Annals of Hepatology 28 (2023) 100904

Contents lists available at ScienceDirect

Annals of Hepatology

journal homepage: www.elsevier.es/annalsofhepatology

# Abstracts of the 2022 Annual Meeting of the ALEH (Asociación Latinoamericana para el Estudio del Hígado)

## P1- HIGH VIRAL SUPPRESSION AND IMPROVED SAFETY PROFILE OF TENOFOVIR ALAFENAMIDE RELATIVE TO TENOFOVIR DISOPROXIL FUMARATE IN CHRONIC HEPATITIS B PATIENTS TREATED FOR 5 YEARS

Wai Kay Seto[1], Ting-Tsung Chang[2], Abhijit Chowdhry[3], Chi-Yi Chen[4], Mustafa Kemal Celen[5], Xiaoli Ma[6], Mang Ma[7], Ajay Duseja[8], Ki Tae Yoon[9], Wan Cheng Chow[10], Leland Yee[11], Gregor Weber[11], Ms Jin Youn[11], John F. Flaherty[11], Anuj Gaggar[11], Bing Gao[11], Gregory Camus[11], Eric Bassetti[11], Jae Seok Hwang[12], Tetshuro Inokuma[13], Young- Suk Lin[14], Edward J. Gane[15]

[1] *The University of Hong Kong, Hong Kong, Hong Kong*
[2] *National Cheng-Kung University Hospital, Tainan, Taiwan*
[3] *Institute of Post Graduate Medical Education and Research, Kolkata, India*
[4] *Chia-Yi Christian Hospital, Chia-Yi, Taiwan*
[5] *Dicle UNiversitesi Hastanesi Enfeksiyon Hastaliklari Anabilim Dali, Diyarbakir, Turkey*
[6] *Xiaoli Ma, P.C., Philadelphia, USA*
[7] *Zeidler Ledcor Centre, Edmonton, Canada*
[8] *Postgraduate Institute of Medical Education & Research, Chandigarh, India*
[9] *Pusan National University Yangsan Hospital, Yangsan, Korea*
[10] *Singapore General Hospital, Singapore, Singapore*
[11] *Gilead Sciences Inc., Foster City, USA*
[12] *Keimyung University Dongsan Medical Center, Daegu, Korea*
[13] *Kobe City Medical Center General Hospital, Kobe, Japan*
[14] *Asan Medical Center, University of Ulsan College of Medicine, Seoul, Korea*
[15] *Liver Unit University of Auckland, Grafton, New Zealand*

**Introduction and Objectives:** Tenofovir Alafenamide (TAF) is a preferred treatment in the most recent EASL and AASLD HBV Guidelines, especially in patients with risk factors for TDF-associated renal and bone effects. In 2 identically-designed double-blind (DB), randomized (2:1), Phase 3 studies (HBeAg-negative patients [N = 425] and HBeAg-positive patients [N = 873]), TAF demonstrated antiviral efficacy non-inferior to that of TDF with superior renal and bone safety. After completing three years of DB treatment, all patients were eligible to receive open-label (OL) TAF through Year eight. Here we present study results for Year five.

**Materials and Methods:** Efficacy was assessed by serial virologic, biochemical, and serologic assessments, while safety data included changes in renal function and changes in hip and spine bone mineral density. Resistance testing and phenotyping were performed annually through Year 5.

**Results:** Of 1298 randomized and treated patients, 1157 (89%; 775 TAF; 382 TDF) entered OL, at year 5, 999 (77%; 675 TAF, 136 TDFTAF OL 3y, 188 TDF-TAF OL 2y) patients remained on treatment. High rates of virologic control were achieved and maintained in patients receiving TAF throughout and for TDF patients who switched to TAF at Weeks 96 or 144. Rates of ALT normalization and serologic responses were also comparable among groups. Eight patients are undergoing phenotypic testing to assess resistance. Adverse events (AEs) leading to discontinuation were low and similar among groups. Renal and bone outcomes were improved following the switch to OL TAF from TDF.

**Conclusions:** After five years of treatment, virologic suppression rates remained high, and TAF was safe and well tolerated, with improved renal and bone safety in patients switching from TDF.

https://doi.org/10.1016/j.aohep.2023.100905

## P-2 DE NOVO LIPOGENESIS MARKERS ARE INVOLVED IN METABOLIC ASSOCIATED FATTY LIVER DISEASE PROGRESSION IN BTBR OB/OB MICE

Lucas Opazo-Rios[1,2], Manuel Soto-Catalan[1], Iolanda Lázaro[3], Aleix Sala-Vila[3], Cristian Pérez-Gallardo[4], Fabian Segovia-Miranda[4], Juan Antonio Moreno[5], Jesús Egido[1], Sebastián Mas-Fontao[1]

[1] *Renal, Vascular and Diabetes Research Laboratory, IIS-Fundación Jiménez Díaz, Universidad Autónoma de Madrid, Spanish Biomedical Research Centre in Diabetes and Associated Metabolic Disorders (CIBERDEM), 28040 Madrid, Spain*
[2] *Facultad de Ciencias de la Salud, Universidad de Las Américas, 4301099, Concepción-Talcahuano, Chile*

[3] *Hospital del Mar Medical Research Institute (IMIM), 08003 Barcelona, Spain*
[4] *Department of Cell Biology, Faculty of Biological Sciences, Universidad de Concepción, Concepción, Chile*
[5] *Department of Cell Biology, Physiology and Immunology, University of Cordoba; Maimonides Biomedical Research Institute of Cordoba (IMIBIC); UGC Nephrology, Hospital Universitario Reina Sofía, 14004 Cordoba, Spain*

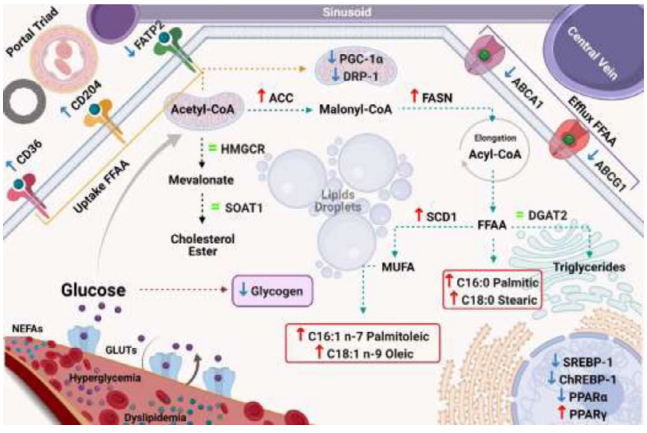
**Introduction and Objectives:** The new recommendations suggesting changing the current nomenclature from Non-Alcoholic Fatty Liver Disease (NAFLD) to Metabolic associated fatty liver disease (MAFLD) are primarily aimed at improving the understanding of the disease. MAFLD is a hepatic manifestation of metabolic syndrome and is usually associated with obesity and type 2 diabetes, excluding other causes not associated with positive energy balance. This study aimed to characterize the pathophysiological mechanism involved in MAFLD development in susceptible-strain Black Tan and brachyuric (BTBR) insulin-resistant mice in combination with leptin deficiency (ob/ob).

**Materials and Methods:** We studied liver morphology and biochemistry on our diabetic and obese mice model (BTBR ob/ob) as well as a diabetic non-obese control (BTBR + streptozotocin) and non-diabetic control mice (BTBR wild type) from 4-22 weeks. The lipid composition was assessed and lipid-related pathways were studied at transcriptional and protein levels.

**Results:** Microvesicular steatosis was evident in BTBR ob/ob from week 6, progressing to macrovesicular in the following weeks. At the 12th week, inflammatory clusters, activation of STAT3 and Nrf2 signaling pathways, and hepatocellular ballooning. At 22 weeks, the histopathological features previously observed were maintained and no signs of fibrosis were detected. Liver gene-expression analysis demonstrated modifications in fatty acid transporters associated with uptake (Cd36, Cd204, Fatp4)/efflux (Abca1, Abcg1), *de novo* fatty acid synthesis enzymes (ACC, FASN, SCD-1) and transcription factors related to lipogenic pathways (Ppar$\alpha/\gamma$, Srebp-1, Chrebp-1). Additionally, the lipidomic analysis showed profiles associated with de novo lipogenesis (DNL), showing a significant increase in palmitic acid (C16:0), palmitoleic acid (C16:1n7) and oleic acid (C18:1n9).

**Conclusions:** BTBR ob/ob mice develop MAFLD profiles that resemble pathological features observed in humans, with overactivation of inflammatory response, oxidative stress and DNL signaling pathways. Therefore, BTBR ob/ob mouse is an excellent model for the study of the steatosis to steatohepatitis transition.

**Figure 1**:




Created with BioRender.com

https://doi.org/10.1016/j.aohep.2023.100906

## P-3 PLASMA EXCHANGE WITH ALBUMIN INCREASES EFFECTIVE ALBUMIN LEVELS IN PATIENTS WITH ACUTE-ON-CHRONIC LIVER FAILURE

Raquel Horrillo[1], Anna Mestre[1], Alba Pérez[1], Jordi Vidal[1], Estefania Alcaraz[1], Mireia Torres[1], Vicente Arroyo[2], Javier Fernández[2,3], Joan Clària[2,3,4], Montserrat Costa[1]

[1] *Scientific Innovation Office, Grifols, Barcelona, Spain*
[2] *Ef Clif, Easl-Clif Consortium and Grifols Chair, Barcelona, Spain*
[3] *Hospital Clinic, Idibaps and Ciberehd, Barcelona, Spain*
[4] *Department of Biomedical Sciences, University of Barcelona Medical School, Barcelona, Spain*

**Introduction and Objectives:** Non-oncotic albumin functions such as transport, antioxidant and immunomodulatory capacities may be associated with the beneficial effects of albumin therapy in liver disease patients. For acute-on-chronic liver failure (ACLF) patients, characterized mainly by severe systemic inflammation and organ failure, plasma exchange with human serum albumin (PE-A5%) may be an effective treatment. In fact, the effects of PE-A5% on short-term survival in patients with ACLF are currently under investigation (APACHE phase 3 trial, NCT03702920). To characterize albumin levels with intact structure (effective albumin) in patients with ACLF compared with healthy controls (HC) and to assess the effect of PE-A5% treatment on eAlb levels in patients with ACLF.

**Materials and Methods:** Plasma samples from 10 patients included in the Pilot-APACHE trial (NCT01201720) were assessed. This was a prospective, open-label, non-controlled study in which ACLF patients were treated with six PE-A5% for 10 days. At baseline, results were compared with HC (n=10). Albumin post-translational modifications (PTMs) were determined by mass spectrometry (LC_ESI_qTOF-MS). Native albumin (%) (the primary structure preserved form without PTMs) and effective albumin levels (mg/mL) (calculated as (total albumin x native albumin)/100)) were evaluated. Results were expressed as median (IQR).

**Results:** At baseline, ACLF patients showed a significantly lower proportion of native albumin, 19.4% (10.0-28.5), compared with HC, 51.3% (49.0-52.6), P<0.0001. Similarly, effective albumin levels, 6.8 mg/mL (3.5-8.9), were lower than HC, 19.8 mg/mL (18.9-20.7), P<0.0001. This reduction in native albumin was associated with higher cysteinylated and glycated isoforms. After six PE-A5%, native albumin (27.6% (17.1-35.3), p=0.036) and effective albumin (10.4 mg/mL (6.4-13.8); p=0.0067) were significantly increased. Remarkably, this effect was observed right after each PE-A5% session.

**Conclusions:** ACLF patients presented albumin structural abnormalities that led to decreased effective albumin levels. PE-A5% not only improved non-oncotic albumin functions[1] but increased structurally preserved albumin in these patients.

[1] J Hepatol 2018;68(Suppl1):S105-S364

https://doi.org/10.1016/j.aohep.2023.100907

## P-4 RISK OF HCC IN SOUTH AMERICANS ASSOCIATED WITH TLL1 VARIANT SINGLE NUCLEOTIDE POLYMORPHISM

Andre Boonstra[1], Domingo Balderramo[2], Dhamina Karim[3], Jhon Prieto Ortiz[4], Javier Diaz Ferrer[5], Angelo Mattos[6], Marcos Arrese Jimenez[7], Enrique Carrera Estupinan[8], Zwier Groothuismink[1], Jeffrey Oliveira[1], Jose Debes[9]

[1] *Department of Gastroenterology, Erasmus MC, Rotterdam, Netherlands*
[2] *Department of Gastroenterology, Hospital Privado Universitario de Córdoba. Instituto Universitario de Ciencias Biomédicas de Córdoba, Córdoba, Argentina*
[3] *Division of Epidemiology, School of Public Health, University of Minnesota, Minneapolis, MN, USA*
[4] *Department of Gastroenterology, Centro de Enfermedades Hepáticas y Digestivas (CEHYD), Bogotá, Colombia*
[5] *Department of Gastroenterology, Hospital Nacional Edgardo Rebagliati Martins, Lima, Peru*
[6] *Department of Gastroenterology, Federal University of Health Sciences of Porto Alegre, Porto Alegre, Brazil*
[7] *Department of Gastroenterology, Pontificia Universidad Católica de Chile, Santiago, Chile*
[8] *Department of Gastroenterology, Hospital Eugenio Espejo, Quito, Ecuador*
[9] *Department of Medicine, University of Minnesota, Minneapolis, MN, USA*

**Introduction and Objectives:** Hepatocellular carcinoma (HCC) is the third cause of cancer-related death worldwide. Assessment of genetic components has been used to better stratify those at risk. However, most studies have been performed in Asian or Caucasian populations. Tolloid-like protein 1 (*TLL1*) is one such SNP that has been shown to increase risk in hepatitis C virus (HCV)-associated HCC. We evaluated the risk association of TLL1 in a South American cohort.

**Materials and Methods:** This is a cross-sectional analysis performed in South Americans with HCC as well as cirrhotic controls through the ESCALON network. We analyzed 120 HCC blood samples and 293 cirrhotic controls from Argentina, Chile, Brazil, Colombia, Ecuador and Peru. The pathogenic variant of *TLL1* (rs1704200) was evaluated using TaqMan-genotyping assay. Multiple logistic regression was used to establish the association between *TLL1* and HCC.

**Results:** The median age of HCC patients was 68 years (IQR 62-72) and of cirrhotics 64 years IQR 68-70). The most common underlying liver disease in both groups was Non-alcoholic fatty liver disease (NAFLD) at 58% and 59%, respectively. The proportion of individuals who developed HCC with a *TLL1* pathogenic variant (AT/TT) was 18.2% in the South American cohort. The calculated Odds-Ratio (OR) for HCC among South Americans with the TLL1 variant was 0.69 (CI 0.37-1.29), suggesting a non-significant decrease odds for HCC. Interestingly, different results were found when examining HCV-associated HCC (11% of the cases and 6% of controls). The OR for HCV-associated HCC in Latin Americans was 2.07 (CI 0.93-4.58), suggesting a non-significant increased odd of being diagnosed with HCC in South Americans with the variant.

**Conclusions:** *TLL1* mutations do not seem to associate with HCC development in South American patients with liver disease. However, preliminary results show that the presence of *TLL1* SNP could confer an increased risk for HCC in South Americans with HCV infection.

https://doi.org/10.1016/j.aohep.2023.100908

## P-5 THREE-DIMENSIONAL SINGLE-CELL ATLAS OF LIVER TISSUE ARCHITECTURE

Dilan Martinez[1], Maldonado Valentina[1], Cristian Perez[1], Valeria Candia[1], Hernán Morales-Navarrete[2], Fabián Segovia-Miranda[1]

[1] *Department of Cell Biology, Faculty of Biological Sciences, Universidad de Concepción, Concepción, Chile*
[2] *Department of Systems Biology of Development, University of Konstanz, Konstanz, Germany*

**Introduction and Objectives:** The liver is an organ that performs a wide variety of functions that are highly dependent on its complex 3D structure. Geometrical models (digital representations of tissues) represent a versatile technique to characterize 3D tissues as well as to get quantitative insights into the link between their structure and function. Until now, these models have only focused on some tissue (sinusoids and bile canaliculi) and cellular components (hepatocytes), leaving out important cellular populations such as stellate cells and Kupffer cells. One of the major bottlenecks for a complete tissue reconstruction is the limitation on the number of markers that can be imaged by fluorescence microscopy (up to 4-5). This study aimed to generate a "3D single-cell atlas of liver tissue architecture", i.e., a full 3D geometrical model which includes all tissue and cellular components simultaneously.

**Materials and Methods:** We overcome the technical constraints by using deep tissue immunostaining, multiphoton microscopy, deep learning techniques, and 3D image processing. As a proof of concept, we used the 3D atlas to describe the morphological changes that occur in the mouse liver during post-natal early development and adulthood.

**Results:** We described how liver tissue architecture progressed from post-natal day one to adulthood by a novel set of morphometric cellular and tissue parameters. Our analysis revealed unknown details about the spatial organization of different liver cell types. Unexpected spatiotemporal patterns of non-parenchymal cells and hepatocytes with differing in size, number of nuclei, and DNA content were uncovered. We also provided information regarding the remodeling of the bile canaliculi and sinusoidal networks.

**Conclusions:** These findings revealed novel characteristics of liver heterogeneity and have important implications for both the structural organization of liver tissue and its functional features. 3D single-cell atlas will provide a powerful tool to understand liver tissue architecture under both physiological and pathological conditions.

https://doi.org/10.1016/j.aohep.2023.100909

## P-6 PATTERNS OF ANTIBIOTIC RESISTANCE IN PATIENTS WITH CIRRHOSIS AND SPONTANEOUS BACTERIAL INFECTIONS: ANALYSES OF THE MULTICENTER STUDY FROM ARGENTINA AND URUGUAY

Sebastián Marciano[1,2], Maria Nelly Gutierrez Acevedo[3], Sabrina Barbero[4], Lorena del Carmen Notari[4], Marina Agozino[5], Jose Luis Fernandez[5], Maria Margarita Anders[6], Nadia Grigera[6], Florencia Antinucci[6], Orlando Federico Orozco Ganem[6], Maria Dolores Murga[7], Daniela Perez[7], Ana Palazzo[7], Liria Martinez Rejtman[8], Ivonne Giselle Duarte[3], Julio Vorobioff[9], Victoria Trevizan[9], Sofía Bulaty[9], Fernando Bessone[9], Marcelo Valverde[10], Martín Elizondo[10], José Daniel Bosia[11], Silvia Mabel Borzi[11], Teodoro E. Stieben[12], Adriano Masola[12], Sebastian Eduardo Ferretti[13], Diego Arufe[14], Ezequiel Demirdjian[14], Maria Pia Raffa[14], Mirta Peralta[15], Hugo Alberto Fainboim[15], Cintia Elizabet Vazquez[16], Pablo Ruiz[16], José Emanuel Martínez[17], Leandro Alfredo Heffner[18], Andrea Odzak[18], Melisa Dirchwolf[19], Astrid Smud[20], Manuel Mendizabal[21], Carla Bellizzi[22], Ana Martinez[22], Jesica Tomatis[19], Andres Bruno[18], Agñel Ramos[13], Josefina Pages[21], Silvina Tevez[5], Diego Giunta[2,23], Adrian Gadano[1,2]

[1] Buenos Aires Italian Hospital, Liver Unit, Buenos Aires, Argentina
[2] Buenos Aires Italian Hospital, Department of Research, Buenos Aires, Argentina
[3] 4 de Junio Hospital, P. R. Sáenz Peña, Argentina
[4] Churruca Visca Hospital, Buenos Aires, Argentina
[5] Güemes Sanatorium, Buenos Aires, Argentina
[6] Germany Hospital, Buenos Aires, Argentina
[7] A.C. Padilla Hospital, San Miguel de Tucumán, Argentina
[8] T J Schestakow Hospital, San Rafael, Argentina
[9] Centenary Provincial Hospital, Rosario Argentina
[10] Bi-Institutional Liver Transplant Unit, Clinics Hospital – Military Hospital, Montevideo, Uruguay
[11] Rossi Hospital, La Plata, Argentina
[12] San Martín Hospital, Paraná, Argentina
[13] Parque Sanatorium, Rosario, Argentina
[14] Sagrado Corazón Sanatorium, Buenos Aires, Argentina
[15] Muñiz Hospital, Buenos Aires, Argentina
[16] Regional Hospital of Rio Gallegos, Rio Gallegos, Argentina
[17] Boratti Sanatorium, Posadas, Argentina
[18] Argerich Hospital, Buenos Aires, Argentina
[19] Rosario Private Hospital, Rosario, Argentina
[20] Buenos Aires Italian Hospital, Infectious Diseases Section, Buenos Aires, Argentina
[21] Austral University Hospital, Pilar, Argentina
[22] Fernández Hospital, Buenos Aires, Argentina
[23] Center for Farmacoepidemiology, Karolinska Insitutet, Stockholm, Sweden

**Introduction and Objectives:** Selecting an empiric antibiotic treatment in patients with cirrhosis and spontaneous bacterial infections is challenging. It is of paramount importance to have local epidemiological data to maximize pathogen coverage while minimizing the unnecessary use of broad-spectrum antibiotics. This study aimed to describe the patterns of antibiotic resistance of spontaneous bacterial infections according to the site of acquisition.

**Materials and Methods:** Analysis of the multicenter prospective cohort study of cirrhotic patients with bacterial infections in Argentina and Uruguay (NCT03919032). Only culture-positive spontaneous infections were included in this study: spontaneous bacterial peritonitis (SBP), spontaneous bacterial empyema (SBE), and spontaneous bacteremia (SB). We estimated the proportion of infections that were sensitive to various antibiotics according to where the infection was acquired: community-acquired (CA), healthcare-associated (HCA), or nosocomial (NOS). Approximately 80% coverage is advisable for empiric treatments in stable patients and 90% for critically-ill patients.

**Results:** The main cohort included 472 patients, of whom 97 presented culture-positive spontaneous infections and were included: with 57 (59%) SBP, 34 (35%) SB, and 4 (6%) SBE. Regarding the site of acquisition, 43% were CA, 36% NOS, and 21% HCA. Gram-positive and negative bacteria were found in 53% and 47% of the infections. The most frequent isolations were Streptococcus spp (26%), E coli (20), K pneumonia (15%), S Aureus (10%), E. faecium (6%) and E. faecalis (4%). Multidrug-resistant organisms (MDROs) were isolated in 35% of the patients. As shown in the table, cefepime and ceftriaxone offer the most rational coverage for CA and HCA infections, and imipenem or meropenem for NOS infections. However, in critically-ill patients, broader-spectrum antibiotics are needed to achieve a coverage closer to 90% (table).

**Conclusions:** We present, for the first time in our region, evidence-based recommendations for the empirical treatment of spontaneous bacterial infections. Prior colonization and/or infections by MDROs might refine even more the antibiotic selection and should be explored.

**Table:** Proportion of isolations that were susceptible to selected antibiotics, according to the site of acquisition of the infection (n=97)

| | Community Acquired (n=42) | HCA (n=20) | Nosocomial (n=35) |
|---|---|---|---|
| Ceftriaxone | 71% | 75% | 58% |
| Cefepime | 74% | 80% | 58% |
| Ceftazidime | 40% | 35% | 33% |
| Piperacillin-tazobactam | 79% | 80% | 60% |
| Carbapenems | 81% | 85% | 76% |
| Imipenem or meropenem | 73% | 70% | 65% |
| Imipenem or meropenem + Vancomycin | - | - | 97% |
| Ertapenem | 73% | 70% | 65% |

https://doi.org/10.1016/j.aohep.2023.100910

## P-7 LIVER INJURY AFTER COVID-19 VACCINATION COMPARED TO POST-INFLUENZA VACCINES: RETROSPECTIVE COHORT STUDY

Marlene Padilla Lopez[1], Natalia Sobenko[1], Valeria Ines Aliperti[2], Vanina Cecilia Stanek[3], Maria Florencia Grande Ratti[4,5], Fernando Ezequiel Jabif[6], Marcelo Gabriel Vallone[6], Alejandra Villamil[1]

[1] Hepatology Section, Buenos Aires Italian Hospital, Buenos Aires, Argentina
[2] Epidemiology Section, Buenos Aires Italian Hospital, Buenos Aires, Argentina
[3] Infectology Section, Buenos Aires Italian Hospital, Buenos Aires, Argentina
[4] Internal Medicine Research Area, Buenos Aires Italian Hospital, Buenos Aires, Argentina
[5] Conicet, Assistant Researcher, Buenos Aires, Argentina
[6] Medical Clinic Service, Buenos Aires Italian Hospital, Buenos Aires, Argentina

**Introduction and Objectives:** Cases suggestive of immune-mediated acute hepatitis following SARS-CoV-2 vaccination have been reported. The risk of liver injury after Covid-19 vaccination is unknown. This study aimed to estimate the cumulative incidence of liver injury within 90 days after the Covid-19 vaccine, defined as the occurrence of AST and/or ALT increases at least two times the limit of normal or ALP increases at least x 2. To compare with an active comparator group (influenza vaccine).

**Materials and Methods:** Retrospective cohort study. We analyze a consecutive sample of adult patients vaccinated with Covid-19 vaccines (Sputnik, AstraZeneca/Oxford, Covishield, or Sinopharm) between January 1 and May 30, 2021, and a historical control group vaccinated with influenza between March 1 and July 30, 2019. Qualifying labs were collected as part of routine clinical care or the development of symptoms.

**Results:** From a total of 29,918 subjects who received the Covid-19 vaccine in 2021 and 24,753 who received the Influenza vaccine in 2019, 130 and 148 patients, respectively, were excluded because of previously altered liver function tests or known hepatic disease. Both groups were comparable in age (73 years old (IQR 65-80), p=0.125) and gender (67% were females). In the Influenza group were more dysmetabolic and immunosuppressed patients.

