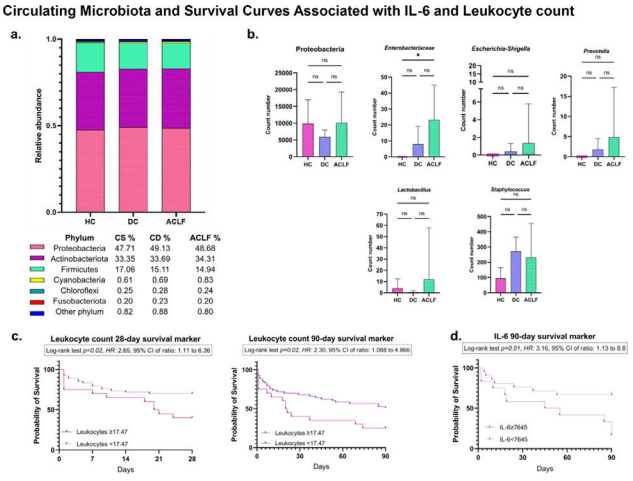
Circulating Microbiota and Survival Curves Associated with IL-6 and Leukocyte count



https://doi.org/10.1016/j.aohep.2025.101994

#34

ARTIFICIAL INTELLIGENCE IN PREDICTING THE RISK OF HEPATOCELLULAR CARCINOMA IN PATIENTS WITH METABOLICALLY ASSOCIATED STEATOTIC LIVER DISEASE: DEVELOPMENT AND VALIDATION OF A PREDICTIVE MODEL IN 306 PATIENTS

Giovane Carvalho Viola[1], Rodolfo Carvalho Viola[2], Regiane Alencar[3], Renato Altikes[3], Claudia Tani[3], Lisa Saud[3], Mario Pessoa[3], Aline Chagas[3], Claudia Oliveira[3]

[1] *Hepatology resident at Department of Gastroenterology and Hepatology. Hospital das Clínicas. Faculty of Medicine. University of São Paulo (HCFMUSP). São Paulo. Brazil.*
[2] *Computer engineer.*
[3] *Department of Gastroenterology and Hepatology. Hospital das Clínicas. Faculty of Medicine. University of São Paulo (HCFMUSP). São Paulo. Brazil.*

Introduction and Objectives: To evaluate the accuracy of an artificial intelligence (AI) model, based on routine clinical and laboratory data, in predicting the risk of developing hepatocellular carcinoma (HCC) in patients with Metabolically Associated Steatotic Liver Disease (MASLD). Our aim was to create and validate a tool to support risk stratification and facilitate early surveillance of high-risk individuals.

Materials and Methods: This was a retrospective case-control study including 306 MASLD patients divided into an HCC group (129 patients), with diagnosis confirmed by histopathological criteria or LI-RADS classification, and a control group (177 patients). Collected variables included age, body mass index, comorbidities (diabetes mellitus, dyslipidemia, presence of portal hypertension), and serum laboratory parameters: aspartate aminotransferase (AST), alanine aminotransferase (ALT), albumin, creatinine, platelets, cholesterol (HDL, LDL, and triglycerides), and non-invasive indices: neutrophil-to-lymphocyte ratio (NLR), FIB-4, and AST/ALT ratio. The XGBoost (Extreme Gradient Boosting) AI algorithm was implemented, and the dataset was randomly split into a training cohort (80%) and an internal validation cohort (20%) to develop and assess the model's performance.

Results: The AI model demonstrated high discriminative ability for HCC, achieving an area under the ROC curve (AUC-ROC) of 0.9, with a sensitivity of 90.9% and specificity of 84.3%. The strongest predictors of HCC were serum creatinine, followed by the presence of portal hypertension, elevated NLR, and LDL levels.

Conclusions: The AI-driven model, developed using widely available clinical and laboratory parameters, demonstrated excellent performance in identifying MASLD patients at high risk of developing hepatocellular carcinoma. By enabling early and cost-effective risk stratification, this tool may support targeted surveillance strategies and improve clinical decision-making in real-world hepatology practice.

Conflict of interest: None

Model	AUC-ROC	Sensitivity (%)	Specificity (%)
MASLD-HCC Score (Our Model)	0.9	90.9	84.3
GALAD	0.92	82.0	89.0
AFP	0.83	61.0	86.0
Ultrasound (US)	0.81	63.0	97.0
AFP + US	0.83	69.0	95.0
HCC Risk Score	0.89	89.4	71.4
aMAP	0.85	96.0	64.0

https://doi.org/10.1016/j.aohep.2025.101995

#37

EFFICACY AND SAFETY OF ILEAL BILE ACID TRANSPORTER INHIBITORS IN ADULTS WITH AUTOIMMUNE CHOLESTATIC LIVER CONDITIONS: A SYSTEMATIC REVIEW AND META-ANALYSIS

