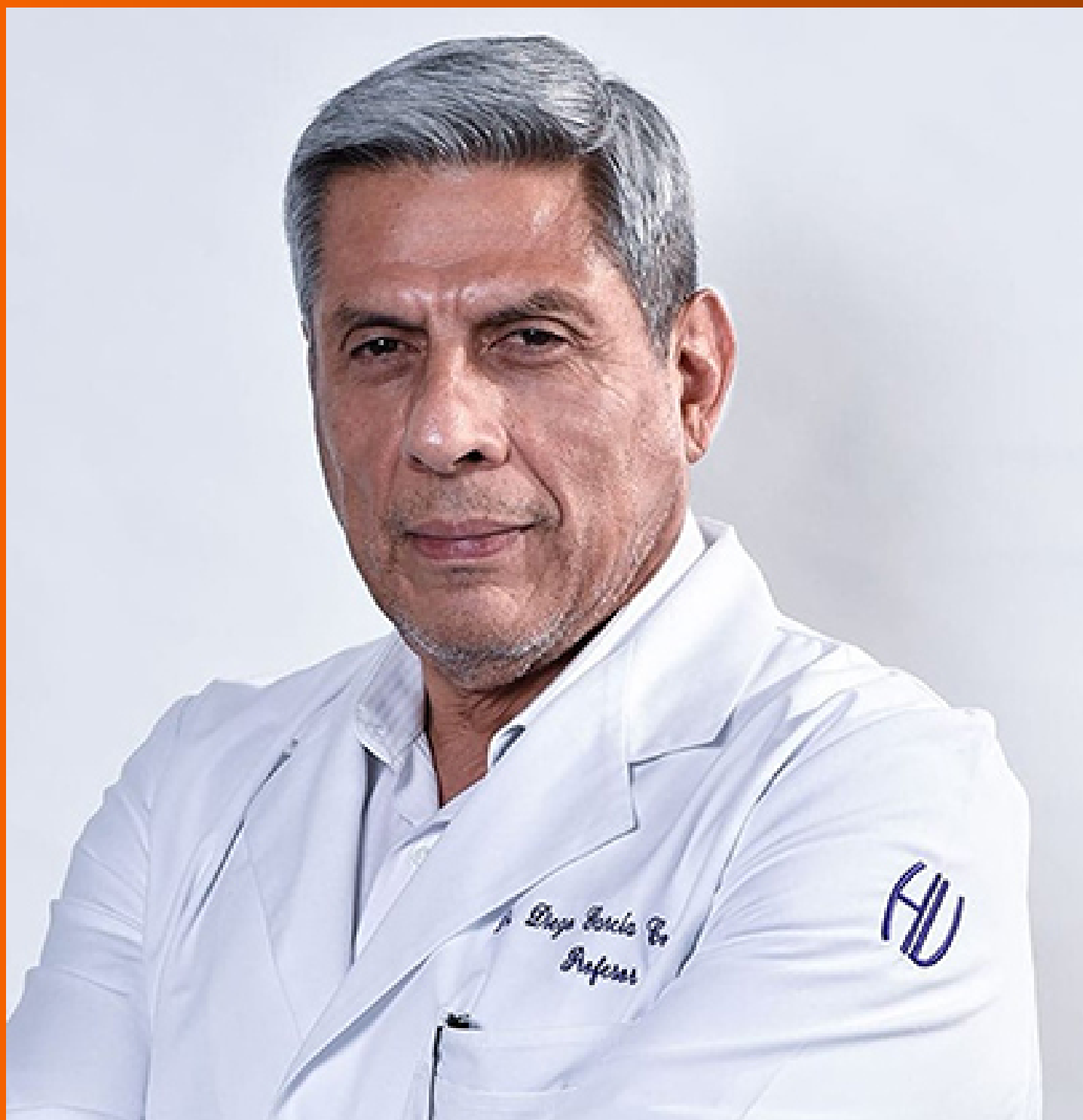


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## Albumin-bilirubin score in non-malignant liver diseases should be properly validated