A total of 269 and 273 patients, respectively, presented altered liver function tests within 90 days post-vaccination. The cumulative incidence of liver injury was 4.6 per 1,000 (95% CI 3.9-5.5) for Covid-19 and 5.1 per 1,000 (95%CI 4.3-6.1) for Influenza (p=0.453). Although, two patients from the COVID group had a more severe injury, with hyperbilirubinemia, development of autoantibodies and requirement of steroids for disease control.

**Conclusions:** The occurrence of events was similar in subjects vaccinated with Covid-19 compared to the control group. Acute hepatitis characteristics arising after the COVID-19 vaccine needs to be further clarified.

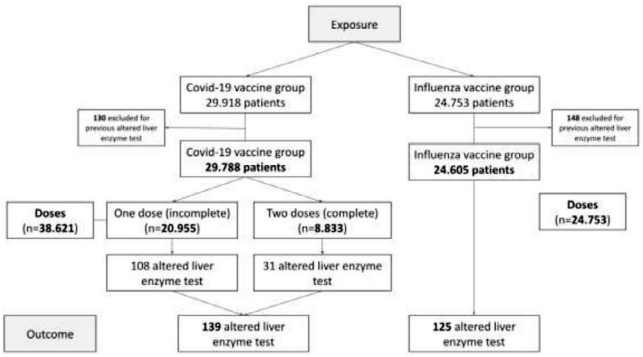



Figure 1. Flowchart diagram for study participants

https://doi.org/10.1016/j.aohep.2023.100911

## P-8 EXTRACELLULAR VESICLE-DERIVED MICRORNA SIGNATURE IN HCV AND HCV/HIV PATIENTS WITH DIFFERENT STAGES OF LIVER FIBROSIS

Victoria Cairoli[1], Daniel Valle Millares[2], Pablo Ryan[3], Lourdes Dominguez[4], Luz Martín-Carbonero[5], Beatriz Ameigeiras[6], Verónica Briz[2], Amanda Fernandez Rodriguez[2,7], Ma Victoria Preciado[1], Pamela Valva[1]

[1] *Multidisciplinary Institute for Pediatric Pathology Research (Imipp-Conicet-Gcba), Buenos Aires, Argentina*
[2] *National Microbiology Center, Instituto de Salud Carlos III, Madrid, España*
[3] *Infectious Diseases Department, Hospital Universitario Infanta Leonor, Madrid, España*
[4] *HIV Unit. Internal Medicine Service. Instituto de Investigación Hospital 12 de Octubre (I+12), Madrid, España*
[5] *La Paz Hospital Research Institute (Idipaz), Madrid, España*
[6] *Hepatic Unit, Hospital Ramos Mejía, Buenos Aires, Argentina*
[7] *Alfonso X El Sabio University, Villanueva de la Cañada, Madrid, España*

**Introduction and Objectives:** Extracellular vesicles (EVs) are essential players in cell communication, and their cargo modulates the receptor cell response. MicroRNAs (miRNAs) proved to modulate the immune response both in physiological and pathological conditions. Hepatitis C (HCV) and Human Immunodeficiency (HIV) virus infection could modify EVs miRNA content and, therefore, the immune response. This study aimed to analyze the significant differentially expressed (SDE) EVs-derived miRNAs between HCV and HCV/HIV-infected patients, analyze differences according to liver fibrosis stages and explore the associated molecular pathways.

**Materials and Methods:** Plasma from 21 chronic HCV and 29 HCV/HIV patients were analyzed. EVs were isolated and total EV-containing RNA enriched with small RNAs was high-throughput sequenced ($1 \times 50$). Raw reads were analyzed with Fastqc and trimmed with Cutadapt. Human-miRNA identification was performed with miRDeep2. R package edgeR was used to detect SDE miRNAs between groups and *in silico* miRNA target prediction was performed with DIANA-mirPath.

**Results:** HCV patients [54 years (46.5; 62.5), 52.4% F≥2] showed 38 SDE miRNAs compared with the HCV/HIV group [50 years (45; 53), 22.58 % F≥2] that modulate pathways related to fatty acids biosynthesis, extracellular matrix interaction and viral carcinogenesis. Regarding fibrosis, HCV patients with F<2 showed downregulation of hsa-miR-3615 ($log_2FC$=-0.92, p=0.039), which modulates genes involved in the cell cycle and the mRNA surveillance pathway. On the other hand, HCV/HIV patients with F<2 had 13 SDE miRNAs compared with F≥2. Among them, hsa-miR-122-5p (downregulated) and hsa-miR-328-3p (upregulated) showed the most significant differences ($log_2FC$=-1.22, p=0.034, log2FC=1.33, p=0.042, respectively). Together, they regulate genes involved in cancer-related pathways and fatty acid metabolism.

**Conclusions:** Differentially expressed EVs-derived miRNAs in HCV and HCV/HIV chronic infection and in different stages of liver fibrosis were observed. The specific miRNA signature of each liver fibrosis stage may elucidate potential mechanisms involved in the clinical evolution of these patients and the identification of biomarkers of unfavorable progression.

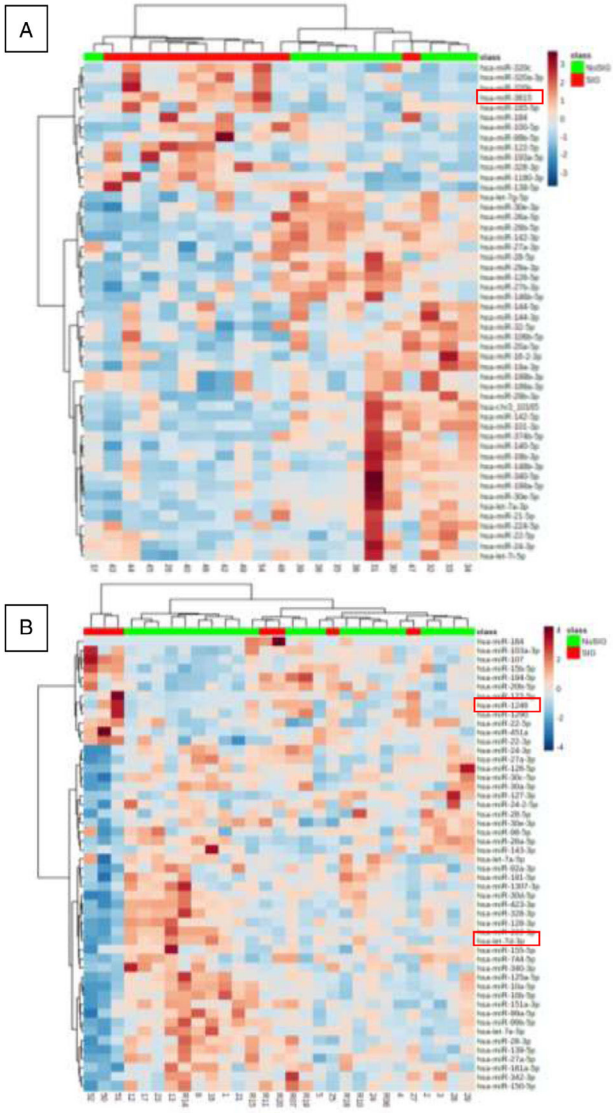



Figure 1. Heatmap showing the top 50 miRNAs between patients with F<2 and F≥2 in A) HCV and B) HCV/HIV cases.

https://doi.org/10.1016/j.aohep.2023.100912

## P- 9 BIOMARKERS OF THE BACTERIAL, VIRAL AND HUMAN GUT TRANSCRIPTOME IN METABOLIC ASSOCIATED FATTY LIVER DISEASE (MAFLD) IN ARGENTINA

María Florencia Mascardi[1,2], Flavia Noelia Mazzini[1], Bárbara Suárez[1,2], Vera M. Ruda[3,4], Sebastián Marciano[5], Paola Casciato[2,5], Adrián Narvaez[5], Leila Haddad[5], Margarita Anders[6], Federico Orozco[6], Ana Jesica Tamaroff[7], Frank Cook[8], John Gounarides[8], Susana Gutt[7], Adrián Gadano[5], Celia Méndez García[4,9], Martín L. Marro[10,11], Alberto Penas Steinhardt[2,12], Julieta Trinks[1,2]

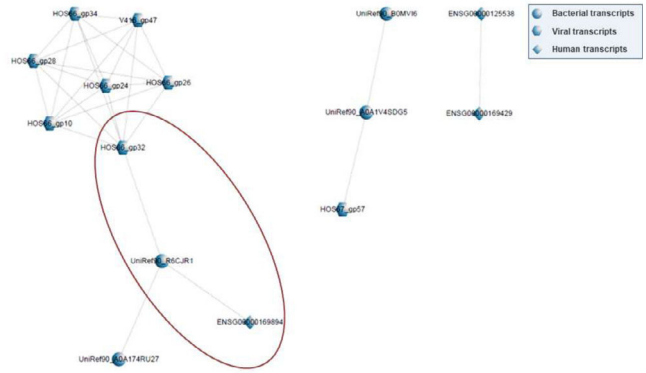
[1] *Institute of Translational Medicine and Biomedical Engineering (IMTIB) - Conicet - University Institute of the Italian Hospital (LUHI) - Italian Hospital of Buenos Aires (HIBA), Autonomous City of Buenos Aires, Argentina*
[2] *National Scientific and Technical Research Council (Conicet), Autonomous City of Buenos Aires, Argentina*
[3] *Biotherapeutic and Analytical Technologies, Novartis Institutes for Biomedical Research, Cambridge (NIBR), MA, United States of America*
[4] *Chemical Biology & Therapeutics, NIBR, Cambridge, MA, United States of America*
[5] *Liver Unit of Buenos Aires Italian Hospital, Autonomous City of Buenos Aires, Argentina*
[6] *Liver Unit of Germany Hospital, Autonomous City of Buenos Aires, Argentina*
[7] *Nutrition Department of Buenos Aires Italian Hospital, Autonomous City of Buenos Aires, Argentina*
[8] *Analytical Sciences & Imaging Department, NIBR, Cambridge, MA, United States of America*
[9] *Chemical Biology & Therapeutics, NIBR, Basel, Switzerland*
[10] *Cardiovascular and Metabolic Disease Area, NIBR, Cambridge, MA, United States of America*
[11] *Tectonic Therapeutic, Inc., Watertown, MA, United States of America*
[12] *National University of Luján, Department of Basic Sciences, Computational Genomics Laboratory, Luján, Buenos Aires, Argentina*

**Introduction and Objectives:** The functional dynamics of the gut microbiome and its interactions with the human transcriptome represent a niche for non-invasive biomarkers to risk-stratify MAFLD. This study aimed to identify gut transcriptomic signatures associated with MAFLD in Argentina.

**Materials and Methods:** Stool samples, diet, demographic and clinical data were obtained from 33 biopsy-proven MAFLD patients (12 simple steatosis -SS- and 21 steatohepatitis -SH-) and 19 healthy volunteers (HV). RNA-seq was performed in NovaSeq6000®. Data were analyzed with Maaslin2-v1.2.0, bioBakery-v1.8 and DESeq2-v4.1. Co-expression analysis was performed with Hmisc-v4.7-0.

**Results:** BMI was higher in MAFLD, particularly in SH patients ($q=4.49 \times 10^{-6}$). After adjusting for BMI, differentially expressed genes (DEGs) were found when comparing MAFLD *vs.* HV and SH *vs.* SS in bacterial (5 and 13, respectively), viral (112 and 26, respectively) and human (4 and 46, respectively), transcriptomes ($q<0.01$). Functional profiling of DEGs in MAFLD and SH patients revealed augmented bacterial sulfur and uric acid metabolisms, viral life cycle and viral regulation of the host immune system. Inflammatory regulation, lipid, iron and carbohydrate metabolisms, and response to oxidative stress were enhanced among human DEGs. After comparing transcript abundance, the most active bacterial families were *Bactereoidaceae*, *Rikenellaceae*, *Oscillospiraceae* and *Prevotellaceae* in all groups. *Bifidobacteriaceae* expression occurred mostly in HV, while *Prevotellaceae* prevailed in MAFLD patients. The *Firmicutes*/*Bacteroidetes* ratio was higher in MAFLD and SH. *Myoviridae*, *Podoviridae*, *Siphoviridae* and *Microviridae* were the most transcriptionally active viral families in all groups. *Myoviridae* and *Microviridae* showed up-regulated activity in MAFLD (FDR=0.006 for *Microviridae*) and SH groups (FDR=0.01 and $4.2 \times 10^{-6}$, respectively), whereas *Podoviridae* and *Siphoviridae* were less active in these groups. Significant correlations were observed between the expression of Faecalibacterium phage Mushu, *Prevotella copri* and the human mucin gene (Figure).

**Conclusions:** We identified specific signatures of the interaction between microbial and human gut transcriptomes that could be useful as non-invasive biomarkers of MAFLD diagnosis and progression.




**Correlation network of the significant human, bacterial and viral transcriptome parameters of the MAFLD patients (p<0.01).**
Edges represent positive correlations.
Significant correlations between expression of *Faecalibacterium phage Mushu* (HOS66_gp32), *Prevotella copri* (UniRef90_R6CJR1) and human mucin gene (ENSG00000169894) are highlighted.

https://doi.org/10.1016/j.aohep.2023.100913

## P-10 PATTERNS OF PROGRESSION AND TREATMENT DISCONTINUATION IN A REAL LIFE LATIN AMERICAN PROSPECTIVE COHORT STUDY OF INTERMEDIATE-ADVANCED HEPATOCELLULAR CARCINOMA: SECOND INTERIM ANALYSIS

Federico Piñero[1], Margarita Anders[2], Carla Bermudez[3], Ezequiel Demirdjian[4], Adriana Varón[5], Ana Palazzo[6], Jorge Rodriguez[7], Oscar Beltrán[5], Leonardo Gomes da Fonseca[8], Ezequiel Ridruejo[9], Pablo Caballini[10], Norberto Tamagnone[10], Virginia Reggiardo[10], Hugo Cheinquer[11], Diego Arufe[4], Juan Ignacio Marín[12], Natalia Ratusnu[13], Estela Manero[14], Daniela Perez[6], Marina Villa[15], Federico Orozco[2], Dolores Murga[6], Sebastián Marciano[3], Fernando Bessone[10], Marcelo Silva[1], Manuel Mendizabal[1]

[1] *Austral University Hospital, Pilar, Argentina*
[2] *Germany Hospital, Buenos Aires, Argentina*
[3] *Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[4] *Sacred Heart Sanatorium, Buenos Aires, Argentina*
[5] *LACARDIO/ Cardioinfantil Foundation. Bogotá, Colombia*
[6] *Padilla Hospital, Tucumán, Argentina*
[7] *San Juan Regional Hospital, San Juan, Argentina*
[8] *Clinic Hospital, Sao Paulo University, Sao Paulo, Brasil*
[9] *Education and Clinical Research Medical Center (CEMIC), Buenos Aires, Argentina*

[10] *Centenario Hospital of Rosario, Santa Fe. Argentina*
[11] *Porto Alegre Clinic Hospital, Federal University Rio Grande do Sul. Rio Grande do Sul, Brasil*
[12] *Pablo Tobón Uribe Hospital, Medellín. Colombia*
[13] *Ushuaia Regional Hospital, Ushuaia, Argentina*
[14] *Pablo Soria Hospital, San Salvador de Jujuy, Argentina*
[15] *Comarcal de Blanes Hospital, Córdoba, Argentina*

**Introduction and Objectives:** Previously published regional real-world results of overall survival (OS) in Barcelona Clinic Liver Cancer (BCLC) B and C patients demanded a prospective cohort study nested in a systematic and continuous medical educational networking group. This study aimed to describe and evaluate the treatment decisions in patients with hepatocellular carcinoma (HCC) within BCLC B and C stages.

**Materials and Methods:** A multicenter prospective cohort study, conducted in different Latin American centers from Argentina, Brazil and Colombia, started on 15th May 2018 (delayed recruitment during COVID locked-down period). Patients within BCLC B or C stages were included. Survival, tumor progression and patterns of treatment suspension were evaluated.

**Results:** At this second interim analysis (projected final analysis March 2023), 390 HCC BCLC-B or C patients were included (n=15 excluded); mean age 65 years, 75.6% males and 89.5% cirrhotic. Median OS since HCC diagnosis was 27.2 months. Among BCLC-B patients, the most frequent therapy was transarterial chemoembolization (TACE, 42.3%); 51.8% using drug-eluting beads and 47.4% conventional TACE; with a median OS since 1st TACE of 41.9 months. Similar radiological responses after 1st TACE were observed between both modalities. Overall, 48.2% of the cohort received systemic therapy for HCC (n=188), 23.7% still on BCLC-B stage. The most frequent systemic treatments were Sorafenib (74.5%), atezolizumab bevacizumab (17.5%), and lenvatinib (12.2%), with a median OS since systemic therapy of 15.7 months. Lenvatinib or atezolizumab bevacizumab was used as the second line following sorafenib in 5 and 3 patients, respectively. The most common causes of systemic treatment discontinuation were tumor progression and liver function deterioration (15% to 36.4%). Patterns of tumor progression were not specifically associated with prognosis or treatment discontinuation.

**Conclusions:** Liver function deterioration occurs in a third of patients following systemic therapies. The complexity of treatment decisions underly the need for a multidisciplinary team and the role of hepatologists.

https://doi.org/10.1016/j.aohep.2023.100914

## P- 11 PROTUMORIGENIC GALECTINS 1 AND 3 ARE UPREGULATED IN THE LIVER OF MICE EXPOSED TO CONTINUOUS GROWTH HORMONE LEVELS

Santiago De La Fuente[1], Verónica Gabriela Piazza[1], Nadia Sofía Cicconi[1], María Lorena Bacigalupo[1], Luciana Sarrias[1], Ana Isabel Sotelo[1], Andrzej Bartke[2], María Fernanda Troncoso[1], Johanna Gabriela Miquet[1]

[1] *University of Buenos Aires, National Council of Scientific and Technical Research (CONICET), Institute of Biological Chemistry and Physicochemistry (IQUIFIB), Department of Biological Chemistry, School of Pharmacy and Biochemistry, Buenos Aires, Argentina*
[2] *Department of Internal Medicine, Geriatrics Research, Southern Illinois University School of Medicine, Springfield, IL, United States*

**Introduction and Objectives:** Human and animal evidence revealed a link between growth hormone (GH) and cancer risk. GH excess is implicated in rodent hepatocarcinogenesis. Transgenic mice overexpressing GH (GH-Tg) develop hepatocellular tumors at old ages, with preneoplastic liver pathology similar to that observed in humans at a high risk of developing hepatic cancer. Galectin 1 (GAL1) is involved in liver tumorigenesis in humans. We reported that GAL1 is upregulated in GH-Tg mice liver, even before histopathological alterations are detected, and particularly enhanced in liver tumors. This study aimed to evaluate if GH modulates the hepatic expression of GAL3, another protumorigenic galectin. As many proteins exhibit sexually dimorphic liver expression, mainly determined by distinct GH secretion patterns between males (intermittent) and females (more continuous), we assessed if GAL1 and GAL3 liver expression was affected by GH secretion patterns.

**Materials and Methods:** Hepatic GAL1 or GAL3 were analyzed by immunoblotting in GH-Tg mice exposed to continuously elevated GH levels and in Swiss-Webster mice treated with GH during five weeks by implantation of osmotic pumps (continuous treatment) or by two daily injections (intermittent treatment). Statistics: Student's t-test or two-way ANOVA; $P<0.05$, significant; at least nine animals/experimental group.

**Results:** In GH-Tg mice (both sexes), GAL3 was not increased in the liver at early ages, when minimal histopathological alterations are found, but it was upregulated in young adults with preneoplastic livers and in older mice that develop liver tumors. However, GAL3 was not increased in tumors compared with the adjacent non-tumoral region. In Swiss-Webster mice, GAL1 and GAL3 expression were higher in females than in males. GH continuous treatment produced a significant increase in GAL1 and GAL3 expression in both sexes and loss of sexual dimorphism, while GH injections showed no effect.

**Conclusions:** GH continuous exposure upregulates protumorigenic GAL1 and GAL3 in mice liver. More studies are required to evaluate its impact on humans.

https://doi.org/10.1016/j.aohep.2023.100915

## P- 12 PATHOGENIC VARIANT OF PNPLA3 DOES NOT ASSOCIATE WITH HEPATOCELLULAR CARCINOMA IN SOUTH AMERICANS. A REPORT FROM THE ESCALON NETWORK

Domingo Balderramo[1], Joshep Akambase[2], Jhon Prieto Ortiz[3], Javier Diaz Ferrer[4], Angelo Mattos[5], Marcos Arrese Jimenez[6], Enrique Carrera Estupinan[7], Zwier Groothuismink[8], Jeffrey Oliveira[8], Andre Boonstra[8], Jose Debes[9]

[1] *Department of Gastroenterology, Córdoba Private University Hospital, Cordoba University Institute of Biomedical Sciences, Cordoba, Argentina*
[2] *Division of Epidemiology, University of Minnesota School of Public Health, Minneapolis, MN, USA*
[3] *Department of Gastroenterology, Liver and Digestive Disease Center (CEHYD), Bogota, Colombia*
[4] *Department of Gastroenterology, Edgardo Rebagliati Martins National Hospital, Lima Peru*
[5] *Department of Gastroenterology, Federal University of Health Sciences of Porto Alegre, Porto Alegre, Brazil*
[6] *Department of Gastroenterology, Pontifical Catholic University of Chile, Santiago, Chile*
[7] *Department of Gastroenterology. Eugenio Espejo Hospital. San Francisco de Quito University, Quito, Ecuador*

[8] *Department of Gastroenterology, Erasmus MC, Rotterdam, Netherlands*
[9] *Department of Gastroenterology, University of Minnesota, Minneapolis, MN, USA*

**Introduction and Objectives:** Hepatocellular carcinoma (HCC) has a strong genetic component and single nucleotide polymorphisms (SNPs) have been consistently associated with HCC risk. Genetic variants in *PNPLA3* have been shown to be frequent in South American populations related to non-alcoholic fatty liver disease (NAFLD). In Caucasian populations, the variant has been shown to increase the risk for HCC when included in Genetic Risk Scores (GRS). Whether this risk applies to other Latino or other populations is unclear.

**Materials and Methods:** We analyzed blood samples of 217 HCC cases, 120 from South American patients (Argentina, Ecuador, Colombia, Chile and Peru) and 97 from Europeans (Netherlands), as well as 326 cirrhotic controls through the ESCALON network. Genotyping for *PNPLA3* was performed using TaqMan-genotyping assay. Associations between HCC and each SNP were evaluated using logistic regression models.

**Results:** The median age for HCC in South Americans was 68 y/o (IQR 62-72) and in Europeans, 69 y/o (IQR 60-74), with 59% and 69% of males, respectively. The etiology of liver disease was similar in both groups except for NAFLD/NASH, which accounted for 59% of Hispanics with HCC vs. 25% of Europeans. Proportions of the risk allele of *PNPLA3* were more prevalent among Hispanics (90%) than Europeans (57%). *PNPLA3* G/G was present in 22% of Europeans with HCC compared to 57% of Hispanics. The presence of 2 risk alleles for PNPLA3 was not associated with a higher risk of HCC in South Americans, OR 1.19 (CI 0.58-2.46) or Europeans OR 1.1o (CI 0.34-3.58). When PNPLA3 was added in a GRS with *TM6SF2* and *HSD17B13,* calculating different allele combinations did not associate either with HCC in South Americans,

**Conclusions:** Our results show that the prevalence of risk alleles in *PNPLA3* differs between South Americans and Europeans. An SNP in *PNPLA3* does not seem to confer an increased risk for HCC in South Americans.

https://doi.org/10.1016/j.aohep.2023.100916

## P-13 PREVALENCE, CHARACTERIZATION, AND SURVIVAL OF ACUTE ON CHRONIC LIVER FAILURE IN A LATIN AMERICAN COHORT: A MULTICENTER STUDY

Francisco Idalsoaga[1], Luis Antonio Díaz[1], Gustavo Ayares[1], Jorge Arnold[1], Víctor Meza[2], Franco Manzur[2], Joaquín Sotomayor[2], Hernán Rodríguez[2], Franco Chianale[2], Sofía Villagrán[2], Maximilano Schalper[2], Pablo Villafranca[3], Maria Jesus Veliz[3], Paz Uribe[3], Maximiliano Puebla[3], Pablo Bustamante[4], Herman Aguirre[4], Javiera Busquets[4], Gabriel Mezzano[4], Juan Pablo Roblero[5], Juan Pablo Arab[1,6,7]

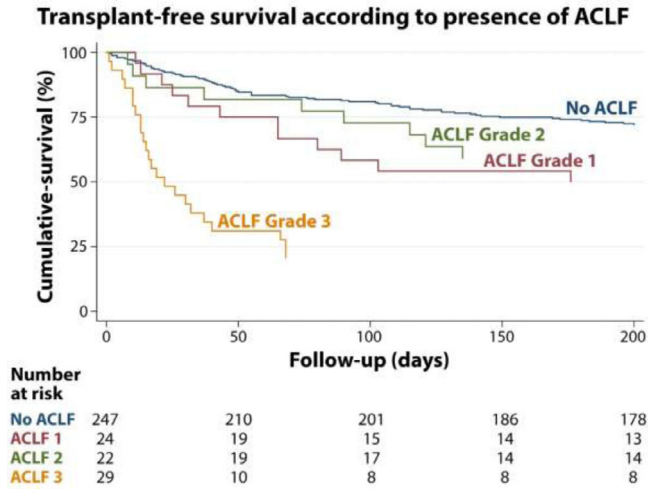
[1] *Department of Gastroenterology, School of Medicine, Pontificia Universidad Católica de Chile, Santiago, Chile*
[2] *Medical School, Pontifical Catholic University of Chile, Santiago, Chile*
[3] *Medical School, University of Chile, Santiago, Chile*
[4] *Gastroenterology Department, Salvador Hospital, Santiago, Chile*
[5] *Gastroenterology Department, Clinical Hospital University of Chile, University of Chile, Santiago, Chile*
[6] *Division of Gastroenterology, Department of Medicine, Schulich School of Medicine, Western University & London Health Sciences Centre, London, Ontario, Canada*
[7] *Department of Epidemiology and Biostatistics, Schulich School of Medicine, Western University, London, Ontario, Canada*

**Introduction and Objectives:** Acute-on-chronic liver failure (ACLF) is a severe clinical entity with organ failures and high short-term mortality. To Date, few ACLF reports have been published in Latin America. This study aimed to characterize patients with ACLF, identifying triggers, organ failure, and survival at 30, 90, and 180 days compared to patients with decompensated cirrhosis without ACLF.