Igor Silveira Boechat[1], Rodolfo Augusto Rezende Assis[2], Carlos Alberto Leitão Neto Monteiro[3], Yohanna Idsabella Rossi[4], Marina Leite de Assis Bezerra Cavalcanti[5], Guilherme Grossi Lopes Cançado[6]

[1] *Universidade Federal de Juiz de Fora, Brasil.*
[2] *IRCCS Istituto Clinico Humanitas, Italia.*
[3] *Università di Pavia, Italia.*
[4] *Universidade Federal de Ciências da Saúde de Porto Alegre, Brasil.*
[5] *Universidade Federal da Paraíba, Brasil.*
[6] *Hospital das Clinicas da Universidade Federal de Minas Gerais, Ecuador.*

Introduction and Objectives: Autoimmune cholestatic liver diseases (ACLD), including primary biliary cholangitis (PBC) and primary sclerosing cholangitis (PSC), involve chronic bile duct injury and impaired bile flow, reducing quality and expectancy of life. Pruritus affects 20–70% of patients and is often resistant to treatment. Ileal bile acid transporter (IBAT) inhibitors, which reduce intestinal bile acid reabsorption, have emerged as a promising option for relieving cholestatic itch. This systematic review and meta-analysis evaluated the efficacy and safety of IBAT inhibitors in adults with ACLD.

Materials and Methods: A systematic review was conducted according to PRISMA guidelines using PubMed, Embase, and Cochrane-CENTRAL. Included studies enrolled adults with ACLD and pruritus lasting ≥12 weeks, treated with IBAT inhibitors. The primary outcome was change in pruritus severity (5-D Itch Scale). Secondary outcomes included sleep disturbance, serum bile acids, hepatic enzymes, and adverse events. Heterogeneity was assessed with I^2 and Cochrane Q tests.

Results: Three studies (n = 180)—two randomized controlled trials and one non-randomized study—met inclusion criteria. Most patients were female (78%), diagnosed with PBC (85%), and treated with linerixibat (77%). IBAT inhibitors significantly reduced pruritus scores (mean difference: -4.93; 95% CI: -6.26 to -3.59; $p < 0.0001$) and improved sleep quality (mean difference: -8.12; 95% CI: -13.54 to -2.70; $p = 0.0033$). Biochemical changes included decreased serum bile acids, autotaxin, and FGF19, and increased C4. AST and GGT levels declined, while ALT and bilirubin remained stable. Adverse events occurred in 89.7% of participants, mainly diarrhea (22.7%), abdominal pain (18.2%), and nausea (12.2%). Serious adverse events were rare (2.2%).

Conclusions: IBAT inhibitors significantly improved pruritus and sleep in adults with ACLD, with an acceptable safety profile. These findings support their potential as a novel treatment for cholestatic pruritus.

Conflict of interest: Yes, GGLC has received a research grant from IPSEN. The other authors have no conflicts of interest to declare.

https://doi.org/10.1016/j.aohep.2025.101996

#40

THE ROLE OF GLYCEMIC CONTROL IN STEATOSIS AND HEPATIC FIBROSIS IN PATIENTS WITH A DIAGNOSIS OF TYPE 2 DIABETES MELLITUS

Yenni Joseline Cruz Ramírez[1],
Miguel Angel Quiñonez Barrera[1],
Mayra Virginia Ramos Gómez[1]

[1] *Centro Médico Nacional "Hospital 20 de Noviembre", México.*

Introduction and Objectives: Type 2 diabetes mellitus (DM2) prevalent in Mexico (18.3%) related to hepatic steatosis associated with metabolic dysfunction (MASLD), in 30%. Glycosylated hemoglobin (HbA1c) is a key biomarker of glycemic control. The aim of this study was to analyze the association between HbA1c levels and the degree of steatosis and hepatic fibrosis in type 2 diabetes mellitus.

Materials and Methods: The following study is observational, descriptive and retrospective in 90 patients older than 18 years with DM2, attended in gastroenterology outpatient clinic in a third level center, between February 2024 and February 2025. Hepatic Elastography (FibroScan®) and HbA1c determination were performed at the time of the study. Non-parametric statistics (Kolmogorov-Smirnov, Kruskal-Wallis and Mann-Whitney U with Bonferroni correction) were used.

Results: Of the patients studied, 78.9% were female and 21.1% male, for an H:M ratio of 1:3, the most affected age was between 41-50 (27.8%). 71.1% were at Hb1Ac goals, and 29% decompensated. The 71.1% were in Hb1Ac goals, and 29% were unbalanced. From the hepatic elastography (fibroscan) the results were statistically significant. The post hoc analysis revealed significant differences between patients without steatosis and hepatic steatosis grade II and III with ($p = <0.005$). According to the grade of hepatic fibrosis 39.1% presented hepatic fibrosis, the most predominant grade was 2 (in 16.7%) Table 1.

