy (HE) grade, vasoressor requirement, etiology Bilirubin and INR (figure 1). Derivation studies suggest good discrimination and high specificity in predicting transplant free survival. A threshold of <20% predicted survival has been suggested to identify LT candidates. The model has not been externally validated: in a large cohort of ALF patients we assessed its diagnostic performance and practical utility.

RESULTS

Table 2. Predicted Survival in Cohort by Etiology and Outcome.

Table 3. AUROC in Cohort by Etiology and Outcome.

Table 4. Diagnostic test performance of predicted survival thresholds.

Table 5. Illustrative 2×2 Contingency Tables for 20% Predicted Survival Threshold.

CONCLUSIONS

External assessment of the USALFSG model to predict medical survival of ALF patients confirms:

- Simplicity of use with readily available variables.
- Good discrimination as assessed by AUROC.
- Reasonable calibration.
- Predicted survival threshold of <20% for identifying non-survivors had high specificity but low sensitivity, failing to identify half of non-survivors.
- Model is unlikely to be sole tool to select LT candidates.

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