**Materials and Methods:** Retrospective study of decompensated cirrhotic patients hospitalized (between 2017-2019) in three centers in Chile. We evaluated transplant-free survival using Kaplan-Meier curves and Cox-regression.

**Results:** 398 patients were included, a median age of 65.3±11.7-year-old, 50.5% female, 91 (22.9%) presented ACLF (8% ACLF-1, 6.3% ACLF-2, 8.6% ACLF-3); 6.6% underwent liver transplantation. ACLF patients were younger (63.6 vs. 66.0 years; p=0.045), had higher MELD-Na scores (27 [23-32] vs. 17 [13-23]; p<0.001) and higher APACHE II scores (20.5 [16-25] vs. 14 [10-15]; p<0.001) at admission. The most common triggers in both groups were infections (42.4%), gastrointestinal bleeding (23.2%), and alcohol intake (31.3%). Among decompensating factors, acute kidney injury at admission was associated with higher mortality (HR 2.2, 95%CI: 1.4-3.4; p<0.001). The main organ failures were kidney (60.4%), circulatory (49.5%), and brain (48.4%). Organ failures were more frequent in ACLF-3, except renal failure (greater in ACLF-1). Transplant-free survival at 180 days was 73.7% in patients without ACLF and 40% in ACLF (p<0.001). In a Cox regression adjusted by age and sex, transplant-free survival was significantly lower in ACLF-3 compared to patients without ACLF (HR 3.7, 95%CI: 2.3-5.7;p<0.001).

**Conclusions:** ACLF is an entity of younger patients, with lower global and transplantation-free survival at 180 days and multiple organ failure compared to decompensated cirrhotics without ACLF.




https://doi.org/10.1016/j.aohep.2023.100917

## P-14 OPTIMIZATION OF MOLECULAR METHODS FOR SARS-CoV-2 QUALITATIVE DETECTION AND GENOTYPING IN RESPIRATORY SPECIMENS FROM PATIENTS WITH LIVER DISEASE

Vanessa Duarte da Costa[1], Alanna Calheiros Santos[1], Lucas Limas da Silva[1], Wilian Jean Wiggers[2], Claudia Alexandra Pontes Ivantes[2], Danielle Malta Lima[3], Jeová Keny Baima Colares[3], Deusilene Souza Vieira Dallacqua[4], Ana Rita Coimbra Motta-Castro[5], Vanessa Salete de Paula[6], Alberto Martín Rivera Dávila[7], Priscilla Pollo-Flores[8], Lia Laura Lewis-Ximenez[1], Livia Melo Villar[1]

[1] *Brazilian Reference Laboratory of Viral Hepatitis, Oswaldo Cruz Institute, FIOCRUZ, Rio de Janeiro, Brazil*
[2] *Service of Gastroenterology, Hepatology and Liver Transplantation, Hospital Nossa Senhora das Graças, Curitiba, Paraná, Brazil*
[3] *Postgraduate Program in Pathology, Federal University of Ceará, Fortaleza, Ceará, Brazil*
[4] *Molecular Virology Laboratory, Oswaldo Cruz Foundation, FIOCRUZ, Porto Velho, Rondônia, Brazil*
[5] *Federal University of Mato Grosso do Sul, Campo Grande, Mato Grosso do Sul, Brazil; Oswaldo Cruz Foundation, Campo Grande, Mato Grosso do Sul, Brazil*
[6] *Molecular Virology Laboratory, Oswaldo Cruz Institute, FIOCRUZ, Rio de Janeiro, Brazil*
[7] *Computational and Systems Biology Laboratory, Graduate Program in Biodiversity and Health, Oswaldo Cruz Institute, Fiocruz, Rio de Janeiro, Brazil*
[8] *Internal Medicine Department, Fluminense Federal University, Niterói, Rio de Janeiro, Brazil*

**Introduction and Objectives:** SARS-CoV-2 active infection diagnosis is currently performed through RT-qPCR. Despite the fact that PCR-based assays can provide results relatively fast, these techniques require capable professionals, specific equipment and adequate infrastructure. In order to facilitate COVID-19 diagnosis in remote areas, an alternative to RT-qPCR would be loop-mediated isothermal (RT-LAMP) amplification. SARS-CoV-2 variant genotyping through high-throughput sequencing (HTS) allows SARS-CoV-2 genomic surveillance, especially for patients with a higher vulnerability. This study aimed to optimize RT-LAMP and HTS methods for SARS-CoV-2 RNA detection and genotyping, respectively, in respiratory samples from patients with liver disease.

**Materials and Methods:** A total of 142 respiratory secretions were obtained from individuals with SARS-CoV-2 RNA detectable by RT-qPCR (N1 Ct $\leq$ 30), divided into groups with (n=18) or without (n=124) liver disease. The study also enrolled 55 individuals who had SARS-CoV-2 RNA undetectable at RT-qPCR. For RT-LAMP methodology, primers were used for ORF1 gene amplification. As for HTS genotyping, the steps of cDNA synthesis, complete SARS-CoV-2 genome PCR amplification, preparation of genomic libraries and sequencing in MinION device were performed for 26 swab samples.

**Results:** Samples with viral RNA detectable by RT-qPCR had a mean Ct value of 24.3 $\pm$ 3.75. Referring to RT-LAMP, it was observed a sensitivity of 71.1% (101/142). When considering RT-qPCR mean Ct value, RT-LAMP sensitivity was 88.9% (16/18), associated with a mean Ct of 23.3 $\pm$ 3.5 for patients with COVID and hepatitis. A specificity of 100% (55/55) was observed since all negative swabs tested by RT-qPCR were negative at RT-LAMP. Through sequencing by MinION, SARS-CoV-2 lineages gamma (7/26; 27%), zeta (1/26; 3.9%), delta (6/26; 23%) and omicron (12/26; 46.1%) were genotyped and detected by RT-LAMP.

**Conclusions:** RT-LAMP demonstrated high sensitivity for molecular detection of SARS-CoV-2 RNA for patients with high viral load. Besides, RT-LAMP was capable of detecting all SARS-CoV-2 lineages genotyped by MinION in both groups.

https://doi.org/10.1016/j.aohep.2023.100918

## P-15 MMP-2 AND MMP-9 LEVELS IN ALCOHOLIC LIVER DISEASE, NON-ALCOHOLIC FATTY LIVER DISEASE AND CHRONIC HEPATITIS C

María Lemus-Peña[1], Abigail Hernandez-Barragan[1], Daniel Montes de Oca-Ángeles[1], Marisela Hernandez-Santillan[1], Daniel Santana-Vargas[2], Moisés Martinez-Castillo[1], Zaira Medina-Avila[1], Aldo Torre-Delgadillo[2], José Luis Pérez-Hernández[2], Fátima Higuera-De la Tijera[2], Paula Cordero-Pérez[3], Linda Muñoz-Espinosa[3], David Kershenobich[4], Gabriela Gutiérrez-Reyes[1]

[1] *Liver. Pancreas and Motility Laboratory, Unit of Research in Experimental Medicine, School of Medicine, Universidad Nacional Autónoma de México (UNAM), Mexico City, Mexico*
[2] *Department of Gastroenterology, Hospital General de México "Dr. Eduardo Liceaga", Mexico City, Mexico*
[3] *Hospital Universitario "Dr. José Eluterio González", School of Medicine, Universidad Autónoma de Nuevo León (UANL), Nuevo León, Mexico*
[4] *Instituto Nacional de Ciencias Médicas y Nutrición "Salvador Zubirán", Mexico City, Mexico*

**Introduction and Objectives:** It has already been reported that elevated serum levels were present in Hepatitis C patients, although they were found inactive. The behavior of gelatinases MMP-2 and -9 is yet unknown in other liver diseases. This study aimed to evaluate serum concentration of MMP-2 and -9 in different etiologies of liver disease also according to fibrosis stages.

**Materials and Methods:** Cross-sectional multicentric study, including subjects with no alcoholic fatty liver disease (NAFLD), chronic Hepatitis C (CHC), alcohol cirrhosis (CiOH) and alcoholism (OH), groups with alcohol drinking habits were classified according to WHO criteria, with clinical and biochemical evidence of alcoholic liver disease (ALD). Transient elastography (Fibroscan) was performed in NAFLD and CHC, considering mild fibrosis (FL: F0, F1, F2) and severe fibrosis (FA: F3, F4). As controls, subjects without alcohol consumption (CT) were recruited. Multiplex®-MERCK© was used for MMP-2 and -9 quantification. Statistical analysis was performed by Mann Whitney-U test, $p<0.05$, with SPSS V.22.

**Results:** The groups included were: 27 NAFLD (mild fibrosis: F0, F1, F2), 36 NAFLD (severe fibrosis: F3, F4), 48 CHC (mild fibrosis: F0, F1, F2), 54 CHC (severe fibrosis: F3, F4), 45 (CiOH), 99 (OH), and 138 CT. Both gelatinases, MMP-2 y MMP-9, were found elevated in CHC (mild and severe fibrosis) vs. CT; and decreased in OH, CiOH, HGNA (mild and severe fibrosis) vs. CT, plus there is significant differences between all etiologies, $p<0.001$.

**Conclusions:** In patients with CHC, MMP-2 y -9 serum concentration increases, particularly in severe fibrosis stages, although it has no effect on ECM (extracellular matrix) degradation, as they are inactive. Nevertheless, there is a significant decrease in these gelatinases in ALD and NAFLD. MMP-2 y MMP-9 are modulated according to etiological agents, which can be useful for the differential diagnosis of liver diseases.

**Funding:** This work was partially financed by CONACyT SALUD-2016-272579 and PAPIIT- UNAM TA200515

https://doi.org/10.1016/j.aohep.2023.100919

## P-16 FIRST MICRO ELIMINATION INTERVENTION OF HEPATITIS B &C IN INMATES OF THE EIGHT PRISONS IN THE PROVINCE OF MENDOZA, ARGENTINA

Gabriela Villar[1], Laura Rolla[1], Laila Hadid[1], Vanina Padovani[1], A Massutti[1], Diego Terraza[1], Hector Cuello[2], Roberto Perez Ravier[4], Ivana Lo Castro[2], Maria Liliana Videla[2], Victor Bittar[3], Noelia Lucero[6], Laura Blazquez[5], Juan Sotelo[7], Roxana Aquino[7], Carlos Espul[4]

[1] *Unit XIII - Health Management - Provincial Penitentiary Service - Ministry of Security of Mendoza, Argentina*
[2] *Virology Section, Central Hospital, Mendoza, Argentina*
[3] *Provincial AIDS Program - Ministry of Health, Mendoza, Argentina*
[4] *Provincial Viral Hepatitis Program - Ministry of Health, Mendoza, Argentina*
[5] *Hepatology Clinic – Central Hospital, Mendoza, Argentina*
[6] *Virology Laboratory, T. Schestakow Hospital, Ministry of Health, San Rafael, Mendoza, Argentina*
[7] *Directorate of Response to HIV, STIs, Viral Hepatitis and Tuberculosis (DRVIHVYT). National Ministry of Health, Autonomous City of Buenos Aires, Argentina*

**Introduction and Objectives:** Accessing to a closed population such as prisoners opens a great possibility for controlling HCV infection through treatment with Direct-acting antivirals (DAAs). Introduction. This study aimed to determine HIV, syphilis, HBV and HCV prevalence in the eight penal institution inmates of Mendoza's province to achieve microelimination of viral hepatitis.

**Materials and Methods:** During 2019, HIV, HCV, syphilis and HBsAg tests were offered to all inmates. In order to characterize risk factors associated with this population, they were given a voluntary self-administered survey on sexual practices, drug use and self-perception of their health status. 4024 out of 4821 subjects were enrolled, 3,899 cisgender-men (83.02%) and 125 cisgender-women (100%); all of them signed informed consent.

**Results:** Prevalence for anti-HCV, HBsAg, anti-HIV and antiSyphilis were 0,82%, 0,15%, 0,15% and 2,55%, respectively. The average age of patients infected with HCV and HBV was 44 years old. In 31 out of 33 inmates, viral load and genotype were determined. The most prevalent genotype was 1a (71%), followed by 1b (19.3%), 3a (6,5%) and 2a/c (3.2%). 13 out of 31 (42%) received DAAs treatment, of which 9 (69%) had a sustained viral response (SVR), three did not reach SVR, and one is currently under treatment. 10 out of 31 (32%) inmates were lost to follow-up. Eight patients are waiting for their treatments. Only 1 out of 6 HBV-positive inmates had detectable viral load and is under follow-up.

**Conclusions:** There's a previous study in Argentina's federal prisons (2016) on 2.277 inmates, where HCV and HBV prevalences were higher than ours (3,3% and 0,51%, respectively). Analyzing the local survey response, this gap could be due to the percentage of injection drug use: 3,13% in provincial vs. 6% in federal inmates. Checking for HCV/HBV infections in every new inmate has been adopted as a sanitary policy until nowadays.

https://doi.org/10.1016/j.aohep.2023.100920

## P- 17 FRAILTY AND COVERT HEPATIC ENCEPHALOPATHY IN CIRRHOTIC PATIENTS AT A THIRD LEVEL HOSPITAL IN GUATEMALA

Katherine Maldonado[1], Abel Sánchez[2]

[1] *Gastroenterology and digestive endoscopy Postgraduate, University of San Carlos de Guatemala, Guatemala City, Guatemala*
[2] *Gastroenterology section of Roosevelt Hospital, Guatemala City, Guatemala*

**Introduction and Objectives:** In Guatemala, liver cirrhosis has a mortality rate of 41 per 100,000 inhabitants. Diminished physical reserve (frailty) is an important prognostic factor, largely determined by sarcopenia, which in turn has a role in the pathophysiology of hepatic encephalopathy. This study aimed to describe the relationship between frailty and covert hepatic encephalopathy to determine if cirrhotic patients with a higher degree of frailty have a higher probability of encephalopathy.

**Materials and Methods:** Cross-sectional analytical study with a non-probabilistic registry of consecutive cases with a statistical power of 80% and a confidence level of 90%. Patients with a diagnosis of cirrhosis without evident hepatic encephalopathy and without motor or neurocognitive impairment are included. Frailty status (prediction variable) was measured using the liver frailty index "Liver Frailty Index TM" and the one-minute animal naming test "ANT test" (outcome variable) was performed. These variables were analyzed using the chi square linearity test.

**Results:** 66 patients with cirrhosis were included, 61% female, with a mean age of 56 years; the main causes of cirrhosis found were alcohol (25.8%), Virus C (19.7%) and liver non-alcoholic fat (16.6%). Only 7.6% of the patients were robust, while 60.6% were pre-frail and 31.8% were frail. 56.1% of the patients presented with covert hepatic encephalopathy. Robust patients presented covert hepatic encephalopathy in 20%, pre-frailty in 55% and frail in 66.7% (p = 0.087), which resulted in a probability of covert hepatic encephalopathy for pre-frailty of 2.75, CI 90% [ 0.61-12.2] and for frailty 3.33 CI 90% [0.74-14.83].

**Conclusions:** In cirrhotic patients, frailty confers a greater probability of hepatic encephalopathy.

Table 1. Frailty and covert hepatic encephalopathy

| Farilty status | Covert hepatic encephalophaty | | | |
|---|---|---|---|---|
| | Yes | | No | |
| | *f* | % | *f* | % |
| Robust | 1 | 20% | 4 | 80% |
| Pre Frail | 22 | 55% | 18 | 45% |
| Frail | 14 | 66.70% | 7 | 33.35 |
| *p value* chi square linearity test = 0.087 | | | | |
| PR pre Frail = 2.75, IC 90% [0.61-12.2] | | | | |
| PR Frail 3.33, IC 90% [0.74-14.83] | | | | |

P- 18 WITH TREATMENT

https://doi.org/10.1016/j.aohep.2023.100921

## P- 18 TREATMENT WITH BEVACIZUMAB IN HIGH OUTPUT CARDIAC FAILURE DUE TO SEVERE HEPATIC COMPROMISE IN HEREDITARY HEMORRHAGIC TELANGIECTASIA PATIENTS: OBSERVATIONAL COHORT STUDY

Carolina Vazquez[1,2], Juan Bandi[1,3,4], Marcelo Serra[1,2,4]

[1] *A.R.G Argentine Rendu Study Group. Italian Hospital, Buenos Aires, Argentina*
[2] *Internal Medicine Department. Italian Hospital, Buenos Aires, Argentina*
[3] *Hepatology Section. Italian Hospital, Buenos Aires, Argentina*

[4] *Hereditary Hemorrhagic Telangiectasia Unit. Italian Hospital, Buenos Aires, Argentina*

**Introduction and Objectives:** Hereditary Hemorrhagic Telangiectasia (HHT) is an autosomal dominant vascular dysplasia affecting 1/5000 individuals. Epistaxis, mucocutaneous telangiectasias and vascular malformations affecting internal organs (brain, lungs, liver and digestive tract) are hallmarks of HHT. Though liver involvement occurs in 80% of patients, including abnormal portal-venous, arterio-portal, and arterio-venous shunts, overt clinic is only present in 8% and may present as secondary high-output cardiac failure (HOCF), portosystemic encephalopathy, noncirrhotic portal hypertension and/or bile duct ischemia. This study aimed to report a single HHT Reference Center experience in the antiangiogenic treatment with bevacizumab (anti VEGF-Vascular Endothelial Growth Factor) for treating adult HHT patients with HOCF due to severe liver disease.

**Materials and Methods:** Observational cohort study. Baseline clinical/analytical characteristics were recorded and echocardiographic values for cardiac index in L/min/$m^2$ and cardiac output in L/min (CI and CO) before and after bevacizumab treatment were compared when available with a paired signed rank test.

**Results:** Thirteen patients were included from July/2013-June/to 2022, nine were women and the median age was 68 [IQR: 53-71]. All of them with HOCF; eleven had edema/ascites and six also had refractory iron deficiency anemia. Regarding liver compromise: nine had hepatomegalia, all had diffuse telangiectasias, six portal-venous, ten arterio-venous and eight arterio-portal shunts, while only two had ischemic bile duct injury. Basal median CI was 4.1 [3.8-4.8] and CO was 7.5 [6.1-8.6] (n=11). Median Bevacizumab number of the received doses was 6 [4-6]. At least one post-treatment result during the first year of treatment was available in 8 patients with a median CI of 3.5 [3.1-4.3] ($p<0.05$) and CO of 6.2 [4.5-3.0] ($p<0.05$). Two patients received liver transplantation while on treatment.

**Conclusions:** These results supporting bevacizumab treatment in HHT patients with severe liver disease are in line with previous reports.

https://doi.org/10.1016/j.aohep.2023.100922

## P-19 SPLENIC IRON OVERLOAD IN PATIENTS WITH HEREDITARY HEMOCHROMATOSIS

Maria Florencia Yamasato[1], Mariano Volpacchio[2], María Alejandra Avagnina[3], Enzo Rey[1], Alejandra Vellicce[4], Esteban Gonzalez Ballerga[1], Juan Antonio Sordá[1], Jorge Daruich[1]

[1] *Hepatology Section, Gastroenterology Service. José de San Martín Clinics Hospital, UBA. Buenos Aires, Argentina*
[2] *Diagnostic Imaging Service, José de San Martín Clinics Hospital, UBA Rossi Diagnostic Center. Buenos Aires, Argentina*
[3] *Anatomic Pathology Service, José de San Martín Clinics Hospital, UBA. Buenos Aires, Argentina*
[4] *Hemotherapy Service, José de San Martín Clinics Hospital, UBA. Buenos Aires, Argentina*

**Introduction and Objectives:** Hereditary hemochromatosis (HH) is a polygenic disease characterized by elevated transferrin saturation (TfS) due to progressive and systemic iron overload. T2*-weighted magnetic resonance imaging (T2*MRI) is useful for assessing hepatic and splenic iron overload (SpIO). Until now, SpIO in patients with HH has been controversial. This study aimed to evaluate splenic iron overload in HH patients.

**Materials and Methods:** A Retrospective analysis was made in 113 patients studied with T2*MRI 1.5 Tesla, with phenotypic and liver histologic criteria of HH, without other causes of iron overload. All of them had a hepatic iron overload. In order to evaluate differences between patients with SpIO (Group 1 - G1) or without (Group 2 - G2), age, sex, serum ferritin (SF), serum iron (SI), serum transferrin (Tf), TfS, HFE gen mutations, hepatomegaly, libido loss (LIB), cirrhosis by liver histology, oral glucose tolerance test (OGTT), diabetes (DM); cutaneous (CI), joints (JI) and cardiac involvement (CVI) were compared between both groups. Statistical analysis: median with IQ range 25-75% and Mann-Whitney test. P-value <0.05 was considered significant.

**Results:** By T2*MRI, SpIO (G1) was observed in 53 cases (46.9%) and not detected (G2) in 60 (53.1%). Median age: G1, 47 years (39-60) vs. G2: 43 (30.5-53) (p=0.074); HFE mutations, G1: 20.75% vs. G2: 11.67% (p=0.14); SF>1000 ng/ml, G1: 35.85% vs. G2: 18.33% (p=0.029); hepatomegaly, G1: 67.92% vs. G2: 46.67% (p=0.018) and AI, G1: 33.96% vs. G2: 13.33% (p=0.009). Statistical differences were not observed when comparing sex, cirrhosis, SI, Tf, TfS, OGTT, DM, CI, CVI and LIB.

**Conclusions:** This study shows that nearly half of the patients with HH have splenic iron accumulation. This finding is more frequent in those with SF >1000 ng/dl, hepatomegaly and joint involvement. This preliminary data support to continue studying other polymorphisms that could be involved in HH and the impact of splenic iron overload on the disease.

https://doi.org/10.1016/j.aohep.2023.100923

## P- 21 DOCOSAHEXAENOIC ACID AND ITS DERIVATIVE MARESIN1 IMPROVE CHRONIC LIVER DAMAGE ASSOCIATED WITH THE PROMOTION OF APOPTOSIS PATHWAYS AND LIVER REGENERATION IN A SPRAGUE-DAWLEY MODEL.

Jessica Zúñiga-Hernández, Francisca Herrera Vielma, Matías Quiñones, María José Zúñiga

*Department of Basic Biomedical Sciences, School of Health Sciences, University of Talca, Talca, Chile*

**Introduction and Objectives:** Liver fibrosis is a complex process characterized by excessive accumulation of extracellular matrix (ECM) associated with chronic injury inflammation and an alteration of liver architecture as a result of most types of chronic liver diseases such as cirrhosis, hepatocellular carcinoma and liver failure. The $\omega$-3 Docosahexaenoic (DHA) fatty acids and their derivative Maresin-1 (MaR1) have been shown to have pro-resolutive, anti-inflammatory, and hepatoprotective liver effects on acute models of liver study, but their role in apoptosis and liver regeneration remains to be elucidated. This study aimed to analyze the role of DHA+MaR1 in the prevention and restoration of liver fibrosis damage, enhancing a regenerative phenotype in an animal model of chronic liver damage.

**Materials and Methods:** Sprague-Dawley rats were inducing liver fibrosis by injections of diethylnitrosamine (DEN) 50mg/ml twice a week and treated with DHA with or without MaR1 (4ng/g daily) for ten weeks. Biochemical parameters, biopsy analysis, qRT-PCR (RIPK3, Bax, BCL-2 and P53), protein expression of Ki67, pBCL-2 and the apoptotic index by the terminal-deoxynucleotidyl transferase-mediated nick end-labeling (TUNEL) was assayed. All data were statistically analyzed by GraphPad Prism v9 software.

**Results:** DHA+MaR1 animals, levels of AST, ALT, and albumin were normalized compared to DEN alone. Inflammation and necrotic areas were reduced by DHA+MaR1 treatment, improving liver cytoarchitecture. Cell proliferation, evaluated as mitotic activity index, was increased in the MaR1 group. Upregulation of Ki67, P53, and Bax was observed in the DHA+MaR1 groups, while the expression of Bcl-2 and

RipK3 decreased. Also, the TUNEL assay shows that DHA and DHA +MaR1 promote apoptosis in hepatocytes.

**Conclusions:** Taken together, these results suggest that DHA +MaR1 improves the parameters of DEN-induced liver fibrosis, activating hepatocyte proliferation and apoptosis and restoring the damaged parenchyma. These results open the possibility of DHA + MaR1 as potential therapeutic agents in fibrosis and other liver pathologies.

