

mortality. Sensitivity, specificity, PPV, NPV, and accuracy of the models were calculated.

Results: A total of 327 patients were included, 297 (90.8%) being male. Mean age was 43.4±9.3 years. The 50th percentile for alcohol consumption was 320 g/day (5th-95th percentile: 100.8-662). At day 28, 207 patients (63.3%) died. Upon admission, the patients who died showed a significant difference compared to survivors in: Maddrey (90 [95%CI: 81-99] vs. 70 [95%CI:65-75]; p<0.0001); ABIC (8.8±1.8 vs. 8.1±1.3; p<0.0001); MELD (32±8 vs. 27±4; p<0.0001); MELD-Na (33±6 vs. 30±4; p<0.0001). Lille-7 model had an AUROC of 0.71 [0.65-0.77], where a value >0.45 had a sensitivity (S) of 78% and specificity (E) of 45% in predicting early mortality. Lille-4 model had an AUROC of 0.68 [0.63-0.74], where a value >0.45 had an S of 81% and E of 54% (Figure 1).

Conclusions: Lille-7 is the model with the highest accuracy, according to the obtained AUROC, for predicting early mortality in severe alcoholic hepatitis (AH). Therefore, the determination of total bilirubin should not be done prematurely (before day 7), and steroid therapy should be provided to patients for up to 7 days to classify treatment response.

Ethical statement

The protocol was registered and approved by the Ethics Committee. The identity of the patients is protected. Consentment was obtained.

Declaration of interests

None

Funding

None

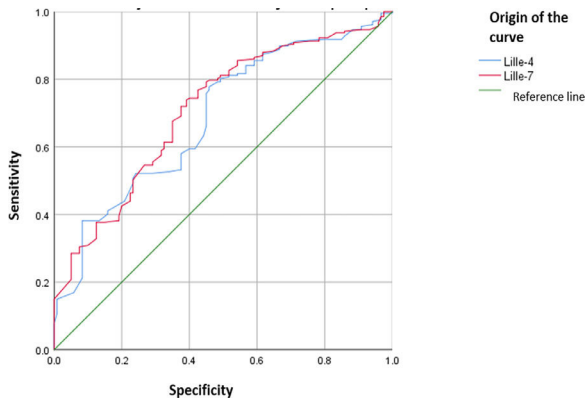


Figure 1. Area Under the Receiver Operating Characteristic Curve (AUROC) of Lille-4 and Lille-7 for predicting 28-day mortality.

<https://doi.org/10.1016/j.aohep.2024.101458>

Hepatic injury biomarkers in COVID-19

Diana K. Tapia-Calderón¹, Ana I. Tornel-Avelar¹,
Francisco A. Félix-Téllez¹,
Lydia A. Mercado-Jáuregui¹,
Liliana E. Ramos-Villalobos¹,
Bladimir Diaz-Villavicencio²,
Montserrat Lazcano-Becerra¹,
Rodrigo Escobedo-Sánchez³,
Edgar S. García-Jiménez¹,
José A. Velarde-Ruiz Velasco¹

¹ Gastroenterology, Hospital Civil de Guadalajara “Fray Antonio Alcalde”, Guadalajara, Jalisco
² Internal Medicine. Hospital Civil de Guadalajara “Dr. Juan I. Menchaca”, Guadalajara, Jalisco
³ Infectology. Hospital Civil de Guadalajara “Fray Antonio Alcalde”, Guadalajara, Jalisco

Introduction and Objectives: C-reactive protein (CRP) and D-dimer have been shown to be predictors of severity in patients with COVID-19. The FIB-4 and APRI scoring systems are tools calculated using routine laboratory parameters that allow non-invasive evaluation of liver fibrosis. Some studies have demonstrated that the parameters comprising these scores predict mortality in COVID-19. The objective of this study was to determine the role of various liver injury biomarkers in stratifying the severity of hospitalized patients with COVID-19.

Materials and Patients: Analytical and retrospective study. Patients with COVID-19 were included, while those with liver disease were excluded. A receiver operating characteristic (ROC) analysis with 95% confidence intervals (CI) was performed to determine the predictive performance of FIB-4, APRI, D-dimer, and CRP in terms of the need for invasive mechanical ventilation (IMV) and mortality.

Results: A total of 448 hospitalized patients with COVID-19 were included in the study. 68.2% were male, with a mean age of 56.27 ± 14.7 years. 35.1% had systemic arterial hypertension, 29.2% had diabetes mellitus, 6% had cancer, 5% had chronic obstructive pulmonary disease, and 3.3% had chronic kidney disease. 21.4% required nasal cannula support, 29.4% required mask with reservoir, 35.5% required high-flow oxygen therapy, and 13.1% required IMV. 48% had severe disease, and 28.1% died. ROC analysis with 95% CI revealed that the best predictor of the need for IMV was the FIB-4 index, with an AUC of 0.637 (95% CI 0.545 - 0.732, p= 0.003), followed by APRI with an AUC of 0.596 (95% CI 0.504-0.687, p=0.04). The best predictor of mortality was FIB-4 with an AUC of 0.689 (95% CI 0.620 - 0.785, p= <0.001), followed by D-dimer with an AUC of 0.608 (95% CI 0.528 - 0.688, p= 0.041).

Conclusions: The application of the FIB-4 index with a cutoff point of ≥1.9 predicts IMV and mortality in SARS-CoV-2 infection and is superior to the standard severity biomarkers (CRP and D-dimer).

Ethical statement

The protocol was registered and approved by the Ethics Committee. The identity of the patients is protected. Consentment was obtained.

Declaration of interests

None

Funding

None

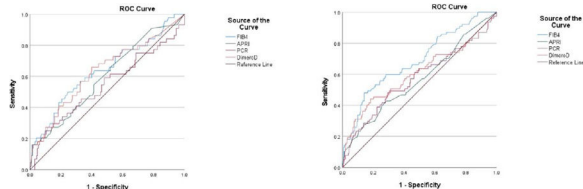


Figure 1: ROC curves.

Table 1

Mortality and invasive mechanical ventilation markers in SARS-CoV-2: Analysis of ROC curves

Mortality						
Marker	AUC	CI 95%	Cut-off point	Sensitivity	Specificity	P value
FIB-4	0.689	0.620-0.785	1.905	0.610	0.384	<0.001
APRI	0.569	0.493-0.645	0.605	0.429	0.308	0.066
CPR	0.572	0.493-0.651	184.50	0.494	0.312	0.055
D Dimer	0.608	0.528-0.688	747.50	0.455	0.236	0.041
Invasive mechanical ventilation						
FIB-4	0.637	0.545-0.732	2.225	0.545	0.324	0.003
APRI	0.596	0.504-0.687	0.505	0.545	0.412	0.41
CPR	0.541	0.439-0.644	168.70	0.455	0.399	0.52
D Dimer	0.631	0.536-0.726	488.50	0.568	0.378	0.005

<https://doi.org/10.1016/j.aohep.2024.101459>