Conclusions: We conclude that the higher the degree of hepatic steatosis, the worse the glycemic control. All patients with DM2 should undergo hepatic elastography since hepatic fibrosis can present with glycosylated hemoglobin in goals and increase in a state of glycemic decompensation.

Conflict of interest: None

Table No. 1 Baseline Characteristics of the Sample

Variables		N	Percentage	
Age	20-30	5	5.6%	
	31-40	8	8.9%	
	41-50	25	27.8%	
	51-60	22	24.4%	
	61-70	21	23.9%	
	71-80	8	8.9%	
	81-90	1	1.1%	
Total		**90**	**100%**	
Sex	Male	19	21.1%	
	Female	71	78.9%	
Hemoglobin glycosylated	6.01-6.99% 7.01-9.00% 9.01-10.0%	64 19 07	71.1% 21.1% 7.8%	
Degree of Hepatic Steatosis	Without Steatosis Grade I steatosis Grade II steatosis Grade III steatosis	40 12 14 24	44.4% 13.3% 15.6% 26.7%	 <0.005 <0.005
Degree of Liver Fibrosis	F0-F1 F2 F3 F4	55 15 9 11	61.1% 16.7% 10.2% 12.2%	
Cross tables				
Liver fibrosis/Hb1Ac	F0-F1	F2	F3	F4
6.01-6.99% 7.00-9.00% 9.01-10.0%	43 (67.2%) 10 (52.6%) 2 (28.6%)	9 (14.1%) 5 (26.3%) 1 (14.3%)	5 (7.8%) 3 (15.8%) 1 (14.3%)	7 (10%) 1(5.3%) 3 (42.9)
Hepatic steatosis/Hb1Ac	Without Steatosis	Grade I Steatosis	Steatosis Grade II	Steatosis Grade III
6.01-6.99% 7.00-9.00% 9.01-10.0%	36 (53.6%) 3 (15.8%) 1 (14.3)	10 (15.6%) 2 (10.5%) 0 (0.0%)	*4 (6.3%) *8 (42.1%) *2 (26.8%)	*14 (21.9) *6 (31.6%) *4 (57.1%)

He following table represents the variables studied in the following study.

Ninety patients with a diagnosis of type 2 diabetes mellitus were studied with the aim of evaluating the association between HbA1c levels and the degree of steatosis and hepatic fibrosis. Of the total number of patients studied, 78.9% (71 patients) were female and 21.1% (19 patients) were male, for an H:M ratio of 1:3, the 3 most affected age ranges were 41-50 (27.8%) followed by 51-60 (24.4%) and 61-70 (23.9%). Based on glycosylated hemoglobin (Hb1Ac), 71.1% (64 patients) were at goal, followed by 21.1% (19 patients) who were decompensated maintaining glycosylated hemoglobin levels between 7.01-9.00% and 7.8% (7 patients) were found with Hb1Ac greater than 9.0%. The 90 patients underwent hepatic elastography (fibroscan) with statistically significant results in HbA1c levels between hepatic steatosis grade II 15.6% and grade III steatosis 26.7%. Post hoc analysis revealed significant differences between patients without steatosis and those with hepatic steatosis grade II and III with ($p = <0.005$). With respect to the degree of liver fibrosis, it was observed that 39.1% had liver fibrosis, the most predominant degree was grade 2 (F2) in 16.7% (15 patients), followed by grade 4 (F4-cirrhosis) 12.2% and grade 3 (F3) in 10.2% (9 patients).

https://doi.org/10.1016/j.aohep.2025.101997

#41

IMPLEMENTATION OF A TEST AND TREAT MODEL FOR HCV CARE UTILIZING POINT OF CARE HCV RNA TESTING IN LA BODEGA

Anthony Martinez[1], Scott Springer[2], Sean Owen[1]

[1] *University at Buffalo, USA.*
[2] *Erie County Medical Center, USA.*

Introduction and Objectives: The World Health Organization (WHO) aims to eliminate hepatitis C virus (HCV) by 2030; however, the United States (US) is unlikely to meet this target. Screening, linkage, and treatment initiation remain suboptimal.

To evaluate Point-of-care (POC) HCV RNA test (Xpert® HCV) in a test and treat model of care among People Who Use Drugs (PWUD).

Materials and Methods: La Bodega, a co-localized hepatology and addiction medicine program in Buffalo, New York (NY), specializes in HCV management among active PWUD. POC HCV RNA testing is utilized on-site. Patients with a positive HCV RNA initiate HCV therapy at the time of the initial visit. POC HCV RNA testing is also used in