**Funding:** Fondecyt Iniciación 11200258

https://doi.org/10.1016/j.aohep.2023.100924

## P-23 TEST AND TREAT: PROFILE OF PATIENTS DIAGNOSED WITH HEPATITIS C IN THE PRISON SYSTEM OF PORTO ALEGRE, BRAZIL

Eduardo Emerim[1], Viviane De Lima Cezar[1], Elenita Majaro Pinto Ferreira[2], Ana Francisca Perinazzo Fontoura[3], Daniel Conte Herter[3], Roslaine Ifran Amaral[4], João Nagildo[1], Rafael De Oliveira Nogueira[5], Cibele Dresch[5], Pauline Soares Ferrugem[1]

[1] *Tuberculosis Care Coordination, STI, HIV-Aids and Viral Hepatitis, Municipal Health Secretariat, Porto Alegre, Brazil*
[2] *Prison Health Unit CPPA, Superintendence of Penitentiary Services, Porto Alegre, Brazil*
[3] *Prison Health Unit PFMP/PEPOA, Vila Nova Hospital Association, Porto Alegre, Brazil*
[4] *Prison Health Unit IPF, Superintendence of Penitentiary Services, Porto Alegre, Brazil*
[5] *Specialized Assistance Service Santa Marta, Municipal Health Secretariat, Porto Alegre, Brazil*

**Introduction and Objectives:** Hepatitis caused by the C virus (HCV) is a public health problem whose greatest challenge is access to diagnosis and treatment. The population deprived of liberty is considered a priority for approaches involving the disease. This study aimed to identify the prevalence of HCV among patients tested in prisons in Porto Alegre, Brazil and describe the diagnosed profile of the patients.

**Materials and Methods:** A cross-sectional study with a quantitative approach. Through the "test and treat" project, rapid testing for HCV and the treatment of diagnosed cases were carried out, providing specific pharmacotherapy, without face-to-face specialist medical consult, within 30 days in 5 prisons in Porto Alegre.

**Results:** 1272 tests were performed with a prevalence of 2.04% of HCV (table 1).

The "test and treat" also welcomed patients diagnosed at the entrance door of prisons providing treatment for the disease, totaling 44 patients diagnosed in these prisons. With the exception of 3 patients with non-reactive viral load, 24.4% of patients have already completed treatment, 36.6% of patients are currently undergoing treatment, 22% are awaiting test results or a change of antiretroviral regimen for HIV and 17.1 % went free from prison. As for the profile of patients, 81.8% are male. The age group with the highest prevalence of patients is 41 to 50 years old (33.3%). Regarding race/color, 41.9% of patients are black and 58.1% are white. Regarding drug use, 50% of patients reported using or had used injectable, inhaled substances and/or crack. The patient's APRI score was 0.6 (F0-F1) and FIB-4 was 1.28 (F0-F1).

**Conclusions:** This is an innovative action for the Population Deprived of Liberty, as it is the first time that patients with HCV have been treated in municipal prisons because of the particularities of the prison system.

**Funding:** This work was supported by an unrestricted grant provided by Gilead Sciences Brazil.

Table 1

| Prison | total | Tests | | Reagents | | | |
|---|---|---|---|---|---|---|---|
| | | HCV/HBV | %performed | HCV+ | % HCV reagents | HBV+ | %HBV reagents |
| Presídio Feminino Madre Pelletier | 315 | 314 | 99,7% | 8 | 2,55% | 3 | 0,96% |
| Instituto Psiquiátrico Forense Doutor Maurício Cardoso | 156 | 156 | 100,0% | 2 | 1,28% | 2 | 1,28% |
| IPF - Alta Progressiva | 29 | 0 | 0,0% | 0 | 0,00% | 0 | 0,00% |
| Penitenciária Estadual de Porto Alegre | 610 | 282 | 46,2% | 12 | 4,26% | 0 | 0,00% |
| Cadeia Pública de Porto Alegre | 2651 | 487 | 18,4% | 4 | 0,82% | 1 | 0,21% |
| Instituto Penal Irmão Miguel Dario | 130 | 33 | 25,4% | 0 | 0,00% | 0 | 0,00% |
| TOTAL | 3891 | 1272 | 32,7 | 26 | 2,04% | 6 | 0,47% |

https://doi.org/10.1016/j.aohep.2023.100925

## P- 24 RISK OF MULTIPLE DRUG INTERACTIONS POTENTIALLY LINKED TO SAFETY IN PATIENTS RECEIVING PANGENOTYPIC DIRECT-ACTING ANTIVIRALS FOR THE TREATMENT OF HEPATITIS C

Juan Turnes[1], Antonio García-Herola[2], Ramón Morillo[3], Marinela Méndez[4], Magdalena Rueda[4], Cándido Hernández[5], Antoni Sicras-Mainar[6], Jorge Mendez-Navarro[7]

[1] *Gastroenterology and Hepatology Department, CHU. Pontevedra, Spain*
[2] *Digestive Medicine Department. Marina Baixa de Villajoyosa Hospital, Alicante, Spain*
[3] *Hospital Pharmacy, Hospital of Valme, AGS Sur de Sevilla, Spain*
[4] *Medical Affairs, Gilead Sciences S.L., Madrid, Spain*
[5] *Global Medical Affairs, Gilead Sciences Europe Ltd, U. K*
[6] *Health Economics and Outcomes Research, Atrys Health, Barcelona, Spain*
[7] *Medical Affairs, Gilead Sciences Mexico*

**Introduction and Objectives:** Previous studies have evaluated the risk of drug-drug interactions (DDI) in HCV patients receiving pangenotypic direct-acting antivirals (pDAA). This study aimed to describe the prevalence of the risk of potential multiple DDI (multi-DDI) and its clinical impact in patients treated with pDAAs.

**Materials and Methods:** A retrospective observational study from a Spanish database of 1.8 million inhabitants, including patients treated with Sofosbuvir/Velpatasvir [SOF/VEL] or Glecaprevir/Pibrentasvir [GLE/PIB] (2017- 2020). Demographics, comorbidities, comedications, and DDIs were evaluated. The severity and impact of the DDIs were evaluated using the University of Liverpool tool. Additionally, the ICD-9 coding system was used to identify the presence of suspected adverse drug reactions (SADR) during the treatment. An indirect indicator of effectiveness was evaluated (requirement of a new DAA in the six months after the end of the pDAA).

**Results: 1620 patients were included; 730 with SOF/VEL (median age:** 55 y; 62% men; 37.8% F3/4) and 890 with GLE/PIB (53 y; 60% men; 28% F3/4). The most prescribed drugs were neurological (35.8%), digestive (24.1%) and cardiovascular (14.2%). 77.5% of patients received ≥2 comedications. The number of patients receiving ≥ 2 comedications at risk of multi-DDI with pDAAs was 123 (9.8%, 123/1256), 52 with SOF/VEL and 71 with GLE/PIB. Patients showing increased risk in comedication as a DDI outcome were 31% (22) with GLE/PIB and 11% (6) with SOF/VEL ($p < 0.001$). The risk of decrease in pDAA with GLE/PIB was 32% (23) and with SOF/VEL 46% (24) (p=NS).

Regarding SADR, there was a higher number in the GLE/PIB group (14) vs. SOF/VEL group (4) ($p<0.05$). 84% (16/18) of patients with SADR had a multi-DDI profile. 13% of total multi-DDIs patients showed SADR; GLE/PIB group showed SADR in 18% (13/71) vs 6% (3/52) in SOF/VEL group ($p<0.05$). Most SADR were reported in statin group, percentage higher in the GLE/PIB group vs. SOF/VEL group ($p<0.05$).

Both pDAAs showed a similar percentage of patients restarting a new pDAA within six months after the end of treatment (1.0% and 1.1%, respectively, p=NS).

**Conclusions:** In Spain, about 10% of HCV patients taking ≥ 2 comedications are at risk of multiple DDI with pDAAs. The potential risk of increased comedication as DDI outcome and the presence of suspected adverse reactions were higher in GLE/PIB in comparison with SOF/VEL.

https://doi.org/10.1016/j.aohep.2023.100926

## P- 25 ANTIOXIDANT EFFECT OF MORINGA OLEIFERA IN A MURINE MODEL OF NONALCOHOLIC STEATOHEPATITIS

Alejandra Monraz-Méndez[1], Raymundo Escutia-Gutiérrez[1], Jonathan Rodríguez-Sanabria[1], Ricardo De la Rosa-Bibiano[1], Laura Sánchez-Orozco[1], Arturo Santos[2], Juan Armendáriz-Borunda[1,2], Ana Sandoval-Rodríguez[1]

[1] *Institute of Molecular Biology in Medicine and Gene Therapy, University Center of Health Sciences, University of Guadalajara, Guadalajara, Jalisco, Mexico*
[2] *Monterrey Technological Institute, School of Medicine and Health Sciences, Guadalajara, Jalisco, Mexico*

**Introduction and Objectives:** One of the main mechanisms in the development and progression of nonalcoholic steatohepatitis involves oxidative and endoplasmic reticulum stress. Several studies have reported therapeutic effects of Moringa oleifera leaf extracts in different animal and cellular models due to their antioxidant, anti-inflammatory and lipid-lowering effects. This study aimed to evaluate the effect of Moringa oleifera aqueous extract on biomarkers of oxidative stress in a murine model of non-alcoholic steatohepatitis.

**Material and methods:** Characterization of the aqueous extract was performed by DPPH and ABTS spectrophotometric assays. Male C57BL/6J mice were randomized into two groups. 1) Conventional diet (ND) (n = 5) (18% lipid) and 2) High-fat diet (HF) (n = 10) (60% lipid and 42 g/L sugar in water of use) for 16 weeks. On the ninth week, five animals in the HF group were divided into a subgroup, 3) Moringa Oleifera (HF + MO), 290 mg/kg/day p.o. for eight weeks. Malondialdehyde (MDA) levels were determined in liver homogenates and the transcriptome was measured by microarrays. miRNAs involved in liver disease were also determined. Statistical analysis was performed by differences between groups determined by ANOVA or Kruskal-Wallis test.

**Results:** Moringa aqueous extract showed antioxidant capacity; DPPH values were $10081.4 \pm 0.3$ and $22960.4 \pm 0.3$ for ABTS. Hepatic MDA levels increased in the HF group compared to the ND group ($p<0.05$) and decreased in the moringa-treated group ($p<0.05$). The transcriptome analysis demonstrated the downregulation of genes involved in endoplasmic reticulum stress. The miR-122-5p, miR-21a-5p, miR-34a-5p and miR-103-3p decreased in the MO-treated group.

**Conclusions:** Moringa oleifera treatment might be considered a therapeutic alternative for the NASH spectrum of liver disorders.

https://doi.org/10.1016/j.aohep.2023.100927

## P- 26 EFFECT OF PROTEIN X OF THE HEPATITIS B VIRUS AND HEXACHLOROBENZENE ON LIVER CELL GROWTH DYSREGULATION

Zahira Deza[1], Verónica Mathet[2], Lucia Coli[1], José Oubiña[2], Laura Alvarez[1], Ezequiel Ridruejo[1,3]

[1] *Laboratory of Biological Effects of Environmental Contaminants. Department of Human Biochemistry, School of Medicine, University of Buenos Aires. Buenos Aires. Argentina*
[2] *Research Institute of Medical Microbiology and Parasitology (IMPAM), UBA-CONICET. Buenos Aires. Argentina*
[3] *Chief, Hepatology Section, Department of Medicine. Center for Medical Education and Clinical Research "Norberto Quirno" (CEMIC). Buenos Aires, Argentina*

**Introduction and Objectives:** Chronic hepatitis B and exposure to persistent organic pollutants (COPs) can lead to cellular hepatocarcinoma (HCC), the most common liver tumor. HBV DNA encodes transactivator x, HBx protein. The HBx is required to initiate and maintain HBV replication. Hexachlorobenzene (HCB), COPśmember, is a promoter of hepatic preneoplastic foci. We have shown that HCB increases in rat liver PCNA, TGF-$\beta$1, VEGF and neo-angiogenesis in vivo models. This study aimed to analyze in vitro two models of HCC generation -associated with HCB or with the expression of HBx-.

**Materials and Methods:** The HCB effect on cell number (BrdU incorporation by Immunohistochemistry), PCNA (Western blot), TGF-$\beta$1 (RT-PCR) was studied in vitro in: 1.1) Huh-7; 1.2) Huh-7 transfected with HBx; 2) HepG2.2.15 (stable expression HBV) and 3) EA-hy926 (endothelial cell). In these last, an inhibitor of TGF-$\beta$1-RII (SB431542) was used. In 1.2, 2 and 3 used, 5$\mu$M HCB, 24h; in 1, we performed time (30, 60, 90 and 120) and dose (0,005; 0,05; 0,5 and 5$\mu$M) curves. Evaluated: a) PCNA protein levels, b) TGF-$\beta$1 levels and positive cell number/total cell.

**Results:** In Huh-7, TGF-$\beta$1 increased (20%, 69% and 78%, with 0.05, 0.5 and 5$\mu$M HCB, respectively) and PCNA (45% and 60%, with 0.5 and 5 $\mu$M HCB, respectively). In Huh-7/HBx, PCNA and TGF-$\beta$1 increased by 86% and 71%, respectively. In Huh-7/HBx and 5$\mu$M HCB, PCNA increased by 120% and TGF-$\beta$1 by 91%. In HepG2.2.15 PCNA was overexpressed by 76%. In EA-hy926, PCNA 29% and TGF-$\beta$1 by 43% increased. Both effects were prevented by pre-incubating endothelial cells with the specific inhibitor of TGF-B1 RII after HCB 5$\mu$M.

**Conclusions:** HCB and HBx induce cell proliferation in vitro. This effect is equivalent for both agents (HCB and HBx) and is enhanced by combining them. The proliferative effect is associated with TGF-$\beta$1 increase, which mediates the proliferation generated on both HCC and endothelial cell lines. These findings could partially explain the molecular mechanism involved in human HCC cell proliferation, disease progression and neo-angiogenesis.

https://doi.org/10.1016/j.aohep.2023.100928

## P-27 CELLULAR EFFECTS OF *IN VITRO* LIPID OVERLOAD ON HEPATIC STELLATE CELLS AND HEPATOCYTES.

Adriana Campos-Espinosa[1], José Luis Pérez-Hernández[2], Gabriela Gutiérrez-Reyes[1], Carolina Guzmán[1]

[1] *Laboratory of Liver, Pancreas and Motility, Experimental Medicine Unit, School of Medicine, UNAM/ General Hospital of Mexico. Mexico City, Mexico*

[2] *Liver Clinic, Gastroenterology Service, Hospital General de México. Mexico City, Mexico*

**Introduction and Objectives:** Hepatic cells undergo different processes in response to the steatogenic input of MAFLD. Hepatic cell culture in steatogenic medium is a useful, reproducible tool intended to elucidate these pathogenic mechanisms. This study aimed to study cellular proliferation, death, and senescence in hepatocytes and hepatic stellate cells (HSC) using a model of steatosis *in vitro*.

**Materials and Methods:** HepG2 hepatocytes were cultured in RPMI1640 (Control-Hep) and LX-2 HSC in DMEM (Control-LX2). Steatogenic media: either RPMI1640 or DMEM supplemented accordingly: *mild steatosis* (MS:50$\mu$M sodium oleate/sodium palmitate (OA/PA) at 2:1 ratio), *severe steatosis* (SS:500$\mu$M 2OA:1PA). HepG2 or LX-2 cells were preincubated for 24h at 37°C and 5% $CO_2$, then incubated in MS or SS medium for up to 72h. Steatogenic medium was refreshed daily. Viability, mortality, proliferation, and senescence were analyzed. Assays are performed in triplicates. Data: Mean±SD. 2-way ANOVA followed by Tukey. $P<0.05$.

**Results: Hepatocytes:** MS showed lower viability and proliferation, with increased mortality at 72h and higher senescence from 48h. SS displayed lower viability, and proliferation, with increased mortality but lower senescence from 24h. HSC: MS showed diminished viability and increased mortality (16.0%) at 72h. SS showed lower viability and increased mortality rate (50.0%) from 48h.

Proliferation increased in both MS and SS at 24h but decreased by 72h. Cellular senescence was diminished at 24 and 48h in both steatogenic conditions.

**Conclusions:** Steatogenic conditions induced different outcomes in the two cell lines studied. Hepatocyte behavior depends on lipid contents. In MS, increased senescence might be considered a mechanism to avoid damaged-cell proliferation. In SS, increased mortality rate and decreased senescence suggest lipotoxicity and activation of death pathways. In contrast, HSC cultured in steatogenic conditions might turn into the activated state, therefore increasing their proliferation and avoiding other cellular processes, including senescence. Both hepatocyte and HSC outcomes presented here contribute to the pathogenesis of MAFLD.

https://doi.org/10.1016/j.aohep.2023.100929

## P- 28 ATORVASTATIN SHOWS ANTI-PROMOTOR AND ANTI-NEOANGIOGENIC EFFECT IN HEPATOCELLULAR CARCINOMA DEVELOPMENT IN VIVO AND IN VITRO MODEL BY INHIBITING TGF-β1/pERK SIGNALING PATHWAY

Ezequiel Ridruejo[1,2], Zahira Deza[1], Giselle Romero Caimi[1], Lucia Coli[1], AndLaura Alvarez[1]

[1] *Laboratory of Biological Effects of Environmental Contaminants. Department of Human Biochemistry, School of Medicine, University of Buenos Aires. Buenos Aires, Argentina*
[2] *Chief, Hepatology Section, Department of Medicine. Center for Medical Education and Clinical Research "Norberto Quirno" (CEMIC). Buenos Aires, Argentina*

**Introduction and Objectives:** Hepatocellular carcinoma (HCC) represents 90% of liver tumors. Statins may reduce HCC incidence. Its antitumor activities are controversial and may be mediated by disrupting several hepatocarcinogenic pathways. This study aimed to evaluate *in vivo* and *in vitro* the anti-proliferative and anti-angiogenic action of atorvastatin (AT) in the development of HCC as well as its mechanisms of action.

**Materials and Methods:** *In vivo* model: the pesticide hexachlorobenzene (HCB) was used to promote the development of HCC in Balb/C nude mice inoculated with Hep-G2 cells. Tumor hepatic number, cell proliferation parameters (proliferating cell nuclear antigen, PCNA), cholesterol metabolism (3-hydroxy-3-methylglutaryl-coenzyme-A-reductase, HMGCoAR), angiogenesis and VEGF levels were analyzed. *In vitro* model: Hep-G2 and Ea-hy926 cells were used to evaluate the effect of AT (2,5; 5 and 5 mg/kg b.w.) on HCB-induced cell proliferation, migration, and vasculogenesis and analyze proliferative parameters.

**Results:** *In vivo*: AT 5 mg/kg prevented liver growth and tumor development and inhibited PCNA, TGF-$\beta$1 and pERK levels increase. AT 5 mg/kg prevented VEGF levels and skin blood vessel formation. *In vitro*, AT prevented cell proliferation and migration as well as tubular formation in the endothelial cell line by inhibiting the TGF-$\beta$1/p ERK pathway.

**Conclusions:** We were able to demonstrate the potential AT antiproliferative and anti-angiogenic effects in an HCC model and the involvement of TGF-$\beta$1 and pERK pathways.

https://doi.org/10.1016/j.aohep.2023.100930

## P-29 THE LIVER IN AMYLOIDOSIS: AN ANALYSIS OF THE INSTITUTIONAL AMYLOIDOSIS REGISTRY

María Adela Aguirre[1], Marcelina Carretero[2], Eugenia Villanueva[3], Elsa Mercedes Nucifora[4], María Soledad Saez[5], Erika Bárbara Brulc[4], Diego Pérez De Arenaza[3], Sebastián Marciano[6], María Agustina Marco[1], Gisela Bendelman[1], Patricia Beatriz Sorroche[5], María Lourdes Posadas Martínez[1,5]

[1] *Medical Clinic Service, Buenos Aires Italian Hospital, Buenos Aires, Argentina. Institute of Translational Medicine and Biomedical Engineering (IMTIB) Executing Unit of CONICET*
[2] *Internal Medicine Research Area, Medical Clinic Department, Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[3] *Cardiology Department, Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[4] *Hematology Department, Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[5] *Institute of Translational Medicine and Biomedical Engineering (IMTIB) Executing Unit of CONICET. Non-Sponsored Research Area, Research Department, Internal Medicine Research Area, Medical Clinic Service, Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[6] *Section of Hepatology, Buenos Aires Italian Hospital, Buenos Aires, Argentina*

**Introduction and Objectives:** The liver can be either compromised by infiltrative damage of amyloid, as it happens in AL and AA amyloidosis, or its cause, as it occurs in transthyretin TTR-related amyloidosis. In the latter, the liver synthesizes a defective variant TTR which has the capacity for cardiac, neurological, and renal damage, but the liver function is preserved. This study aimed to describe the clinical characteristics and prognosis of patients with liver involvement of amyloidosis (AL and AA)

**Materials and Methods:** Retrospective cohort of patients with hepatic involvement included in the Institutional Amyloidosis Registry (ClinicalTrials.gov NCT01347047) between June 2010 and January 2022. Clinical characteristics and complementary studies were analyzed, as well as their evolution.

**Results:** 359 patients with amyloidosis were included in the registry, of whom 16 (5% (CI 2.7-7.3)) had liver involvement. The most frequent types of amyloidosis were: AL 88% (14), AA 6% (1) and non-typed 6% (1). The median age at diagnosis was 64 years (IR 63-74), male 44% (7). The median albumin value was 3.0 gr/dL (IR 2.5-3.8), alkaline phosphatase 705 IU (IR 395-114), total bilirubin mg/dL 1.1 (IR 0.5-14.8), and more than 25% had jaundice. Thirty-one percent presented a cardiac compromise. The mortality rate in the study period was 56% (CI 30%-80%). When comparing patients with amyloidosis with and without liver involvement, mortality was higher in the liver involvement group (29% vs. 56%, p 0.02).

**Conclusions:** We present the first report in our region with adequate sampling that allows us to approximate the burden of this disease in relation to the liver. Hepatic infiltrative involvement has a high mortality rate in amyloidosis compared to those without liver involvement.

https://doi.org/10.1016/j.aohep.2023.100931

## P- 30 CLINICAL FEATURES, TREATMENT, AND SURVIVAL OF PATIENTS WITH BUDD-CHIARI SYNDROME IN A HEPATOLOGY COLOMBIAN CENTER

Ximena Morales[1], Daniel Rojas[1], Felipe Durán-Torres[2], Carolina Salinas[3], Leonardo Pérez[3], Andrés Murillo[3], Enrique Ponce[3], Jorge Ceballos[3], Martín Garzón[3], Geovanny Hernández-Cely[3], Cristina Torres[4], Adriana Varón[4], Andrés Murcia[5], Gilberto Mejía[5], José Gabriel Caviedes[5], Juan Manuel Pérez[5], Oscar Beltrán[3,4,6]

[1] *Fellow Gastroenterology and Digestive Endoscopy. LACARDIO/ Cardioinfantil Foundation - Universidad del Rosario. Bogotá, Colombia*
[2] *Epidemiologist - Universidad del Rosario. Bogotá, Colombia*
[3] *Department of Gastroenterology, LACARDIO/ Cardioinfantil Foundation. Bogotá, Colombia*
[4] *Department of Hepatology - LACARDIO / Cardioinfantil Foundation. Bogota, Colombia*
[5] *Department of Hepatobiliary Surgery- LACARDIO/ Cardioinfantil Foundation. Bogota, Colombia*
[6] *Department of Interventional Radiology- LACARDIO/ Cardioinfantil Foundation. Bogotá, Colombia*

**Introduction and Objectives:** Budd-Chiari syndrome is defined as the obstruction of the hepatic venous flow. In Colombia, there is limited evidence regarding the characterization of these patients. This study aims to describe the clinical features, management, and survival of these patients in a Colombian hepatology reference center. This study aimed to describe the clinical features, management, and survival of patients diagnosed with Budd-Chiari Syndrome at a Colombian Hospital from 2010 to 2021.

**Materials and Methods:** A retrospective descriptive longitudinal study of a cohort of patients with Budd-Chiari syndrome. Adult patients diagnosed with Budd-Chiari Syndrome were included. A descriptive analysis of the data was carried out.

**Results:** A total of 31 patients diagnosed with Budd-Chiari syndrome were included. 58.1% (n=18) were women. The median age was 27 years [interquartile range (IQR) 23-27]. Ascites was the main clinical manifestation (87.1%, n=27). At the time diagnosis was made, 48.4% (n=15) were cirrhotic. Acquired thrombophilia was the main prothrombotic risk factor (48.4%, n=15), with the antiphospholipid syndrome as the most frequent cause (73.3%). The principal location of the outflow obstruction was in the hepatic veins (73.3%, n=22). 48.3% (n=14) had a Class II Rotterdam score (intermediate prognosis). 80.6% (n=25) were on anticoagulation. A transjugular intrahepatic portosystemic shunt (TIPS) was placed in 6 patients (19.4%), and five patients received liver transplants (16.1%). 25.8% (n=8) died. The median time from diagnosis to death was 337.1 days [interquartile range (IQR) 46.5-647.5].