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### Abstract

The albumin-bilirubin (ALBI) score to assess the risk of decompensation in patients with initially compensated cirrhosis may improve their prognostic evaluation. This letter critically evaluates the research, which utilizes the ALBI score to forecast decompensation in cirrhosis patients over a three-year period. This score was initially developed to assess liver function in hepatocellular carcinoma, its prognostic utility for non-malignant liver diseases has now been explored, recognizing decompensation as a pivotal event that significantly affects patient's survival. Some concerns regarding the methodology of this research may be raised, particularly the exclusive use of radiological diagnosis, potentially including patients without definite cirrhosis and thus skewing the decompensation risk assessment. The reported predominance of variceal bleeding as a decompensating event conflicts with established literature, that often reports ascites as the initial decompensation manifestation. The letter highlights the absence of details on esophageal varices and their management, which could introduce bias in evaluating the ALBI score's predictive power. Furthermore, the letter points out the small sample size of patients with high-risk ALBI grades, potentially compromising the score's validity in this context. We suggest prospective future research to investigate the dynamic changes in the ALBI score over time to reinforce the validity of the ALBI score as a predictor of decompensation in non-malignant liver disease.

**Key Words:** Albumin-bilirubin score; Decompensated cirrhosis; Liver disease; Non-

malignant liver disease; Portal hypertension

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**Core Tip:** The albumin-bilirubin (ALBI) score was initially proposed to evaluate liver function in patients with hepatocellular carcinoma. It proposed to validate the ALBI score to assess the risk of decompensation in patients with compensated cirrhosis. We provide a comment to highlight the preliminary nature of the evidence reported by the authors. Further studies are needed to validate the ALBI score to predict decompensation in patients with cirrhosis.

**Citation:** Pasta A, Calabrese F, Plaz Torres MC, Bodini G, Furnari M, Savarino EV, Savarino V, Giannini EG, Marabotto E. Albumin-bilirubin score in non-malignant liver diseases should be properly validated. *World J Gastroenterol* 2023; 29(46): 6089-6091

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## TO THE EDITOR

We read with great interest the study by Navadurong *et al*[1], who identified the albumin-bilirubin (ALBI) score for predicting decompensation in patients with initially compensated cirrhosis in a 3-year period.

The ALBI grade was initially proposed by Johnson *et al*[2] to assess liver function in patients with hepatocellular carcinoma; subsequently, it has been proposed as a prognostic tool in patients with non-malignant liver diseases. Here, the occurrence of decompensation in patients with cirrhosis is important in the prognostic assessment because after the first episode of decompensation, the patients' survival significantly declines compared to patients with compensated cirrhosis, with a median survival of 19 and 107 mo in patients with decompensated and compensated diseases, respectively[3].

We would like to commend the authors for the effort. However, we believe that some methodological issues may have limited the strength of the study's conclusion. First, relying solely on radiological tools to diagnose cirrhosis overlooks the comprehensive assessment of this complex condition, which should include clinical, laboratory, and histological data for a more accurate diagnosis and treatment plan. Hence, patients without definite cirrhosis, in whom the decompensation risk is inconsistent, may have been included.

Second, the study reports variceal bleeding as the main cause of decompensation. This result is somehow conflicting with the literature, as ascites is most frequently reported as the first decompensating event[4,5]. We observed that the inclusion criteria did not consider the presence and characteristics of esophageal varices, such as their size, presence of red marks, and prophylactic measures for first bleeding (beta-blockers, elastic band ligation). Hence, it is impossible to ascertain whether the association of ALBI grade with decompensation risk remains independent from these potential biases. As some studies previously suggested that the ALBI grade is correlated with hepatic venous pressure gradient, we believe that future studies aimed at assessing more on this correlation and clinical outcomes could be an area of interest [6].

Lastly, as reported by the authors, the number of patients with high-risk ALBI grade and occurrence rate of decompensating events were few. This limitation could have decreased the validity of the score in this setting. Therefore, it might have been of interest to assess whether longitudinal modifications of the ALBI score, as previously reported for other well-established prognostic indexes, could have gauged its prognostic relevance[7].

We believe that using the ALBI grade as proposed by the authors is fascinating; however, the study conclusions may be regarded as preliminary, and we concur with the authors' suggestion that the role of the ALBI grade in non-malignant liver disease as a predictor of decompensation should be confirmed in prospective, larger studies before being considered a validated tool.

## FOOTNOTES

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