

**TITLE:** Association of ALBI Grade, APRI Score and ALBI-APRI Score to Post-Operative Outcomes among Liver Cirrhosis Patients after Non-Hepatic Surgery.

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## **CONTENT:**

**Objectives:** Liver cirrhosis patients have increased risk for poor postoperative outcomes after non-hepatic surgery with liver dysfunction being the most important predictor. This study aims to determine the association of ALBI grade, APRI and ALBI-APRI scores to postoperative outcomes among cirrhotic patients who underwent non-hepatic surgery.

**Materials and Methods:** This is a retrospective cohort study involving 34 patients. Age; ASA class; urgency of surgery; etiology of liver cirrhosis; preoperative CTP score, MELD score, ALBI grade, APRI score and ALBI-APRI score were documented. Outcomes are post-operative hepatic decompensation (POHD) and in-hospital mortality. Bivariate analysis using Mann-Whitney U test and Fisher's exact test were done. Receiver operating characteristic (ROC) curve analysis was done to compare the ability of the liver scoring systems to predict the study outcomes. Binary logistic regression was done to measure the odds ratio.

**Results:** ALBI grade and ALBI-APRI score were significantly associated with both POHD and in-hospital mortality. Both scores are non-inferior to CTP and MELD scores in predicting study outcome. Compared to CTP and MELD scores, ALBI grade is more sensitive but less specific in predicting POHD and as sensitive but more specific in predicting in-hospital mortality. ALBI-APRI score is less sensitive but more specific than ALBI grade in predicting both POHD and in-hospital mortality.

**Conclusions:** ALBI grade and ALBI-APRI score were all associated to post-operative hepatic decompensation and in-hospital mortality and were non-inferior to CTP score and MELD score predicting short-term in-hospital outcomes among cirrhotic patients after non-hepatic surgery.