**Conclusions:** Budd-Chiari syndrome is an infrequent disease poorly described in Colombia. This study shows that this population has similar risk factors, clinical features, and mortality as it is described in other cohorts.

https://doi.org/10.1016/j.aohep.2023.100932

## P-31 SHORT-TERM EFFICACY AND SAFETY OF LOLA THERAPY IN PATIENTS WITH CIRRHOSIS AND MINIMAL HEPATIC ENCEPHALOPATHY: A REAL-LIFE COHORT STUDY

Fátima Higuera-De La Tijera[1], AB Moreno-Cobos[1], Christian Hinojosa-Segura[1], Diana Montemira-Orozco[1], Imran Cruz-Reyes[2], Juana Zavala-Ramírez[2], Daniel Santana-Vargas[2], Alfredo Servín-Caamaño[3], Juan Miguel Abdo-Francis[4], José Luis Pérez-Hernández[1]

[1] *Department of Gastroenterology and Hepatology, Hospital General de México "Dr. Eduardo Liceaga", Mexico City, México*
[2] *Sleep Disorders Clinic, Department of Experimental Medicine, Faculty of Medicine, UNAM, Mexico City, México*
[3] *Department of Internal Medicine, Hospital General de México "Dr. Eduardo Liceaga," Mexico City, México*
[4] *Angeles Acoxpa Hospital, Mexico City, México*

**Introduction and Objectives:** Minimal hepatic encephalopathy (MHE) is associated with the risk of accidents, falls, and impaired quality of life. Treatment with L-ornithine L-aspartate (LOLA) could be an effective strategy. This study aimed to verify the efficacy and safety of LOLA treatment in a real-life cohort of cirrhotic patients with MHE.

**Materials and Methods:** Cirrhotic patients with MHE were included. Those who had received any anti-ammoniacal measure or with alcohol consumption in the last six months, creatinine > 1.5 mg/dL, or previously known chronic kidney disease were excluded. The diagnosis of MHE was made using the psychometric hepatic encephalopathy score (PHES) and the critical flicker frequency (CFF). MHE patients received LOLA 6 g t.i.d. for three days and were reassessed with PHES and CFF. The project was approved by the local research and ethics committees.

**Results:** 98 cirrhotic patients were evaluated; 38 (38.8%) had baseline MHE, 26 (68.4%) women, mean age 53.3±8.8 years, median education nine years (range 0-15). According to Child-Pugh: 26 (68.4%) A, 9 (23.7%) B, and 3 (7.9%) C. The median MELD was 11 (range 6-21), and MELD-Na 12 (range 6-26). *Intention to treat analysis:* According to PHES, 30(78.9%) patients showed remission of MHE (p<0.0001). The incidence rate ratio for persisting with MHE was 8 per 38 person-times; that is, 0.2 (95%CI: 0.1-0.5; p<0.0001), with the fraction prevented after exposure to LOLA being 0.78 (95%CI: 0.55-0.90; p<0.0001). According to CFF, 29(76.3%) patients showed remission of MHE (p<0.0001). The incidence rate ratio for persisting with MHE was 9 per 38 person-times; that is, 0.2 (95%CI: 0.1-0.5; p<0.0001), with the fraction prevented after exposure to LOLA being 0.76 (95%CI: 0.51-0-89; p<0.0001). No adverse effects were reported.

*Per protocol analysis:* 34 patients (4 eliminated without evaluation post-LOLA), PHES score improved (baseline -6.44±1.7 vs. post-LOLA -2.79±1.9; p<0.0001), CFF improved (baseline 37±1.8 vs. post-LOLA 39.8±2.2; p<0.0001). According to PHES, 30(88.2%) patients showed remission of MHE (p<0.0001). The incidence rate ratio for persisting with MHE was 4 per 34 person-time; that is, 0.1 (95%CI: 0.04-0.3; p<0.0001), with the fraction prevented after exposure to LOLA being 0.88 (95%CI: 0.67-0.96; p<0.0001). According to CFF, 29(85.3%) patients showed remission of MHE (p<0.0001). The incidence rate ratio for persisting with MHE was 5 per 34 person-times; that is, 0.1 (95%CI: 0.06-0.4; p<0.0001), with the fraction prevented after exposure to LOLA being 0.85 (95%CI: 0.62-0.94; p<0.0001).

**Conclusions:** LOLA is effective in improving cognitive performance and is evaluated very early by PHES and CFF in cirrhotic patients with MHE.

https://doi.org/10.1016/j.aohep.2023.100933

## P- 32 HEPATITIS A AND E VIRUSES IN CÓRDOBA, ARGENTINA: WASTEWATER-BASED EPIDEMIOLOGY AS A SILENT SENTINEL OF THE TREND OF VIRUS CIRCULATION IN THE COMMUNITY

Anabella Fantilli[1,2], Guadalupe Di Cola[1,2], Paola Sicilia[3], Gonzalo Castro[3], María De Los Ángeles Marinzalda[4,5], Ariana Cachi[4,5], Gustavo Ibarra[6], Laura López[7], Maria Gabriela Barbás[8], Silvia Nates[1], Gisela Masachessi[1,2], Maria Belén Pisano[1,2], Viviana Ré[1,2]

[1] *Dr. J. M. Vanella Institute of Virology, Faculty of Medical Sciences, National University of Córdoba, Córdoba, Argentina*
[2] *National Council for Scientific and Technical Research (CONICET), CABA, Argentina*
[3] *Central Laboratory Department, Ministry of Health of the Province of Córdoba, Córdoba, Argentina.*
[4] *National Institute of Aeronautic and Space Medicine, FAA, Cordoba, Argentina*
[5] *Faculty of the Air Force, National Defense University, Córdoba, Argentina.*
[6] *Bajo Grande Municipal Sewage Effluent Treatment Plant-Laboratory of Physicochemical and Bacteriological Analysis, Edar Bajo Grande, Córdoba, Argentina*
[7] *Epidemiology Area, Ministry of Health of the Province of Córdoba, Córdoba, Argentina*
[8] *Secretariat of Prevention and Health Promotion, Ministry of Health of the Province of Córdoba, Córdoba, Argentina*

**Introduction and Objectives:** Monitoring wastewater for traces of viruses allows effective surveillance of entire communities, including symptomatic and asymptomatic infected individuals, providing information on whether a specific pathogen is circulating in a population. Such is the case of hepatitis A and E viruses (HAV, HEV). This study aimed to detect HAV and HEV in wastewater samples from Córdoba, Argentina, to provide insights into their circulation dynamics.

**Materials and Methods:** Sewage samples were monthly and weekly collected from 2017 to 2020 and from 2020 to 2021, respectively, from 4 wastewater treatment plants located in different regions of Córdoba. Furthermore, sewage collectors of 7 neighborhoods in Córdoba city were weekly sampled during 2021. A standardized methodology was carried out for virus concentration using PEG6000 and NaCl. After automated nucleic acid extraction, HAV and HEV molecular detection were performed by TaqMan® Fast Applied Biosystems single-step multiplex RT-qPCR and specific RT-Nested PCR. Positive samples were sequenced.

**Results:** From a total of 575 samples analyzed, 16 were RNA-HAV + (2.80%) and 17 RNA-HEV+ (2.96%). Eight and two sequences were obtained, respectively. The HAV+ specimens were genotype IA. The majority of them belonged to 2017-2018 and were genetically close to those reported in the clinical specimens from the same period when the HAV outbreak in men who have sex with men occurred in Córdoba. The HEV+ samples belonged to genotype 3, and HEV higher occurrence was in 2021, mainly in 2 neighborhoods from Córdoba city.

**Conclusions:** The results show HAV and HEV circulation in Córdoba, despite the low number of clinical cases reported, suggesting a continuous silent circulation of these viruses in the general population. Environmental surveillance of wastewater, together with clinical monitoring, are key tools to track the viral circulation trends over time in the population and to identify hotspots of virus excretion.

https://doi.org/10.1016/j.aohep.2023.100934

## P-33 IMPACT OF SUSTAINED VIROLOGIC RESPONSE ON GLUCOSE PARAMETERS AMONG CHRONIC HEPATITIS C PATIENTS TREATED WITH DIRECT ACTING ANTIVIRALS

Hugo Cheinquer[1], Fabia Benetti[1], Alexandre de Araujo[1], Italo de Maman Jr[1], Cristina Cheinquer Coelho Borges[2], Fernando Wolff Herz[1]

[1] *Departament of Internal Medicine, Gastroenterology and Hepatology Division. Clinics Hospital of Porto Alegre. University Federal do Rio Grande do Sul. Porto Alegre. Brazil*
[2] *Departament of Internal Medicine, Gastroenterology and Hepatology Division. Clinics Hospital of Porto Alegre. University of Vale do Rio dos Sinos. Porto Alegre. Brazil*

**Introduction and Objectives:** Sustained virological response (SVR) of hepatitis C virus (HCV) with direct acting antivirals (DAAs) improve survival and reduces progression to cirrhosis, decompensation and hepatocellular carcinoma. Glucose metabolism impairment is one of the most frequent extra-hepatic manifestations of chronic HCV infection. The impact of SVR on glycemic parameters and baseline variables associated with this outcome remains uncertain. This study aimed to evaluate glucose metabolism before and after SVR, as well as investigate the presence of baseline characteristics related to improvement in glycemic control.

**Materials and Methods:** Prospective study of chronic HCV infection patients treated with DAAs between January 2016 and December 2017 at Viral Hepatitis Outpatient Clinic of Hospital de Clinicas de Porto Alegre, Brazil. Inclusion criteria were SVR to DAA therapy with follow-up for at least 24 weeks after the end of therapy. The exclusion criteria were the presence of other etiology of liver disease. Glycated hemoglobin (A1C) was analyzed before and after treatment in all patients. Subgroups were stratified by cirrhosis, genotype, BMI, age and presence or absence of baseline glycemic disorder. The primary outcome was a change in glycemic homeostasis after HCV eradication without a change in pharmacologic therapy with an impact on glycemic control. Secondary outcomes were baseline variables associated with improvement of glucose control.

**Results:** A total of 207 patients were included, with a mean age of 60.6±10.7 years. Forty-eight percent were males. Cirrhosis was found in 56% and genotype 3 in 37% of patients. T2DM or PD at baseline was present in 54.5%. Overall, median A1C at baseline reduced significantly after SVR (5.7, IQR 5.3-6.7 to 5.5, IQR 4.9-6.3, respectively, p=0.01). Baseline characteristics associated with statistically significant improvement in glycemic control after SVR were cirrhosis, genotype 3 and age below 60 years old.

**Conclusions:** SVR with DAAs was associated with improved glycemic control, particularly among patients with cirrhosis, genotype 3 and/or age below 60 years old.

https://doi.org/10.1016/j.aohep.2023.100935

## P- 34 HEPATOCELLULAR CARCINOMA IN CHILE; A RETROSPECTIVE MULTICENTER STUDY OF 856 PATIENTS

Blanca Norero[1,3], Gonzalo Latorre[1], Diego Reyes[1], Carlos Benitez[1], Rodrigo Wolff[1,7], Marco Arrese[1], Macarena Viñuela Morales[1], Matias Torres Parada[1], Gabriel Mezzano[2], Herman Aguirre[2], Javiera Busquets[2], Edmundo Martinez[3], Maria Elisa Tapia[3], Natalia Mendoza[3], Claudia Pavez[4], Alexandra Ginesta[4], Fernando Gomez[4], Jorge Contreras[4], Edgar Sanhueza[4], Monserrat Rius[4], Andrea Jimenez[5,10], Lorena Castro[5], Javier Brahm[5], Guillemo Silva[5], Alvaro Urzua[6], Jaime Poniachick[6], Edith Contreras[6], José Miguel Leiva[6], Edmundo Aravena[7,8], Macarena Larrain[7], Nicolás Lama[7], Olga Barajas[8], Alejandro Ferrada[9], Pauline Herman[9], Pamela Yaquich[11], Raúl Lazarte[6,12], Rodrigo Zapata[4]

[1] *Red de Salud UC Christus, Department of Gastroenterology, Santiago, Chile*
[2] *Hospital of Salvador, Department of Gastroenterology, Santiago, Chile*
[3] *Dr. Sotero del Río Hospital, Department of Gastroenterology, Santiago, Chile*
[4] *Alemana Clinic of Santiago, Department of Gastroenterology, Santiago, Chile*
[5] *Las Condes Clinic, Department of Gastroenterology, Santiago, Chile*
[6] *University of Chile Clinic Hospital, Gastroenterology Department, Santiago, Chile*
[7] *San Borja Arriarán Hospital, Gastroenterology Department, Santiago, Chile*
[8] *Arturo López Pérez Foundation, Department of Oncology, Santiago, Chile*
[9] *Dr. Eduardo Pereira Hospital, Department of Gastroenterology, Valparaíso, Chile*
[10] *Military Hospital of Santiago, Department of Gastroenterology, Santiago, Chile*
[11] *San Juan de Dios Hospital, Department of Gastroenterology, Santiago, Chile*
[12] *Dávila Clinic, Department of Gastroenterology, Santiago, Chile*

**Introduction and Objectives:** Hepatocellular carcinoma (HCC) is the third leading cause of cancer-related death worldwide. Still, there are epidemiological and clinical data in Latin America. In Chile, this is the first study regarding HCC with a significant number of patients. This study aimed to obtain and analyze clinical and epidemiological data of Chilean patients with HCC.

**Materials and Methods:** Multicenter study from 12 Chilean hospitals that have members of the Chilean Association of Hepatology as members of their staff. Clinical records from 2015-2021 were included. Kaplan-Meier survival curves and Cox regression analysis were obtained.

**Results:** We obtained data from 856 patients with HCC from 12 different centers. Median age 67 years old; 58.7% male. Cirrhosis is present in 91.2% (779) of cases. Main risk factors reported: fatty liver 47.9%(410), alcohol 19.6% (68), viral 12.2%(104) and autoimmune 3.5% (30). The median MELD score was 11.7 (CI95% 11,4-12). 38% (322) were diagnosed during surveillance; this was associated with earlier BCLC stage (OR 2,6; CI95%1,9-3,4). BCLC stages at diagnosis were 0; 8,2%(69), A: 38,5%(326), B:29,9%(253), C: 15,4%(130) and D: 8,2%(69). The main initial treatments were TACE, ablation, resection, liver transplant and sorafenib in 27,4%(226), 19,3%(159), 11,4%(94), 8%(66) and 5,5%(45), respectively. 53,4%(452) pts were in Milan Criteria at diagnosis. 9,1%(78) patients got a liver transplant. Five-year survival was 24% (CI95%20-28). The main factors associated with survival are depicted in Figure 1.

**Conclusions:** Fatty liver was remarkably the main risk factor reported for HCC in our Chilean cohort. This is a worrisome number since NAFLD is on the rise worldwide, and especially in Latin America. Surveillance is key for early detection. The liver function defined by Child-Pugh and HCC stage using BCLC staging is strongly associated with survival. Liver transplant is still a scarce treatment resource.

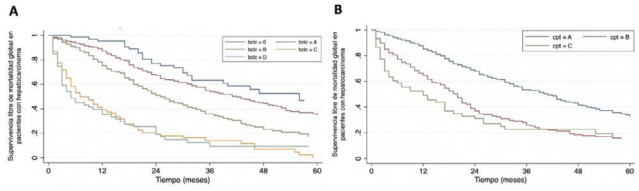



**Figure 1.** Global survival of HCC patients by BCLC stage (A) and Child-Pugh (CTP) (B).

https://doi.org/10.1016/j.aohep.2023.100936

## P- 35 RELINKAGE OF PATIENTS WITH CHRONIC HEPATITIS C INFECTION IN THE CONTEXT OF THE COVID-19 PANDEMIC

Gisela Fabiana Sotera, Melina Ferreiro, Margarita Martes, Cordero Nancy, Jonathan Salmon, Juan Sordá, Jorge Daruich, Esteban González Ballerga

*Gastroenterology Division, Hepatology Section. Clinics Hospital "José de San Martín". The University of Buenos Aires. Argentina*

**Introduction and Objectives:** In Argentina, it is estimated that around 50% of patients infected with hepatitis C virus (HCV) have been diagnosed and only 5% of those have accessed treatment after several months; this reality got worse with the pandemic. World Health Organization proposed a global health sector strategy to eliminate HCV as a public health threat by 2030. Key elements of the elimination plan include increased diagnosis and treatment access. This study aimed to describe the implementation of “Relinkage and simplified care pathway program” as a strategy for micro-elimination of HCV.

**Materials and Methods:** : Hospital outpatients aged over 18 years, with a confirmed or suspected diagnosis of HCV infection and without follow-up during the last year, were included. Patient selection was made by collecting data from medical records. Selected patients were contacted by telephone and scheduled for a clinic visit with a simplified care pathway. “Reflex Testing,” which is an HCV antibody

test, was used; if the result was positive, an HCV RNA and genotype test on the same specimen was performed. Untreated and non-responder patients were treated.

**Results:** : A total of 938 patients were included, and 409 (44%) could be reached. Out Of these, 16.3% (67) died, 1.7% (7) developed hepatocellular carcinoma, and 6.75% (15) progressed to cirrhosis. We found that 21.7% were candidates for treatment, and the treatment was delivered in two clinic visits with an average time of 29 days (7-69). However, 41% (34) of patients with cirrhosis could not be contacted.

**Conclusions:** : Program implementation improved the diagnosis and treatment access. Furthermore, it reduces the number of clinical visits and may increase adherence to follow-up. On the other hand, we are concerned that half of the patients were lost on the follow-up and about their progression to cirrhosis rate. If we are looking for different results, we should take different measures.

https://doi.org/10.1016/j.aohep.2023.100937

## P-36 RESULTS OF AN AUTOMATIC ALERT SYSTEM FROM MICROBIOLOGY TO LINK DIAGNOSIS TO TREATMENT IN PATIENTS WITH CHRONIC HEPATITIS C

Carlos Alventosa Mateu[1],
María Dolores Ocete Mochón[2],
Juan José Urquijo Ponce[1],
Mercedes Latorre Sánchez[1],
Inmaculada Castelló Miralles[1],
Miguel García Deltoro[3], Enrique Ortega González[4],
María José Bonet Igual[5],
Concepción Gimeno Cardona[2], Moisés Diago Madrid[1]

[1] *Hepatology Unit. Gastroenterology Department. University General Hospital Consortium of Valencia. Valencia, Spain*
[2] *Microbiology Department. University General Hospital Consortium of Valencia. Valencia, Spain*
[3] *Infectious Diseases Department. University General Hospital Consortium of Valencia. Valencia Spain*
[4] *Foundation of the University General Hospital Consortium of Valencia. Valencia, Spain*
[5] *Picassent Penitentiary Medical Department. Valencia, Spain*

**Introduction and Objectives:** Strategies to simplify the care circuit for patients with the hepatitis C virus (HCV) are vital to achieving its eradication. To achieve this aim, we introduced an electronic system of HCV serology detection to link diagnosis with specialized assistance in order to minimize the loss of patients.

**Materials and Methods:** A retrospective single-center study of HCV patients developed by Microbiology Department from February 15th, 2020, to December 15th, 2021. In the event of a positive HCV antibody, the anti-HCV core was directly measured by the electronic system. If positive, an encrypted e-mail with the patient data was automatically sent to HCV specialized physicians, who, after evaluating the benefits of antiviral therapy in each patient, contacted them by phone for an appointment. In the first face-to-face consultation FibroScan®, HCV genotype and viral load measurement were performed, and antiviral therapy was prescribed. Patient diagnosis origin and public health characteristics were recorded. We analyzed the association between antiviral therapy prescription and these variables. Statistical significance was set at $p<0.005$.

**Results:** Of 171 patients identified, with a mean age of 59.6 ± 15.9, 61.5 % of males and 81.2% of Spanish nationals. HCV origin from out-of-hospital settings predominated (50.9%, 87/171), particularly primary care (28.7%), penitentiary (11.6%) and addiction units (8.2%). In all, 43.3% (74/171) were aware of their diagnosis, but 64.9% (48/74) hadn't previously received antiviral therapy. Genotype 1 predominated. We recorded 19.4% (20/103) of patients F3 fibrosis and 27.2% (26/103) F4.

Finally, 58.5% (100/171) attended a physician consultation. They were all treated with pangenotypic interferon-free therapy. A 100% rate of sustained viral response was achieved. The main reasons for not being treated were high comorbidity (43.7%,31/71), not located (23.9%, 17/71), patient refusal to treatment (23.9%,17/71) and death (8.5%,6/71). The sole association found between antiviral therapy and patient variables was that of comorbidities with being untreated (OR=7.14, $p<0.001$).

**Conclusions:** Our alert system is simple and easily reproducible. It allows for minimizing the loss of HCV patients, even considering it was performed during the COVID-19 pandemic.

https://doi.org/10.1016/j.aohep.2023.100938

## P-37 ASSESSMENT OF METABOLIC ASSOCIATED FATTY LIVER DISEASE, ALCOHOLIC LIVER DISEASE, AND DUAL DAMAGE IN APPARENTLY HEALTHY BLOOD BANK INDIVIDUALS

Jorge Emilio Lira-Vera, O Morales-Gutiérrez,
Farid Yael Vargas-Durán,
Pablo Alagón-Fernández Del Campo,
Ana Karen Soto Martínez, Diana Montemira-Orozco,
Andrés Burak-Leipuner, Christian Hinojosa-Segura,
Gabriela Gutiérrez-Reyes, Moisés Martínez-Castillo,
Samantha Sánchez-Valle,
María De Los Ángeles Lemus-Peña,
Daniel Montes De Oca-Ángeles,
Abigail Hernández-Barragán,
Marisela Hernández-Santillán,
María De Fátima Higuera-De La Tijera,
Yadira Lilian Béjar-Ramírez,
José Luis Pérez-Hernández

*Gastroenterology and Hepatology Department, Hospital General de México "Dr. Eduardo Liceaga," Mexico City, Mexico*

**Introduction and Objectives:** metabolic syndrome and alcohol consumption are the leading causes of fatty liver disease. Now, a new term called dual damage has emerged. So far, no studies are reporting the prevalence of dual damage in Mexico. This study aimed to determine the prevalence of metabolic associated fatty liver disease, alcoholic liver disease, and dual damage in the healthy population of the blood bank of our center.

**Materials and Methods:** descriptive, cross-sectional, prolective study. We included donors ≥18 years old. We excluded subjects with known liver disease. Vibration-controlled transient hepatic elastography was the method of estimating steatosis and liver fibrosis. We used descriptive statistics.

**Results:** 258 donors were included; 129 (50%) have hepatic steatosis: 67 (25.96%) metabolic associated, 31 (12.01%) due to alcohol, and 31 (12.01%) by dual damage. In the metabolic group, S1 was found in 14 subjects (20.90%), S2 in 23 (34.32%), and S3 in 30 (44.78%). 23 (34.32%) were overweight, 23 (34.32%) had obesity grade 1, 11 (16.44%) grade 2, and 5 (7.46%) grade 3. Of the alcohol damage group, 12 (38.70%) had S1, 5 (19.35%) S2, and 13 (41.95%) S3. Beer was the most frequently consumed beverage (61.29%), with the excessive pattern being the most frequent (74.19%), with an average intake of 90.25 grams. 100% of donors with dual damage presented S3 steatosis. Advanced fibrosis was

found in 3 (4.47%) metabolic damage donors, 1 (3.22%) by alcohol, and 2 (6.45%) by dual damage.

**Conclusions:** 5 out of 10 apparently healthy individuals have fatty liver disease. The most frequent was due to metabolic damage, while fatty liver disease due to alcohol and dual damage were equally prevalent. Undiagnosed advanced fibrosis was found in a small percentage. These individuals are a sample of the Mexican population that could represent the behavior of the population of our country.

https://doi.org/10.1016/j.aohep.2023.100939

## P-38 CRYPTOGENIC CHRONIC HEPATITIS: LOOKING FOR AN ETIOLOGICAL DIAGNOSIS

Guilherme Cançado Grossi Lopes[1], Aline Candolo Coelho Rocha[2], Jorge Nardelli Mateus[1], Patricia Zitelli Momoyo[2], Daniel Mazo Ferraz De Campos[2,3], Claudia Oliveira Pinto Marques De Souza[2], Marlone Cunha-Silva[3], Raquel Greca Dias[3], Roberta Araújo Chaves[4], Amanda Sacha Alustau Paulino Tolentino[4], Claudia Couto Alves[1], Roque Gabriel Rezende De Lima[2], Alberto Farias Queiroz[2], Flair José Carrilho[2], Mário Guimarães Pessôa[2]

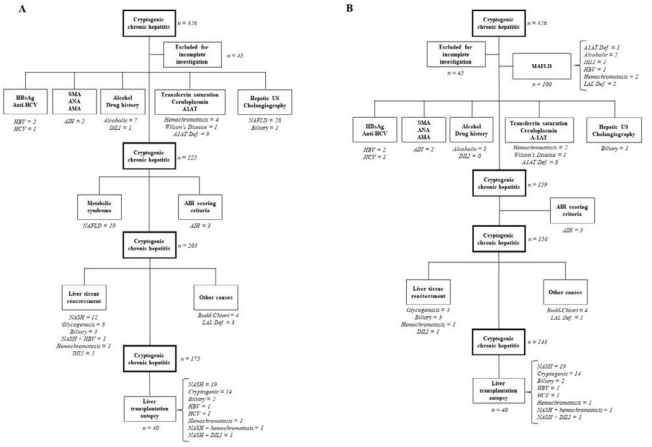
[1] *Gastroenterology Alfa Institute, Clinics Hospital, Minas Gerais Federal University (UFMG), Belo Horizonte, Brazil*
[2] *Division of Clinical Gastroenterology and Hepatology, Department of Gastroenterology, Clinics Hospital, São Paulo University (HCFMUSP), São Paulo, Brazil*
[3] *Division of Gastroenterology (Gastrocentro), School of Medical Sciences, Campinas State University (UNICAMP), Campinas, Brazil*
[4] *Gastroenterology Division, Medical School Ribeirão Preto, São Paulo - Ribeirão Preto University (FMRP-USP), Ribeirão Preto, Brazil*

**Introduction and Objectives:** Cryptogenic chronic hepatitis is an increasing cause of liver transplantation and affects 5-15% of patients with chronic liver diseases. This study aimed to investigate possible underlying causes of presumed cryptogenic liver disease referred to specialized liver centers by general practitioners in Brazil and to propose a new diagnostic algorithm including metabolic-dysfunction-associated fatty liver disease (MAFLD) definition and lysosomal acid lipase deficiency (LAL-D) investigation.

**Materials and Methods:** A retrospective multicentric Brazilian cohort of patients with presumed chronic cryptogenic hepatitis was reanalyzed with respect to their clinical, laboratory and histological data using Czaja's algorithm (2011).

**Results:** 326 patients [mean age 60 (46-68) years, 42.9% males] were initially included, 35.7% with cirrhosis. Forty-five individuals were excluded due to an incomplete etiological investigation. Using Czaja's algorithm, diagnosis of nonalcoholic fatty liver disease could be established in 60 patients (21.3%), alpha-1-antitrypsin deficiency in 9 (3.2%), alcoholic liver disease in 7 (2.7%), autoimmune hepatitis in 5 (1.78%), hemochromatosis in 5 (1.78%), biliary-related hepatitis in 4 (1.4%), viral hepatitis in 4 (1.4%), Budd Chiari in 4 (1.4%), glycogenosis in 3 (1%), drug-induced liver injury in 2 (0.7%), and Wilson disease in 1 (0.35%). LAL-D was demonstrated in 3 individuals (1%). One hundred seventy-five patients remained with cryptogenic hepatitis (53.6%) (FIGURE A). During follow-up, 40 of those patients were submitted to liver transplantation and 19 (47.5%) were retrospectively diagnosed with non-alcoholic steatohepatitis after histopathological examination of the explanted liver. By including MAFLD in the first step of the new algorithm, 100 patients would have been diagnosed (34.9%), reducing the number of individuals without a diagnosis by 18.3% (FIGURE B).

**Conclusions:** One-third of patients with initially presumed cryptogenic liver disease were diagnosed with MAFLD. Despite being a rare disease, LAL-D investigation should be considered for individuals with chronic liver disease of unknown etiology. An updated diagnostic algorithm is proposed for those individuals.




https://doi.org/10.1016/j.aohep.2023.100940

## P- 39 CLINICAL SIGNIFICANCE OF GRADE 1 HEPATIC ENCEPHALOPATHY IN PATIENTS HOSPITALIZED FOR COMPLICATIONS OF CIRRHOSIS

Janaína Luz Narciso-Schiavon, Fernanda Cristina De Augustinho, Claudia Maccali, Esther Buzaglo Dantas-Correa, Leonardo Lucca Schiavon

*Gastroenterology Service, Santa Catarina Federal University, Florianópolis, Brasil*

**Introduction and Objectives:** Recent guidelines recommended grouping grade 1 and minimal HE under the term "covert HE." However, minimal HE is not usually investigated in hospitalized patients and there are very little data about the impact of grade 1 HE in patients admitted for complications of cirrhosis. This study aimed to investigate factors associated with the presence of grade 1 HE and its prognostic impact in patients hospitalized for complications of cirrhosis

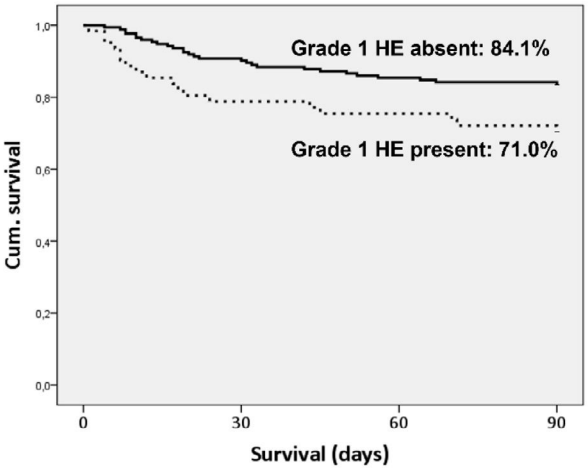
**Materials and Methods:** prospective cohort study that included 238 patients either without HE or with grade 1 HE on the first day of hospitalization. All examiners were fourth-year fellows with at least one year of experience in clinical hepatology and trained by the senior investigators specifically for the use of West-Haven criteria. Minimal hepatic was not evaluated.

**Results:** The mean age was 54.2 ± 11.6 years, mean MELD was 16.4 ± 6.7. Grade 1 HE was observed in 62 patients (26.1%) and was associated with ascites, Child-Pugh C, ACLF, higher total bilirubin, INR, MELD, and CLIF-SOFA. Progression to grades 2/3/4 HE (overt HE) up to day 3 of hospitalization occurred in 7.1% of the patients and was independently associated with bacterial infection (OR = 4.934, IC 95% 1.415-17.199, P=0.012) and grade 1 HE (OR = 3.937, IC 95% 1.261-12.298, P=0.018). The progression rate to overt HE was four times higher among subjects with grade 1 HE as compared to those

without HE (16.1% vs. 4.0%, P = 0.003). The 90-day Kaplan-Meier survival probability was significantly lower among patients with grade 1 (71.0% vs. 84.1%, P = 0.018) (figure 1).

**Conclusions:** When compared to individuals without HE at admission, grade 1 HE was associated with parameters of more advanced liver disease and more severe acute decompensation. Patients with grade 1 HE exhibited worse evolution of mental state and higher mortality, reinforcing the practical importance of more subtle clinical findings.

Figure 1




https://doi.org/10.1016/j.aohep.2023.100941

## P-40 IS THERE A DISTINCT PHENOTYPE OF NON-ALCOHOLIC FATTY LIVER DISEASE IN LEAN AND OVERWEIGHT PATIENTS?

Denise Siqueira Vanni, José Tadeu Stefano,
Sebastião Mauro Bezerra Duarte,
Patricia Momoyo Yoshiura Zitelli,
Renato Gama Altikes, Karla Toda Oti,
Mário Guimarães Pessoa, Flair José Carrilho,
Claudia P Oliveira

*Division of Clinical Gastroenterology and Hepatology (Lim-07), Clinics Hospital, Department of Gastroenterology, University of São Paulo School of Medicine, Sao Paulo, Brazil*

**Introduction and Objectives:** Non-alcoholic fatty liver disease (NAFLD) is not an exclusive disease of obese patients. Lean and overweight patients also deal with this disease. This study aimed to analyze if there is any different NAFLD phenotype between lean and overweight patients.

**Materials and Methods:** This is a cross-sectional study of descriptive characteristics of lean (BMI ≤ 24.9kg/m2) and overweight (BMI 25-29.9kg/m2) patients from a NAFLD outpatient care facility at a Tertiary reference hospital in Sao Paulo, Brazil. The analysis included: gender, age, BMI, Insulin Resistance (IR), Type 2 Diabetes Mellitus (T2DM), Systemic Arterial Hypertension (SAH), Dyslipidemia (DLP), ALT, AST, GGT, ferritin, liver stiffness, CAP, Fibrosis stages and NAS score. Mann-Whitney U test, Welch two-sample t-test and Fischer's exact test were used.

**Results:** A total of 68 (54 overweight; 14 lean) NAFLD patients were analyzed. Female majority in each group (86% lean; 67% overweight). Similar mean age: in lean 63.79yo (CI95% 59.23-68.34yo) and in overweight 63.80yo (CI95%60.91-66.68yo). The mean BMI in lean was 22.77 kg/m2 (CI95% 22.08-23.47 kg/m2) and in overweight was 27.19 kg/m2 (CI95% 26.85-27.54 kg/m2). The majority of the groups had T2DM, DLP and SAH. IR occurred in 26% and 14% of overweight and lean, respectively. In the lean group, 13% didn't have IR or T2DM. ALT, AST, GGT, ferritin, liver stiffness and CAP between groups had no significant statistical difference (p > 0.05). Advanced fibrosis (≥ F3) in 7 (50%) lean and 30 (68%) overweight patients (p= 0.182). NASH (NAS ≥ 4) in 9 (64%) of the lean and 44 (81%) of the overweight (p= 0.222).

**Conclusions:** In this small population study, preliminary results infer that lean and overweight NAFLD patients have similar characteristics. A large-scale study could confirm this data. Perhaps we should consider lean and overweight as one non-obese NAFLD group and eventually compare them with obese counterparts in future studies.

https://doi.org/10.1016/j.aohep.2023.100942

## P-41 SARCOPENIA AS A PREDICTOR OF RISK OF MINIMAL HEPATIC ENCEPHALOPATHY IN PATIENTS WITH LIVER CIRRHOSIS

Oscar Morales Gutiérrez,
María de Fátima Higuera de la Tijera,
José Luis Pérez Hernández

*Deparment of Gastroenterology and Hepatology Hospital General de México "Dr. Eduardo Liceaga", Mexico City, México*

**Introduction and Objectives:** Sarcopenia, defined as loss of muscle mass and strength and minimal hepatic encephalopathy (MHE), alters the quality of life and prognosis of patients with cirrhosis. Ammonia plays a key role in the pathogenesis of MHE and has been associated with decreased muscle mass and strength. However, the relationship between sarcopenia and MHE is not well defined. The objective of this study was to determine their relationship and identify predictors of MHE.

**Material and methods:** Prospective study, including 96 patients with compensated cirrhosis diagnosed by transitional elastography. The presence of MHE and sarcopenia was determined by a critical flicker frequency test and criteria from the European Working Group EWG-SOP2. Muscle mass and strength were determined by electrical bioimpedance and a handgrip dynamometer. Functional capacity was evaluated by Short Physical Performance Battery (SPPB), performing linear logistic regression analysis to identify predictors of MHE.

**Results:** Of the 96 patients with cirrhosis, 61 (64%) and 35 (36.5%) were diagnosed with MHE and sarcopenia, respectively. In the multivariate analysis, the SPPB rating (R 0.521, 95% CI 0.85-2.54, p=<0.001) and grip strength (R 0.314, 95% CI 0.024-0-50, p=0.032) showed the highest predictive value for MHE.

**Conclusions:** Decreased handgrip strength and SPPB score were significant predictors of MHE. Early nutritional intervention and physical rehabilitation could reduce the risk of developing EHM in patients with cirrhosis.

https://doi.org/10.1016/j.aohep.2023.100943

## P-42 OBESITY AND ANTI-HBC IGG POSITIVITY INCREASE THE RISK OF HEPATOCELLULAR CARCINOMA IN A COHORT OF CHRONIC HEPATITIS C PATIENTS IN A TERTIARY OUTPATIENT CLINIC IN SÃO PAULO, BRAZIL

Alexandre Trazzi, Patricia Momoyo Zitelli,
Daniel Mazo Ferraz, Roque Gabriel Rezende,
Claudia Oliveira Pinto, Aline Chagas Lopes,
Flair José Carrilho, Mário Guimarães Pessoa

*Division of Gastroenterology, University of Sao Paulo, Sao Paulo, Brazil*

**Introduction and Objectives:** Chronic infection with hepatitis C virus (HCV) still affects millions of people around the world despite the recent development of very effective direct-acting antiviral (DAA) treatment. Even after a high cure rate, patients with advanced fibrosis should remain under surveillance due to the high risk of developing hepatocellular carcinoma. This study aimed to evaluate the prevalence and risk factors for hepatocellular carcinoma development in previously treated chronic HCV patients in an outpatient hepatology clinic at Clinic Hospital of the University of São Paulo of School Medicine in the city of São Paulo.

**Materials and Methods:** This is a retrospective, observational and descriptive study of a series of cases in which 410 HCV patients were treated with three different antiviral regiments: Interferon plus Ribavirin (INF + RBV) or Protease Inhibitors (PI) or DAA, were followed for up to ten years (2011-2021). Demographic, clinical and laboratory data were obtained for electronic medical records.

**Results:** the total sample of this study consists of 402 patients. Table 1 shows the patient demographic and clinical data. Of the 35 patients who developed HCC, 26 (74%) had F4-degree fibrosis. Logistic regression model was performed with the following variables: BMI (p=0.005), positive anti-HBC IgG (p=0.015), combination fibrosis and CHIILD-PUGH score A (p=0.001), B (p=0.012) and C(p< 0.001).

**Conclusions:** In our cohort, obesity and anti-HBc IgG were significantly associated with a high risk of developing HCC. The type of antiviral treatment (IFN or DAA-based) was not associated with the risk of HCC.

https://doi.org/10.1016/j.aohep.2023.100944

## P- 43 PIRFENIDONE PREVENTS NEOPLASTIC LESIONS DEVELOPMENT BY OXIDATIVE, FIBROGENIC, ANTIPROLIFERATIVE AND EPIGENETIC MECHANISMS REGULATION IN A MODEL OF CHEMICAL HEPATOCARCINOGENESIS

Hipólito Otoniel Miranda-Roblero[1], Hugo Christian Monroy-Ramírez[1], Marina Galicia-Moreno[1], Ana Sandoval-Rodriguez[1], Arturo Santos[2], Juan Armendáriz-Borunda[1,2]

[1] *Institute of Molecular Biology in Medicine and Gene Therapy, University Center of Health Sciences (CUCS), University of Guadalajara, Guadalajara, Mexico*
[2] *School of Medicine and Health Sciences, Technological of Monterrey Campus Guadalajara, Zapopan, Mexico*

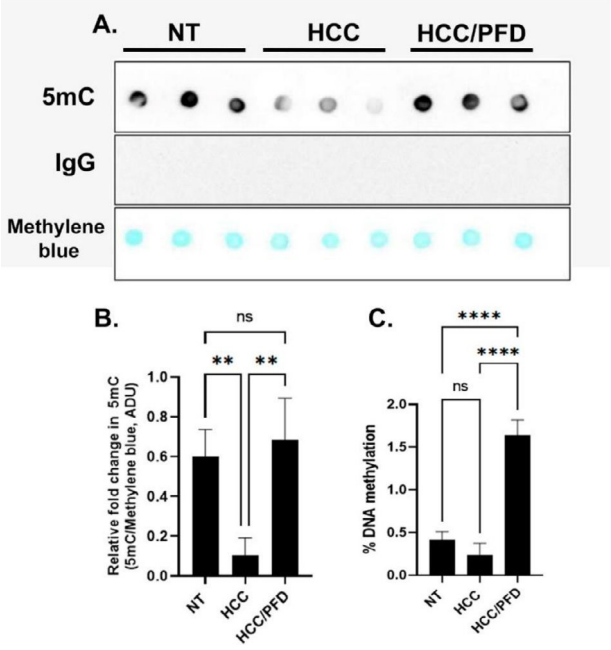
**Introduction and Objectives:** Hepatocellular carcinoma (HCC) is the most frequent hepatic neoplasia, where oxidative, fibrogenic, proliferative, and epigenetic processes are altered. Pirfenidone (PFD) has been shown to have important hepatoprotective properties. However, its efficacy in HCC development is unknown. This study aimed to 1) To determine whether PFD has antioxidative, antifibrogenic and antiproliferative effects. 2) To determine PFD effects on epigenetic regulation mechanisms.

**Materials and Methods:** Male Fischer-344 rats were divided into three groups. Group 1. Control, NT; Group 2. Damage, HCC, generated by diethylnitrosamine weekly administration; (50mg/kg, i.p.) and 2-acetylaminofluorene (25mg/kg, p.o.) for 12 weeks; and Group 3. HCC/PFD: with the same treatment as Group 2, plus PFD (300 mg/kg, p.o./day). Liver enzyme activity was quantified in serum; lipoperoxidation and GSH levels were evaluated in liver tissue samples; histopathological analyzes were performed. In addition, fibrogenic, antioxidant, anti-proliferative and epigenetic regulation markers were determined by Western blot. Finally, global DNA methylation was determined by Dot-blot and ELISA. The data obtained were analyzed using one-way ANOVA and a Tukey post hoc test.

**Results:** We demonstrate that PFD treatment reduces the number and size of neoplastic lesions, prevents damage to hepatic architecture and collagen deposition, and decreases the presence of the histopathological marker Glypican-3. On the other hand, it positively regulates antioxidant markers such as GSH, MDA, Nrf2, GSTP1 and Catalase. It was also effective to decrease c-Myc expression and $\beta$-catenin redistribution from the nucleus to the cytoplasm. Finally, PFD stimulated the nuclear transfer of several isoforms of PPARs, SIRT1 and DNMT1, increasing epigenetic mechanisms of global DNA methylation (figure 1).

**Conclusions:** PFD prevents neoplastic lesions development by modulating antifibrogenic, antioxidant, and antiproliferative processes and modulating epigenetic marks to reverse global DNA hypomethylation.

**Figure 1.** Analysis of global DNA methylation. A) Representative dot blot using anti-5mC which recognizes global methylated DNA, anti-IgG as negative control and methylene blue staining as total DNA loading control. B) Graphs shows mean ± standard deviation of 5mC densitometry brand intensity of study groups. C) Graph that represents the percentage of global methylation of the DNA analyzed with ELISA.A one-way ANOVA statistical test and a Tukey post hoc test were performed. Group NT: only received vehicle; Group HCC: damage group induced by weekly administration of DEN and 2-AAF for 12 weeks; and Group HCC/PFD: which received the same treatment as Group HCC, plus PFD (300 mg/kg) (**p<0.005)




https://doi.org/10.1016/j.aohep.2023.100945

## P- 44 HEPATOCELLULAR CARCINOMA IN CIRRHOTIC PATIENTS IN A PARAGUAYAN LIVER REFERENCE CENTER: CLINICAL AND EPIDEMIOLOGICAL CHARACTERISTICS

Lorena Martínez[1], Amaya Ortiz[1], Rodrigo Pérez[1], Mirian Colarte[1], Sebastián Díaz[1], Martin Sánchez[2], Johana Silvero[2], Maisa Vallejos[3], Marcos Girala[1], Jesus Ortiz[1]

[1] *Department of Gastroenterology and Digestive Endoscopy, Clinics Hospital, National University of Asunción, San Lorenzo, Paraguay*

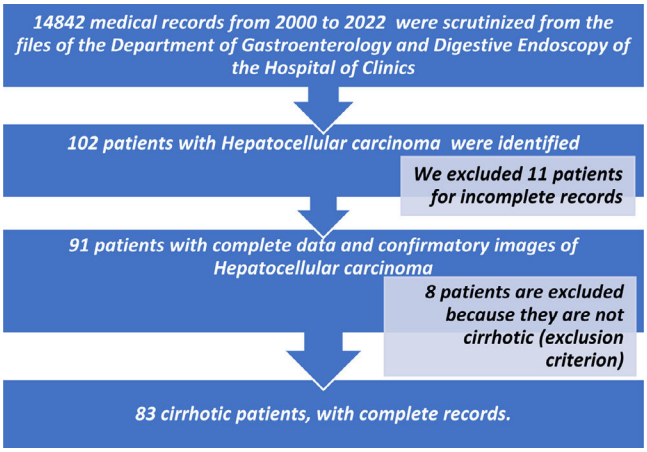
[2] I Chair of Medical Clinic, Clinics Hospital, National University of Asuncion, San Lorenzo, Paraguay
[3] III Chair of Medical Clinic, Clinics Hospital, National University of Asuncion, San Lorenzo, Paraguay

**Introduction and Objectives:** Hepatocellular carcinoma (HCC) is a disease with an important variability according to the geographic location; worldwide is the second cause of cancer-related death. It is most frequently associated with VHB, VHC and alcoholism. Paraguay is a low-incidence country, but it is still an important cause of morbimortality, especially in cirrhotic patients. This study aimed to establish the epidemiologic and clinical characteristics of cirrhotic patients with hepatocellular carcinoma, as well as the staging, the characteristics of the tumor and the treatment received.

**Materials and Methods:** Observational, descriptive, retrospective study. We used and Excel spreadsheet to gather data. The variables were expressed in frequency, mean and percentage. *Graphic 1.*

**Results:** 83 patients were included, and 40% of them were diagnosed in the last four years. 83% were males; the average age was 63 years, range 38 to 82. The etiology of cirrhosis was alcoholism in 34 cases, nonalcoholic fatty liver disease in 15, cryptogenic in 13, VHB in 13, VHC in 4, autoimmune, PSC, PBC and hemochromatosis in 1 each. In 28% of cases, the diagnosis was first suspected by screening ultrasound. 60% of diagnosed cases were outside the Milan criteria. There was a solitary lesion in 59% of patients. Only 24% of the principal nodule was smaller than 3 cm. 2 patients were diagnosed at a very early stage according to the BCLC staging system (0); 31 in stage A; 16 in stage B, 20 in stage C and 14 in stage D. 49% received treatment, being the most frequent chemoembolization (17 cases).

**Conclusions:** This Paraguayan study of hepatocellular carcinoma shows that although HCC has been much more frequently seen in the last years, a low percentage of HCC are diagnosed at an early stage or as the result of routine screening and that half of the patients do not receive treatment.




https://doi.org/10.1016/j.aohep.2023.100946

## P- 45 ENDOSCOPIC ULTRASOUND SHEAR-WAVE ELASTOGRAPHY OF THE RIGHT AND LEFT HEPATIC LOBE PREDICTS LIVER CIRRHOSIS: A DIAGNOSTIC TRIAL

Carlos Robles-Medranda, Raquel Del Valle Zavala, Miguel Puga-Tejada, Martha Arévalo-Mora, Jorge Baquerizo-Burgos, Gabriela Egas-Izquierdo, Daniela Tabacelia, Roberto Oleas, Fernanda Dal Bello, Juan Alcivar-Vasquez, Haydee Alvarado, Carlos Cifuentes, Hannah Pitanga-Lukashok

*Ecuadorian Institute of Digestive Diseases (IECED), Guayaquil, Ecuador*

**Introduction and Objectives:** The diagnostic work-up of chronic liver disease includes less invasive procedures such as transient elastography (TE), abdominal ultrasonography, esophagogastroduodenoscopy, and more invasive procedures, mainly portal gradient pressure measurement and liver biopsy. Endoscopic ultrasound (EUS) recently included shear-wave elastography (tissue elasticity), defined as the elastic modulus by measuring shear-wave velocity. This study aimed to evaluate EUS shear-wave of the liver to predict liver cirrhosis.

**Materials and Methods:** a single-center, diagnostic cohort study. Consecutive patients with a history of chronic liver disease were evaluated with an EUS shear-wave elastography of the right and left hepatic lobes. Patients without any medical condition history despite subepithelial lesions were included as a control. A TE was performed to study and control patients to correlate with elastography. We calculated the overall accuracy of EUS shear-wave elastography of the liver in the prediction of liver cirrhosis.

**Results:** Among the 28 patients included, 14 had liver cirrhosis. Baseline data is described in table 1. EUS shear-wave elastography of the right hepatic lobe has a direct, proportional and significant correlation (r=0.693 [95% CI 0.431 – 0.847; $P$<0.001]) as well as left hepatic lobe (r=0.460 [95% CI 0.105 – 0.711; $P$ =0.014]). EUS shear-wave of the right and left hepatic lobe reached an area under the receiver operating characteristics curve (AUROC) of 0.98 and 0.96, respectively. For identifying patients with cirrhosis, EUS shear-wave elastography of the right hepatic lobe with a cut-off value of ≥10.7 kPa had a sensitivity, specificity, PPV, and NPV of 100%, 93%, 93%, 100%, respectively. In the left hepatic lobe using a cut-off value of ≥14.0 kPa, EUS shear-wave had a sensitivity, specificity, PPV, and NPV of 93%, 93%, 93%, and 93%, respectively.

**Conclusions:** EUS shear-wave of the liver accurately diagnoses patients with liver cirrhosis. EUS shear-wave of the right and left hepatic lobe correlates with TE measurements of the liver.

**Table 1.** Baseline characteristics of the patients included in the study.

| | Overall ($n$=28) | Cirrhosis ($n$=14) | Controls ($n$=14) | $P$-value |
|---|---|---|---|---|
| **Age (years)**, n (%) | 65.5 (35 – 84) | 65 (50 – 84) | 66 (35 – 78) | 0.5035[a] |
| Young adults (18-39 y/o) | 5 (17.9) | - | 5 (35.7) | |
| Adult (40-64 y/o) | 9 (32.1) | 8 (57.1) | 1 (7.1) | |
| Elder (≥65 y/o) | 14 (50.0) | 6 (42.9) | 8 (57.1) | |
| **Gender (female)**, n (%) | 18 (64.3) | 8 (57.1) | 10 (71.4) | 0.6933[b] |
| **BMI (kg/m$^2$), n (%)** | | | | 0.7793[b] |
| Underweight | 1 (3.6) | - | 1 (7.1) | |
| Normal weight | 8 (28.6) | 4 (28.6) | 4 (28.6) | |
| Overweight | 11 (39.3) | 6 (42.9) | 5 (35.7) | |
| Obese class I | 8 (28.6) | 4 (28.6) | 4 (28.6) | |
| **Cirrhosis cause**, n (%) | | | | n/a |
| NASH | - | 7 (50.0) | - | |
| Alcohol | - | 5 (35.7) | - | |
| Med-related | - | 1 (7.1) | - | |
| Cryptogenic | - | 1 (7.1) | - | |
| **Child-Pugh**, n (%) | | | | n/a |
| A | - | 13 (92.9) | - | |
| B | - | 1 (7.1) | - | |
| **MELD score**, n (%) | - | 8.8 (6.4 – 17.4) | - | n/a |
| 0 – 9 | - | 7 (50.0) | - | |
| 10 – 19 | - | 7 (50.0) | - | |
| >19 | - | - | - | |
| **TE (kPa)**, n (%) | | | | 0.4038[b] |
| F0-1 (0 – 7.6) | 16 (57.1) | 2 (14.3) | 14 (100.0) | |
| F2 (7.7 – 9.4) | 2 (7.1) | 2 (14.3) | - | |
| F3 (9.4 – 14.0) | 2 (7.1) | 2 (14.3) | - | |
| F4 (>14.0) | 8 (28.6) | 8 (57.1) | - | |

**BMI**, body mass index; **y/o**, years old; **AST**, aspartate transaminase; **ALT**: alanine transaminase, **MELD**, Model for End-Stage Liver

Disease; **n/a**, not available; **TE**, Transient elastography. a. Mann-Whitney U test. b. Pearson's Chi-squared test.
https://doi.org/10.1016/j.aohep.2023.100947

## P-48 EVALUATION OF IL-1β AND IL-1RA IN PATIENTS WITH CHRONIC LIVER DISEASES

Abigail Hernandez-Barragan[1], Z. Medina-Avila[1], D. Montes-de-Oca-Angeles[1], M. Lemus-Peña[1], M. Hernandez-Santillan[1], M. Martínez-Castillo[1], J.L. Pérez-Hernández[2], F. Higuera-De la Tijera[2], D. Santana-Vargas[2], E. Montalvo-Jave[2], P. Cordero-Pérez[3], L. Muñoz-Espinosa[3], J. Córdova-Gallardo[4], A. Torre-Delgadillo[5], D. Kershenobich[5], G. Gutiérrez-Reyes[1]

[1] *Liver, Pancreas and Motility Laboratory, Unit of Research in Experimental Medicine, School of Medicine, Autonomy University of Mexico (UNAM), General Hospital of Mexico, Mexico City, Mexico*
[2] *Departament of Gastroenterology, General Hospital of Mexico "Dr. Eduardo Liceaga," Mexico City, Mexico*
[3] *University Hospital "Dr. José Eleuterio González", School of Medicine, Autonomy University of Nuevo León (UANL), Nuevo Leon, Mexico*
[4] *General Hospital "Dr. Manuel Gea González", Mexico City, México*
[5] *National Institute of Medical Sciences and Nutrition "Salvador Zubirán," Mexico City, México*

**Introduction and Objectives:** IL-1$\beta$ is a proinflammatory key cytokine that participates in the progression of liver disease. Its antagonist IL-1RA mediates damage limitation; its increase is associated with positive effects on chronic liver diseases. This study aimed to evaluate the concentration of IL-1$\beta$ and IL-1RA in subjects with alcoholic liver disease (ALD), chronic hepatitis C (CHC) and non-alcoholic fatty liver disease (NAFLD).

**Materials and Methods:** A cross-sectional and multicenter study was carried out, which included alcoholic subjects (OH), alcoholic cirrhosis (CiOH) and alcoholic hepatitis (HA); patients with CHC and NAFLD were compared against subjects without criteria for alcohol drinking habits (CT). IL-1$\beta$ and IL-1RA were quantified by Multiplex-MERCK©. For statistical analysis, SPSS V.22 were used, Mann-Whitney U, $p<0.05$; values expressed as mean ± standard error.

**Results:** The groups included were: 18 (OH), 25 (CiOH), 14 (HA), 55 (CHC), 22 (NAFLD) and 81 (CT). IL-1$\beta$ results (pg/mL): 13.8±9.2, OH; 4.4± 1.7, CiOH; 3.05±0.05, HA; 7.1±2.3, CHC; 5±2, NAFLD and 3.2±0.1, CT. With differences in HA vs. CHC. For IL-1RA (pg/mL) 83.5±30, OH; 100.4± 53.5, CiOH; 85±38.3, HA; 74.4±2, CHC; 316±203, NAFLD and 13.02±4.4, CT. With differences in CHC and NAFLD vs. CT and CiOH vs. CHC.

**Conclusions:** IL-1$\beta$ was 2.3 times increased in HA/CHC, which highlights the effect on exacerbating the inflammatory response in acute over chronic alcohol damage; IL-1RA that inhibits the activities of IL-1$\beta$ increase may have protective effects on liver injury. IL-1RA is a protein that limits inflammation in liver disease, especially in non-alcoholic fatty liver disease, alcoholic cirrhosis, and chronic hepatitis C.

**Funding:** This work was partially financed by CONACyT SALUD-2016-272579 and PAPIIT- UNAM TA200515

https://doi.org/10.1016/j.aohep.2023.100948

## P-49 CONCENTRATION OF IL-12 AND CXCL-10 IN CHRONIC LIVER DISEASES

Marisela Hernandez-Santillan[1], Moisés Martínez-Castillo[1], Zaira Medina-Ávila[1], Abigail Hernández-Barragan[1], María Lemus-Peña[1], Daniel Montes de Oca-Ángeles[1], José Luis Pérez-Hernández[2], Fátima Higuera-De la Tijera[2], Daniel Santana-Vargas[2], Eduardo Montalvo-Jave[2], Paula Cordero-Pérez[3], Linda Muñoz-Espinoza[3], Jacqueline Córdova-Gallardo[4], Aldo Torre-Delgadillo[1,5], Gabriela Gutiérrez-Reyes[1]

[1] *Liver, Pancreas and Motility Laboratory, Unit of Research in Experimental Medicine, School of Medicine, National Autonomy University of México (UNAM), Mexico City, Mexico*
[2] *Department of Gastroenterology, General Hospital of México "Dr. Eduardo Liceaga," Mexico City, Mexico*
[3] *Universitary Hospital "Dr. José Eluterio González", School of Medicine, Autonomy University of Nuevo León (UANL), Nuevo Leon, Mexico City, Mexico*
[4] *General Hospital "Dr. Manuel Gea González", Mexico City, Mexico*
[5] *National Institute of Medical Sciences and Nutrition "Salvador Zubirán," Mexico City, Mexico*

**Introduction and Objectives:** Chronic liver diseases are characterized by persistent inflammation related to high production of cytokines such as IL-12 and chemokine CXCL-10/IP-10 that attract activated Th1 lymphocytes that increase the production of IFN-g and TNF-a, perpetuating the inflammatory cascade. This study aimed to compare serum levels of IL-12 and CXCL-10 in different etiologies of liver disease.

**Materials and Methods:** A cross-sectional and multicenter study was carried out, including subjects with alcoholism according to criteria WHO, without (OH) and with liver injury (cirrhosis, CiOH) and (Alcoholic Hepatitis, HA); non-alcoholic fatty liver (NAFLD) and chronic Hepatitis C (CHC), diagnosed by clinical, biochemical data. They were compared with control subjects (CT). For determination of IL-12 and CXCL-10 with Multiplex®-MERCK©. Statistical analysis by SPSS V.22 using U de Mann Whitney, $p<0.05$; values expressed as mean ± standard error.

**Results:** Included 20 subjects with NAFLD, 78 CHC, 14 HA, 20 CiOH, 15 OH y 60 CT. IL-12 was found elevated in OH, HA, CHC vs. CT in OH vs. HCc y HGNA ($p\leq0.05$). CXCL-10 was found elevated in CiOH, HA, and CHC vs. CT($p\leq0.050$).

**Conclusions:** The IL-12 showed elevated levels in subjects with alcohol consumption and CHC vs. CT that activates other cell types involved in inflammation. CXCL-10 is induced by IFN-$\gamma$ and was found elevated in CiOH, HA and CHC, exerting their biological effects through CXCR3, including activation of peripheral immune cells and apoptosis. The ratio of IL-12/CXCL-10 in OH increased 4.6 times, ratifying the participation in chronic and continual inflammatory response by alcohol consumption. IL-12 and CXCL-10 have an important role in alcohol-induced liver disease, confirming their contribution to inflammation, being evident in CXCL-10 in advanced stages of the disease by stimulating and favoring the migration of immune cells to the damage sites.

**Funding:** This work was partially financed by CONACyT SALUD-2016-272579 and PAPIIT- UNAM TA200515.

https://doi.org/10.1016/j.aohep.2023.100949

## P- 50 SEROPREVALENCE OF HEPATITIS E VIRUS IN HIV-INFECTED PATIENTS FROM ROSARIO, SANTA FE

Julián Acosta[1], Alceo Galimberti[2], Federico Marziali[1], Fernando Bessone[2], Alejandro Costaguta[3],

Damián Águila[4], Sergio Lupo[4], Bruno Rocha De Lima[4], Hugo Tanno[2], Virginia Reggiardo[2], Daniela Gardiol[1], Ana Laura Cavatorta[1]

[1] *Institute of Molecular and Cellular Biology of Rosario. Virology Area/CONICET-UNR, Rosario, Argentina*
[2] *Department of Gastroenterology and Hepatology, Centenary Provincial Hospital, Faculty of Medicine -UNR, Rosario, Argentina, Argentina*
[3] *Gastroenterology and Hepatology Service, Children's Sanatorium / Dr. J.R. Villavicencio Foundation, Rosario, Argentina*
[4] *Medical Clinic Service, Centenary Provincial Hospital, Faculty of Medicine-UNR, Rosario, Argentina*

**Introduction and Objectives:** Although HEV infection is asymptomatic or self-limiting in most individuals, in immunocompromised patients, such as those infected with HIV, viral replication can persist for more than three months leading to chronic infection with progression to cirrhosis. Argentina is considered a country with low endemicity for HEV; however, seroprevalence data in HIV-infected populations are scarce and, to date, there are very few reports that provide accurate information on the impact of HEV infection in these immunosuppressed patients in our region. This study aimed to evaluate the prevalence of HEV infection in HIV-positive individuals from Rosario, Santa Fe.

**Materials and Methods:** We evaluated 97 HIV-positive individuals (19-74 years old; male=64) from Rosario. A blood serum sample was obtained from each patient after written informed consent. IgG and IgM a-HEV were analyzed by ELISA and HEV RNA by the RT-qPCR method previously optimized in our laboratory. As a control group, 154 blood donors (18-62 years old; male=90) were studied.

**Results:** The results indicate a seroprevalence of IgG a-HEV of 5.2% (5/97) in HIV individuals compared to 3.2% obtained in the control population ($p>0.05$). These five positive samples corresponded to male individuals and all were negative for IgM a-HEV. HEV RNA was not detected in any of the 97 samples tested, ruling out acute HEV infection

**Conclusions:** The results indicate a higher prevalence of IgG a-HEV in the HIV-positive population compared to the control group. The absence of HEV RNA in all the samples analyzed allows discarding active infections that can course with negative serology in this particular group of immunosuppressed individuals. This work provides updated data on the seroprevalence of IgG a-HEV in populations at risk, such as HIV-positive patients from our region.

https://doi.org/10.1016/j.aohep.2023.100950

## P- 51 HEALTH EDUCATION AND SEROPREVALENCE OF HEV IN RURAL AND PERI-URBAN POPULATION, WITH AGRICULTURAL ACTIVITY IN BAHIA – BRAZIL - PRELIMINARY DATA

Fernanda Anjos Bastos[1], Uilza Miranda[1], Ramon Mendes Dos Santos[2,3], Caio Lopes Borges Andrade[2,3], Robert Schaer[2,3], Izabela Maria Del Rei Pereira Rosa[2,4], Maria Izabel Cerqueira Da Silva E Silva[2,4], Luiz Felipe Monteiro Darzé[2,4], Mauricio De Souza Campos[5], Sidelcina Ruggieri Pacheco[5,6], Juçara Magalhães Simões[2,3], Roberto Meyer[2,3,5], Songeli Menezes Freire[2,5], Maria Isabel Schinoni[1,7]

[1] *Graduate Program in Medicine and Health - UFBA, Bahia, Brazil*
[2] *Laboratory of Immunology and Molecular Biology / LABIMUNO - Health Sciences Institute - UFBA, Bahia, Brazil*
[3] *Graduate Program in Immunology - UFBA, Bahia, Brazil*
[4] *Bachelor in Biotechnology - UFBA, Bahia, Brazil*
[5] *Graduate Program in Interactive Processes of Organs and Systems - UFBA, Bahia, Brazil*
[6] *Federal University of Bahia - Bahia, Brazil*
[7] *University Hospital Professor Edgard Santos / HUPES - UFBA, Bahia, Brazil*

**Introduction and Objectives:** Hepatitis E is an infection caused by the E virus (HEV) with the fecal-oral transmission. The spectrum of the disease varies from acute form to chronic evolution. There are few studies in the rural region of Bahia State. This study aimed to study the seroprevalence of hepatitis E in a city in a rural region in Brazil.

**Materials and Methods:** Held in May 2022 at family health clinics (PSFs) in the city of Serrinha-Bahia State, with 80,000 inhabitants and 184.6 km from Salvador, capital city. Participants who agreed to integrate into the study signed the Free and Informed Consent Term, collected blood samples and answered the questionnaire. The samples were stored at -20°C until the moment of use; those that needed to be retested for IgM were transported on dry ice and frozen at -80°C. IgG and IgM anti-HEV diagnostic kits (mikrogen and Diapro) approved by ANVISA of MS in Brazil were used. Medical-educational activities were carried out in the units on the prevention of viral hepatitis and health

**Results:** Of a sample of 300 volunteers, actually, 150 blood samples were analyzed, the prevalence of anti-HEV IgM and IgG was 2.66%, and anti-HEV IgG alone was 8.6%. Most were women, 75.3%, and the average age was 43 years (18 to 78 years). Median liver enzymes in HEV-positive patients were AST (27.5 IU/L), ALT (21 IU/L), and GGT (58.5 IU/L). Among the samples, 81% of the residences were in rural areas, 90.5% did not have a sewage system, 94.6% had running water, and 39.5% worked or worked with animal husbandry. Only 1.4% experienced flooding. The majority, 95.4%, consume pork and/or derivatives and 19.7% consume hunting meat.

**Conclusions:** A seroprevalence of 8.6% was found, higher than the result in a parallel study of our team in Salvador City (1.8%) and associated with a lack of basic sanitation, especially in rural areas.

https://doi.org/10.1016/j.aohep.2023.100951

## P-52 MALNUTRITION IN COMPENSATED AND DECOMPENSATED LIVER CIRRHOSIS

Andrea Curia[1], Maria Cielo Gutierrez[1], Cynthia Laura Musso[2], Jorge Daruich[1], Juan Antonio Sorda[1], Esteban Gonzalez Ballerga[1]

[1] *Department of Gastroenterology and Hepatology, Clinics Hospital "José de San Martín", University of Buenos Aires, Buenos Aires, Argentina*
[2] *Department of Food and Dietetics, Clinics Hospital "José de San Martín", University of Buenos Aires, Buenos Aires, Argentina*

**Introduction and Objectives:** Malnutrition (MN) is a common entity in patients with liver cirrhosis (LC) and has a negative impact on mortality. This study aimed to describe the prevalence of MN through subjective global assessment (SGA) and anthropometry in patients with LC and to analyze its relationship with the severity of the disease.

**Materials and Methods:** We included ambulatory and hospitalized patients >18 years old with LC. They were followed between

May/2016 and April/2019. Nutrition assessment was performed through SGA and anthropometry (triceps skinfold and mid-arm muscle circumference). Muscle strength was measured by dynamometry. We evaluated the severity of LC with Child-Pugh (CP) and MELD scores.

**Results:** Chi-square or Fisher's exact test and Mann-Whitney test. The statistical significance value was p<0.05. Four hundred thirty-six patients were evaluated. Women 50.23%, age 59.56±13 years, CP A 69.27%, B 22.25% and C 8.49%, MELD ≥15: 12.85%. SGA and anthropometry were normal in 46.33%. The absolute concordance between SGA and anthropometry was 59.17% (kappa=0.25). MN was diagnosed by SGA in 36.1%, 77.32%, and 86.48% in CP A, B and C, respectively. MN was diagnosed by anthropometry in 20.53% of those with CP A, 32.99 % with CP B and 54.05% with CP C. A significant association was also found according to the MELD score by anthropometry and SGA (p<0.0001). In 109 patients, muscle strength was measured, and it was altered in 30.28%.

**Conclusions:** High prevalence of MN was observed in patients with LC, even in those compensated. The concordance between SGA and anthropometry was low, so complementary use of both tools would be convenient, as well as early detection of MN, which may allow timely intervention.

https://doi.org/10.1016/j.aohep.2023.100952

## P-53 HELICOBACTER PYLORI INFECTION IN PATIENTS WITH PEPTIC ULCER DISEASE AND CIRRHOSIS OF THE LIVER

Jaime Fustamante[1,2], Eduardo Monge[1,2], Claudia Soto[1,2], Julio Narroquin[1,2], Lucero Torres[1,2]

[1] *Gastroenterology Service, Nacional Hospital Daniel Alcides Carrión, Callao, Peru*
[2] *Peruvian University of Applied Sciences Lima, Peru*

**Introduction and Objectives:** An increased rate of peptic ulcer disease (PUD) has been described in patients with cirrhosis. Helicobacter pylori (Hp) infection rates are lower than in the non-cirrhotic population. Peru has a high prevalence of Hp infection, but there is no information on this association in our population. This study aimed to study the association between PUD and Hp in patients with cirrhosis.

**Materials and Methods:** All patients with an endoscopic diagnosis of PUD between 2014 and 2019 at Daniel Carrion Hospital were reviewed. The frequency of Hp infection in patients with PUD with and without cirrhosis was assessed. Statistical differences were accepted with a p value < 0,05.

**Results:** A total of 574 patients with PUD were included. 72(13%) had cirrhosis. In patients with cirrhosis, Hp was positive in 24 (33%); in those without cirrhosis, Hp was positive in 285 (57%), p <0,05. See table 1. In patients with cirrhosis and PUD and Hp positive, 83% were gastric ulcers. Of those without cirrhosis, 55% were gastric ulcers.

**Conclusions:** There is a lower prevalence of Hp infection in patients with PUD and cirrhosis as compared with no cirrhotic PUD patients.

**Table 1.**

| | PEPTIC ULCER DISEASE HELICOBACTER PYLORI POSITIVE | PEPTIC ULCER DISEASE HELICOBACTER PYLORI NEGATIVE | TOTAL |
|---|---|---|---|
| CIRRHOTIC | 24 | 48 | 72 |
| NON CIRRHOTIC | 285 | 217 | 502 |
| TOTAL | 309 | 265 | 574 |

P: 0.0001907 OR: 0.3813 0.2235 - 0.6388

https://doi.org/10.1016/j.aohep.2023.100953

## P- 54 HEPATITIS C MICROELIMINATION IN FORMER DRUG USERS

Fernando Gruz[1], Maria Gimena Fernandez[2], Santiago Gimenez[3], Guillermo Dorado[4], Maria Laura Martin[5], Adrian Farias[6], Solange Mizrahi[7], Maricel Bellicoso[7]

[1] *Liver Disease Unit. Immunology Buenos Aires, Buenos Aires, Argentina*
[2] *Liver Disease Unit, Churruca-Visca Hospital, Buenos Aires, Argentina*
[3] *Infectious Diseases, Cemar N2, Buenos Aires, Argentina*
[4] *Psychiatry, Rehabilitation Center GENS, Buenos Aires, Argentina*
[5] *Psychology, Rehabilitattion Center Reencuentros, Buenos Aires, Argentina*
[6] *Psychology, Regabilitation Center Gens, Buenos Aires, Argentina*
[7] *Gastroenterologist, Inmunology Buenos Aires, Buenos Aires, Argentina*

**Introduction and Objectives:** Hepatitis C (HCV) infection is a major health problem around the globe. World Health Organization is committed to eliminating viral hepatitis by 2030. The most pragmatic approach to achieve this objective is to break down national elimination goals into smaller targets for individual population segments (microelimination). HCV prevalence in Argentina is about 0.5% in the general population, but there is no prevalence data in the drug users sub-population in our country. This study aimed to present study are 1) to estimate HCV prevalence among drug users in Argentina 2) and to describe clinical and virological characteristics in this community.

**Materials and Methods:** Cross-sectional study. Eligible patients (pts) were 18 years of age or older with present or past drug use history. Exclusion criteria were refusal to participate in the study, incapacity to understand the informed consent and severe mental illness. Pts were evaluated by a quick visual qualitative assay to detect HCV antibodies (Montebio®: Sensitivity: 99.8% -Specifity: 99.9%) and they were asked to answer a brief questionnaire to evaluate the presence of other HCV risk factors.

**Results:** Between March 1st, 2021 and October 30th, 2021, 202 eligible pts were identified. We excluded 4 pts (1 because of acute cocaine intoxication and 3 pts refused to participate). A total of 198 consecutive pts were included. Seven pts (3.5%) had a positive qualitative assay result and were further assessed for liver fibrosis, viral load, genotype and co-infections (table 1). Six out of seven pts (86%) did not know that they had had contact with HCV, 4/7 (57%) had positive viremia and 75% of them received antiviral treatment.

**Conclusions:** HCV prevalence among drug users is higher than in the general population. Microelimination is a useful tool to approach this global health problem.

**Table 1.**

| PATIENT NUMBER | VIRAL LOAD (UI/ml) | GENOTYPE | COINFECTIONS | FIBROSIS STAGE (F) |
|---|---|---|---|---|
| 1 | Negative | Non available | None | F2 |
| 2 | 216,146 | 1a | None | F4 |
| 3 | Negative | Non available | HIV | F0-F1 |
| 4 | 6,210,000 | 1b | HIV | F3-F4 |
| 5 | 3,504,00 | 1a | None | F2-F3 |
| 6 | 875,951 | 3a | None | F1-F2 |
| 7 | Negative | Non available | None | F3 |

https://doi.org/10.1016/j.aohep.2023.100954

## P 56- SHORT-TERM RESPONSE OF P300 EVOKED POTENTIAL IN PATIENTS WITH MINIMAL HEPATIC ENCEPHALOPATHY TREATED WITH L-ORNITHINE, L-ASPARTATE

José Luis Pérez-Hernández[1], Christian Hinojosa-Segura[1], Diana Montemira-Orozco[1], Andrés Burak-Leipuner[1], Juana Zavala-Ramírez[2], Imram Cruz-Reyes[2], María Escobedo-Silva[1], Fátima Higuera-de la Tijera[1], Daniel Santana-Vargas[2,3]

[1] *Department of Gastroenterology and Hepatology, General Hospital of México "Dr. Eduardo Liceaga," Mexico City, Mexico*
[2] *Research Department General Hospital of Mexico "Dr. Eduardo Liceaga," Mexico City, Mexico*
[3] *Sleep Disorders Clinic, Department of Experimental Medicine, Faculty of Medicine, UNAM*

**Introduction and Objectives:** The clinical alterations of Minimal Hepatic Encephalopathy (MHE) include subtle changes in cognitive processes detectable only with tests such as the Psychometric hepatic encephalopathy score (PHES) and critical blink rate (FCP) or P300 cognitive evoked potentials. After treatment with L-Ornithine, L-Aspartate (LOLA) 18 grams/30 days, a decrease or normalization in the PHES score, an increase in FCP, and a reduction in the latency of the P300 potential have been observed. In the short term, it is unknown if there are changes in these three indicators of the cognitive status of patients with MHE. This study aimed to detect changes in the potential cognitive P300 of patients treated with LOLA 18g/3 days.

**Materials and Methods:** Cirrhotic patients who attended the Liver Clinic of the Gastroenterology Service of the General Hospital of Mexico "Eduardo Liceaga" were included. The PHES test and FCP were applied, and the electroencephalogram (EEG) was recorded while visual stimuli were presented in a cognitive task to obtain the potential P300. The criteria for MHE were a PHES test score of less than -4 standard deviations (sd) and an FCP score of less than 39.0 Hz. EHM patients were given LOLA 6g/3 times a day for three days. Subsequently, the PHES, FCP, and P300 tests were repeated.

**Results:** 89 patients with liver cirrhosis participated, 54 women (60.7%) with 53±7.9 years of age and 8.3±3.4 years of schooling. Fifty-seven patients (64.0%) were positive for PHES and 64 were positive for FCP (71.9%). EHM (positive for PHES and FCP) was detected in 53 patients (59.6%). Thirty-six patients (68%) accepted treatment with LOLA or completed the three tests, of which 16 repeated the three tests. The median PHES before treatment was -5.0 ds(-1,-6) and after treatment with LOLA -3.0 ds(-2,-4). The difference was significant in the Wilcoxon test for paired samples $p<0.0001$. The initial mean of the FCP was 37.03±1.8 Hz and the final was 39.8±2.1 Hz. The difference was significant for the student's t-test for related samples $p<0.0001$. The P300 potential had an initial amplitude of 2.42± 2.79 and a final one of 2.21±2.19, not being significant, in contrast to the initial latency of 410.06±63 milliseconds (ms) and the final one of 404.88±63.6 ms, being significant after treatment. with LOLA $p=0.015$

**Conclusions:** Short-term (3 days) changes in MHE due to LOLA treatment were seen in PHES test scores, FCP test scores, and P300 evoked potentials. The P300 potentials reflect the state of the EEG when performing cognitive tasks of attention. The improvement in this indicator is already known at 30 days of treatment and with the present study, it was determined that immediately at the start of treatment with LOLA, there is an improvement in their cognitive status.

https://doi.org/10.1016/j.aohep.2023.100955

## P- 57 SURVIVAL AND LIVER TRANSPLANTATION FOR PATIENTS WITH ACUTE ON CHRONIC LIVER FAILURE IN URUGUAY

Martín Elizondo, Romina Rey, Victoria Mainardi, María Clara Gouarnalusse, Marcelo Valverde, Solange Gerona

*Hepatic Biliary and Pancreatic National Center, Teaching and Assistance Unit and Bi- Institutional Unit of Liver Transplantation. Military Hospital. Montevideo. Uruguay*

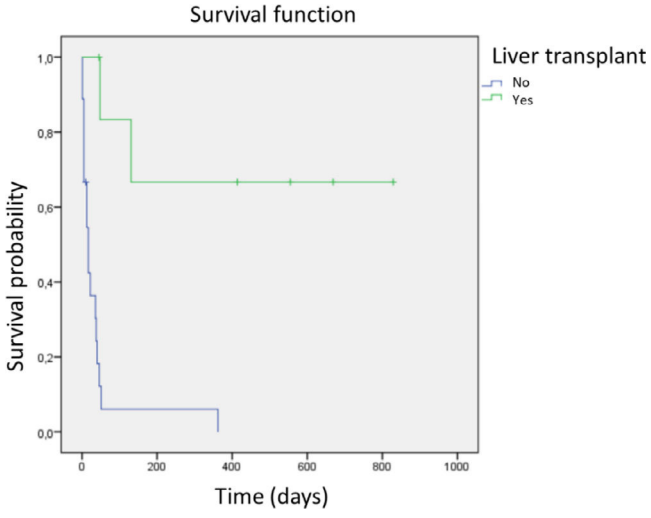
**Introduction and Objectives:** Acute on chronic liver failure (AoCLF) is a syndrome characterized by acute decompensation of a patient with cirrhosis, with multi-organ failure and high short-term mortality. Liver transplantation (LT) is the treatment of choice. Characterizing these patients is important to optimize the best management strategy. This study aimed to assess the survival of patients with AoCLF evaluated for LT in Uruguay and to identify variables associated with mortality.

**Materials and Methods:** Retrospective analysis of adult patients evaluated for LT with AoCLF in the National Liver Transplant Program of Uruguay (January 2018 - December 2021).

**Results:** 97 patients were evaluated, and 25 (26%) had AoCLF. The median age was 51 ± 12 years. 64% were male. The most frequent etiology of cirrhosis was alcoholic (n:11, 44%). The MELD-Na score at diagnosis was 29.4 ± 6.3. Twenty-one patients were Child-Pugh C. The grades of AoCLF were 1 in 9, 2 in 11, and 3 in 5 patients. In 64% of patients, a precipitating cause was identified: intercurrent infection in 13, upper gastrointestinal bleeding in 5, and acute alcoholic hepatitis in 2. The CLIF-C ACLF score at diagnosis was 48.1 ± 9.8. 13 patients progressively increased the number of failures, and 9 of them had an intercurrent infection. Twelve patients were listed, and 6 of them were transplanted. Overall mortality was 72%, on the waiting list 54% and post-LT 33%. Survival was different among patients with LT vs. non-LT ($p<0.001$) (Figure 1), according to the degree of AoCLF ($p = 0.001$) and if an intercurrent infection was present ($p = 0.022$).

**Conclusions:** AoCLF is a frequent indication of LT in Uruguay, with high mortality associated with the degree of ACLF, the presence of infection and non-transplantation. It is important to achieve transplantability of these patients, given the improvement in survival with LT.

**Figure:** Survival of patients with AoCLF with LT and non-LT.




https://doi.org/10.1016/j.aohep.2023.100956

## P-58 PREVALENCE OF CHRONIC VIRAL HEPATITIS TYPE C IN PEOPLE DEPRIVED OF THEIR LIBERTY IN THE CERESOS OF THE STATE OF VERACRUZ, MEXICO: TOWARDS MICRO-ELIMINATION

María Teresa Guzmán Terrones[1],
Ignacio Manuel Pérez Acosta[2],
Mauricio Alfaro Centeno[3]

[1] *Head of The Hepatitis Clinic, High Specialty Hospital Veracruz, Veracruz, México*
[2] *4th-year Resident of Internal Medicine, Hospital Issste Veracruz, Veracruz, México*
[3] *Medical of Social Service, Cristóbal Colón University, Veracruz, México*

**Introduction and Objectives:** By the finally of the WHO Strategy for the control and elimination of Chronic Viral Hepatitis Type C (HCV) by 2030, persons deprived of their liberty (PPL) are a key population due to the high prevalence reported in prisons. This study aimed to determine the prevalence of HCV of PPL in the 17 Social Rehabilitation Centers (CERESO's) of the State to treat with Direct Action Antivirals (DAA) and to identify the risk factors in this population.

**Patients and Methods:** Descriptive, cross-sectional, observational study in 17 CERESO from Veracruz, Mexico, to 6466 PPL, through screening from 2019 to the present. APRI/FIB4 index, glomerular filtration rate, HIV, comorbidities, and related risk factors were determined. Post-screening, 31 patients were treated with DAAs with sofosbuvir/velpatasbir and 5 with glecaprevir/pibrentasvir with sustained viral response in all patients.

**Results:** An incidence of HCV in PPL of 0.6% (36 patients) was found, with a prevalence of 0.05% (4 patients) to date, which have already received treatment with DAAs. 100% were men without HIV. As risk factors, 69% of the PPL used intranasal or intravenous psychoactive substances (UDIS), and 61% had piercings and/or tattoos. 80.6% did not have a school education or did not mention it, and only 14% had completed primary school. The population with the highest risk was between 30 and 39 years old (49%). Determined APRI/FIB-4, only 5 patients were staged F3 and 1 F4.

**Conclusions:** The prevalence of HCV in PPL in CERESOs of Veracruz, Mexico, is lower than that reported in the world literature, which is explained by the consumption of only 0.4% of UDIS, which stands as the main risk factor for prevalence. In previous reports, the majority of the population are men within the age group of 30 to 39 years, lower than previously found.

https://doi.org/10.1016/j.aohep.2023.100957

## P-60 DETERMINATION OF THE PREVALENCE OF HEPATITIS C VIRUS USING THE RAPID MONTEBIO HCV TEST IN A HIGH-RISK POPULATION OF HOSPITAL DEL SALVADOR, CHILE.

Alejandro Carvajal[1], Carlos Valdebenito[1],
Luis Salazar[1], Gonzalo Veloso[1], Stephany Albán[2],
Gabriel Mezzano[3,4]

[1] *Adult Gastroenterology Fellowship, San Borja Arriarán Hospital, University of Chile. Santiago. Chile*
[2] *Internal Medicine Fellowship, University of Chile. Santiago. Chile*
[3] *Gastroenterology and Liver Transplantation Unit, Hospital del Salvador, University of Chile, Santiago. Chile*
[4] *Center for Digestive Diseases Clinic University of the Andes, Santiago, Chile*

**Introduction and Objectives:** There are 71 million infected in the world and approximately 4 million in Latin America. In Chile, it is estimated that there are approximately 35-50 thousand infected, of which less than 10% have been identified and treated. This study aimed to determine the prevalence of anti-HCV in patients at high risk of infection using a rapid test for HCV.

**Materials and Methods:** Cross-sectional and descriptive study, which examined 502 samples of capillary blood from patients of the Hospital del Salvador, based on risk factors for Hepatitis C. The commercial Montebio HCV test was used, which reports a sensitivity and specificity of 99%.

**Results:** Of the total of 502 samples, 52.9% (266) corresponded to women. The average age was 51.5 years; the main risk factor was being older than 45 years (45.8%, 230/502), followed by being exposed to health personnel (34.5%, 173/502). 99.4% of the tests were validly performed. The positivity was 0.59% (3/502).

**Conclusions:** The implementation of a rapid test as screening is a useful and cost-effective tool in populations with risk factors. In the population studied, there is a higher prevalence than that reported in other series.

**Table 1.** Positive results distributed by sex, age and risk factor.

| Risk factors | Result | Sex | Age | Total |
|---|---|---|---|---|
| Liver cirrhosis from alcohol | Positive | M | 58 | 1 |
| Over 45 years old | Positive | F | 74 | 1 |
| Blood transfusions from before 1996 | Positive | F | 75 | 1 |
| Total general | | | | 3 |

https://doi.org/10.1016/j.aohep.2023.100958

## P-61 PREVALENCE OF HEPATITIS E VIRUS INFECTION ON CIRRHOTIC PATIENT POPULATION FROM ROSARIO

Julián Acosta[1], Alceo Galimberti[2], Federico Marziali[1],
Fernando Bessone[2], Alejandro Costaguta[3],
Hugo Tanno[2], Virginia Reggiardo[2], Daniela Gardiol[1],
Ana Laura Cavatorta[1]

[1] *Institute of Molecular and Cellular Biology of Rosario-Virology Area/CONICET-UNR, Rosario, Argentina*
[2] *Gastroenterology and Hepatology Service, Centenary Provincial Hospital, Faculty of Medicine-UNR, Rosario, Argentina*
[3] *Gastroenterology and Hepatology Service, Children's Sanatorium / Fundación Dr. J.R. Villalobos, Rosario, Argentina. Fundación Dr. J.R.Villavicencio, Rosario, Argentina*

**Introduction and Objectives:** Hepatitis E virus (HEV), with the zoonotic transmission, is one of the main agents causing acute hepatitis. In individuals with chronic liver disease, the infection can cause acute on chronic liver disease (ACLD) and can lead to fulminant liver failure. This study aimed to analyze the impact of HEV infection in a cohort of cirrhotic individuals from Rosario, Santa Fe.

**Materials and Methods:** Ninety-seven individuals (18-82 years old; male=61) with liver cirrhosis of different etiology were enrolled; among them, 57 were followed up over two years. Blood samples were obtained every six months and at the time of decompensation of the cirrhosis. IgG and IgM a-HEV were studied by ELISA and HEV RNA by RT-qPCR method optimized in our laboratory. As a control group, 154 blood donors (18-62 years old; male=90) were analyzed.

**Results:** We demonstrated a seroprevalence of IgG a-HEV of 5.2% (5/97) in the cirrhotic population, compared to 3.2% obtained in the control group ($p>0.05$). The highest prevalence of IgG a-HEV was recorded in those cirrhotic patients with autoimmune and hepatitis C infection etiology (11.1% and 8.0%, respectively). Among the 57

patients in follow-up, 19 decompensated at least once (6 ACLD) and 18 died. In 3/19 (15.8%) IgG a-HEV was detected; however, only one of them (1/3) seroconverted 13 months after the start of the study, while the other two patients had detectable IgG a-HEV antibodies from the beginning of the study. Nevertheless, in these three individuals, the presence of IgM and HEV RNA was not detected.

**Conclusions:** Our study shows a higher prevalence of IgG a-HEV in the group of cirrhotic patients compared to the control group. However, no association was found between HEV infection and the decompensation events observed in the analyzed cohort.

https://doi.org/10.1016/j.aohep.2023.100959

## P- 62 PREDICTION OF FIBROSIS PROGRESSION AND CLINICAL OUTCOMES WITH NON INVASIVE TESTS IN 10 YEARS FOLLOW UP OF PATIENTS WITH NON ALCOHOLIC STEATOHEPATITIS

Renato Gama Altikes[1],
Patricia Momoyo Yoshiura Zitelli[1],
Rosa Maria Nascimento Marcusso[2], Denise Vanni[1],
José Tadeu Stefano[1], Flair J Carrilho[1],
Mário Guimaraes Pessoa[1], Claudia P Oliveira[1]

[1] *Department of Gastroenterology, Clinics Hospital, USP School of Medicine, São Paulo, Brazil*
[2] *Neurosciences Group from the Infectology Institute Emílio Ribas, São Paulo, Brazil*

**Introduction and Objectives:** Fibrosis stage is the most important prognostic factor in non-alcoholic fatty liver disease (NAFLD). Although liver biopsy is the gold standard for staging fibrosis, it is a difficult tool to use on follow-up evaluations. Non-invasive tests (NITs) were developed to first stratify patients at risk for advanced fibrosis but were not validated for follow-up. This study aimed to evaluate liver fibrosis progression, NITs variations over time and their correlation with clinical outcomes (hepatic decompensation, hepatic and extra-hepatic neoplasm; cardiovascular events and mortality).

**Materials and Methods:** Retrospective cohort of 138 patients with biopsy proven non-alcoholic steatohepatitis (NASH). Patients underwent clinical, physical, and laboratory examinations and NIT assessments (FIB-4 and transient elastography - TE). Fibrosis progression was estimated using TE. NIT variations over time were compared with the development of clinical outcomes.

**Results:** 138 patients were analyzed. The median age was 65 years and the median body mass index was 32Kg/m$^2$ at diagnosis. Seventy-seven patients (55%) had diabetes and 82 (59%) had hypertension at diagnosis. Fifty-six patients (40%) had advanced fibrosis (≥F3) and 18 (13%) of them had cirrhosis at biopsy. The median time of follow-up was 10 years. One hundred nineteen patients performed TE at the end of the follow-up. Fifty-nine patients progressed to cirrhosis (49,6%). Initial NAFLD activity score (NAS) was statistically associated with fibrosis progression. Twenty-four patients (17%) developed a clinical outcome. The fibrosis stage at diagnosis was associated with cirrhosis decompensation but not associated with cardiovascular events. Fibrosis progression assessed with elastography (>11,5kPa) was associated with portal hypertension development. FIB-4 elevation during follow-up (>2,7) was associated with cirrhosis decompensation.

**Conclusions:** High-risk NAFLD patients have a high prevalence of fibrosis progression and clinical outcomes. NITs such as FIB-4 and TE might be useful tools for the evaluation of disease progression and risk of hepatic decompensation. More prospective studies are needed to better define NITs cut-offs for risk of clinical outcomes.

https://doi.org/10.1016/j.aohep.2023.100960

## P- 63 TREATING HEPATITIS C (HCV) IN ADDICTION CENTERS IN OUR COMMUNITY: ANOTHER STEP TOWARDS MICROELIMINATION

Sonia Blanco-Sampascual[1], Rodrigo Oraa[2],
Amaia Castrillo-Olabarria[1],
Fernando Menendez-Blazquez[1]

[1] *Gastroenterology Department. Basurto Universitary Hospital. Bilbao, Spain*
[2] *Mental Health Network, Biocruces Bizkaia Health Research Institute. CSM Addictions Ajuriaguerra. Bilbao, Spain*

**Introduction and Objectives:** To achieve the WHO objective of eliminating Hepatitis C by 2030, we must implement new strategies to reach difficult-to-treat patients. Basque Health Department-Osakidetza is implementing a project called "Action lines for the prevention and control of hepatitis C in the Basque Country." One of the strategies adopted is the treatment of people who have used intravenous drugs in Addiction Centers (AC), which simplifies access to diagnosis and treatment.

**Materials and Methods:** We actively looked for HCV-infected patients through database cross-checking. We identified the patients in AC of our community since January 1, 2019, and we crossed this list with HCV serological studies carried out by Osakidetza. Thus, we have identified three groups of patients: a) HCV-RNA+, b) HCV Ab+, without HCV-RNA determination, and c) patients not tested for HCV, candidates for study and treatment.

**Results:** We have identified 178 people who had already been treated or had cleared infection spontaneously; another two were not treated due to terminal illness and pharmacological interaction; nine patients had died, 16 were coinfected with HIV and sent to Infectious Department and nine had abandoned our community. We finally have identified and treated in the AC 22 patients (all of them have achieved SVR), and 20 more patients to test and treat, if positive.

**Conclusions:** :

Between the time of preparation of this strategy and its performance, which was delayed due to the pandemic, many patients had already been referred to hospitals and treated there.

1. This gives us an idea of the awareness of psychiatrists about the importance of detecting and treating Hepatitis C in this group of patients.
2. Adherence to treatment was very high and SVR was 100%.
3. Treating patients in AC allows us to reach difficult-to-treat populations.
4. The initiative was very well accepted by patients.

https://doi.org/10.1016/j.aohep.2023.100961

## P- 64 HEPATITIS C VIRUS MICRO-ELIMINATION PROGRAM IN AN OPEN POPULATION

Edgar Rodríguez-, Fuentes,
Fátima Higuera-De La Tijera,
María Luisa Hernández-Medel,
José Luis Pérez-Hernández, Raúl Serrano-Loyola,
Guadalupe Guerrero-Avendaño

[1] *Mexican General Hospital "Dr. Eduardo Liceaga," Mexico City, Mexico*

**Introduction and Objectives:** Among the WHO, goals for 2030 are to detect >90% of people with HCV and link >80% to treatment. Our institution serves an open population without social security. This study aimed to describe the detection strategy that was carried out in the open population, using two-step HCV detection tests at "Hospital General de México" from January to December 2021.

**Materials and Methods:** The study was conducted in an open population that transits for our hospital for any reason and agreed to take the risk factor questionnaire and the rapid test for the detection of anti-HCV antibodies (RT); those who were reactive underwent viral load (PCR to detect HCV-RNA). Descriptive statistics and the statistical package STATA v.14 were used.

**Results:** In 2021, 33,523 subjects were screened; 71.5% were women, mean age of 47±10 years. Reported at least one risk factor for HCV 53.5%. The most frequent risk factors were: Multiple sexual partners (MSP)/sexually transmitted diseases (STDs) 36.2%, tattoos/piercings 26.7%, surgery before 1995 20.2%, transfusion before 1994 5.4%, health workers after accidental puncture 4.2%. Of the 33,523, 0.7% were reactive in the RT; of them, the PCR was positive in 57.9% (prevalence of viremia= 0.4%). Among the viremic, the risk factors identified were: blood transfusion before 1995 37%, MSP/STDs 35%, surgery before 1995 30%, tattoos/piercings 30%, and drugs 3.5%. Of all viremic, 134 (100%) were linked to attention at the Mexican health sector; 114 (85.1%) without insurance treated at our hospital; 89 (78%) received DAAs at our institution in 2021 and have completed the time to assess SVR12, per protocol the SVR12 rate was 97.7% (2 failures), by intention to treat SVR12 was 93.2% (2 failures, 1 missing, three deaths from COVID-19). The remaining 25 patients detected in 2021 (22%) and without eligibility continued the protocol for treatment with DAAs during the year 2022.

**Conclusions:** The prevalence of HCV was similar to that previously reported. Traditional risk factors such as transfusion or surgery are still very prevalent. Timely diagnosis of HCV allows treatment to be linked to an optimal level of SVR12 in accordance with the WHO goals.

https://doi.org/10.1016/j.aohep.2023.100962

## P-65 NOREPINEPHRINE INFUSION AS AN ALTERNATIVE TO ALBUMIN POST LARGE VOLUMEN PARACENTESIS IN CIRRHOTIC PATIENTS

Ernaldo Morales-Mairena,
Fátima Higuera-De La Tijera,
Andrea Enríquez-Constantino,
Daniel Santana Vargas, José LuisPérez-Hernández

*Mexican General Hospital "Dr. Eduardo Liceaga," Mexico City, Mexico*

**Introduction and Objectives:** Albumin is administered to prevent post-paracentesis circulatory dysfunction syndrome (CDS). In many cases, this costly resource is not available. A previous study evaluated the use of norepinephrine in the prevention of CDS with promising results (Singh V et al. J Intern Med. 2006;260 (1):62-68.). This study aimed to describe the results obtained in a group of cirrhotic patients with grade III ascites who, due to lack of albumin, were administered norepinephrine infusion as an alternative in post-paracentesis ≥5L.

**Materials and Methods:** A prospective, descriptive and analytical study was carried out, including cirrhotic patients with grade III ascites who were administered norepinephrine to prevent CDS. Those with infection, baseline kidney injury, recent alcohol consumption and digestive tract bleeding were excluded. Descriptive statistics were performed, with measures of central tendency and dispersion, and the inferential analysis was performed comparing creatinine, NGAL, cystatin C, and sodium at days 0, 3, 6 and 28. It was evaluated if there was development of CDS.

**Results:** 12 patients were included; one presented chest pain without electrocardiographic changes, associated with an increased accidental rate of the infusion (norepinephrine was discontinued); therefore, 11 patients were analyzed; 9(81.8%) men; median age 52.2 (range: 39-68) years; 9(81.8%) Child C and 2(18.2%) B; regarding the etiology 8(72.7%) due to alcohol, 2(18.2%) MAFLD, 1(9.1%) HCV. The time in years from the diagnosis of cirrhosis was: 4 (36.4%) less than one year, 6 (54.5%) 1 to 5 years, and 1 (9.1%) more than six years. The median ascites drained was 12.5 L (range: 9-18); the median cost with albumin 8g/L of this drain was $400 USD ($288-576 USD); the cost of the norepinephrine strategy of 2 (2-4 ampoules) with an estimated cost of $12 USD ($12-24 USD). Nobody developed encephalopathy, kidney injury, or CDS. There was no difference between the values determined on days 0, 3, 6 and 28 (p=NS). The results of renal function parameters and renal injury markers are shown in the graphs.

**Conclusions:** Norepinephrine appears to be a cost-effective alternative where albumin is not available to prevent CDS. Security seems optimal, but trained personnel are required to handle it.

https://doi.org/10.1016/j.aohep.2023.100963

## P-66 CARDIOVASCULAR RISK PROFILE AND ATHEROSCLEROSIS IN PATIENTS WITH NON-ALCOHOLIC FATTY LIVER DISEASE

Maria Eduarda de Almeida Oliveira,
Sérgio Augusto Antônio, Davi Cassiano Costa,
Raphael Carreiro Moura,
Daniele Araújo de Azeredo Coutinho,
Carlos Roberto de Andrade Junior,
Maria Auxiliadora Saad, Priscila Pollo Flores,
Débora Vieira Soares

*Department of Clinical Medicine, Faculty of Medicine, Fluminense Federal University -UFF, Rio de Janeiro, Brazil*

**Introduction and Objectives:** Non-alcoholic fatty liver disease (NAFLD) is a frequent cause of liver disease, with a worldwide prevalence of 25%. There seems to be a connection between the gravity of NAFLD, atherosclerosis, and the increase in cardiovascular events and mortality. This study aimed to assess the cardiovascular risk profile and subclinical atherosclerosis of individuals with NAFLD.

**Materials and Methods:** Prospective observational analytical study. Adults with an established risk for the development of NAFLD were selected, such: as type 2 Diabetes Mellitus (T2DM), obesity or overweight, and/or altered alanine aminotransferase. Non-invasive assessment of liver steatosis and fibrosis was performed by hepatic ultrasound (US) and transient elastography. We evaluated the frequency of the cardiovascular disease, according to the clinical history and common carotid artery intima-media thickness (IMT), using an ultrasound examination of the carotids.

**Results:** All data are presented in median (IQR) or n(%). Forty-three participants were enrolled, female 34(79%), chronological age 62.5(54-67.2)years. Comorbidities: Systemic Arterial Hypertension 30(69.7%), T2DM 22(51.1%), Obesity 19(44.1%) and Dyslipidemia 22(55,8%). Only one was a smoker. Carotids-US: vascular age 65(62-83) years, right cIMT 0.65(0.54-0.8)mm and left cIMT 0.65(0.54-0.76)mm, atherosclerotic plaques were present in 11 (25,5%) participants. Hepatic Steatosis were observed in 37(86.1%) classified according to the US-FLI score as: mild 8(21.6%), moderate 19(51.3%) and severe 10(27.1%). Liver Fibrosis (F ≥2) were observed in 11(29.7%), among them 4(36.3%) had atherosclerotic plaques.

**Conclusions:** The data suggest a high frequency of atherosclerosis, demonstrated by the presence of atherosclerotic plaques in the carotid arteries in patients with hepatic fibrosis.

https://doi.org/10.1016/j.aohep.2023.100964

## P-67 USEFULNESS OF 3 DIFFERENT POINTS OF THE LIVER TO EVALUATE FIBROSIS BY TRANSITIONAL ELASTOGRAPHY

Ernaldo Morales Mairena,
Fátima Higuera-de-la Tijera, Daniel Santana Vargas,
Erika Bojorges Valdez, Andrés Burak Leipuner,
J García Espinosa, Felix García Juárez,
José Luis Pérez-Hernández

*Mexican General Hospital "Dr. Eduardo Liceaga," Mexico City, Mexico*

**Introduction and Objectives:** The degree of liver fibrosis is diagnosed, among other studies, with transition elastography; it is known that liver injury is heterogeneous, so underdiagnosing the degree of fibrosis when performing the survey at a single point may be possibly described in a standard way. This study aimed to evaluate the sensitivity of transition elastography at three different points to determine its performance.

**Materials and Methods:** Patients with liver disease were included; transition elastography was performed at three different points, point A at the site indicated by the manufacturers; point B, an intercostal space downwards, and point C, an intercostal space upwards; descriptive and inferential statistics were performed.

**Results:** One hundred nine patients were evaluated, 64 men (59%) and 45 women (41%) average age of 52.6. Paired t-tests were run between the three different combinations (K1 vs. K2, K1 vs. K3, and K2 vs. K3). For all these tests, the value of $p>0.05$, no statistically significant differences were found between the measurements. Correlation tests were performed between the same combinations, finding a value of $p<0.05$ for the three, which means that the observations are correlated. ROC curves were constructed. It can be seen that in all 6 cases, the ROC curve is close to the ideal values. Figures 1 and 2.

**Conclusions:** For the diagnosis of fibrosis, there is no difference between the three points in the same organ, even though the liver injury is heterogeneous.

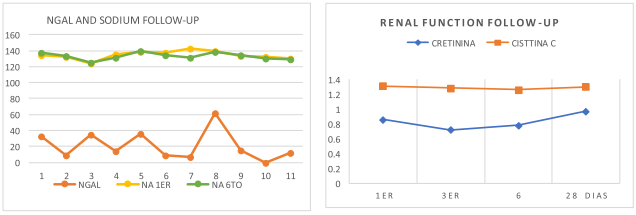



Figure 1

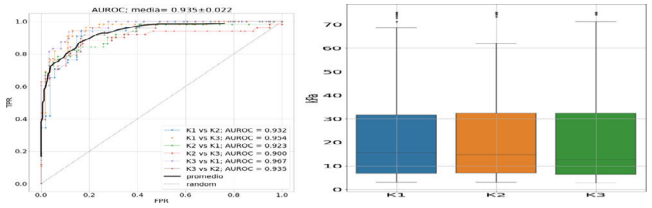



Figure 2

https://doi.org/10.1016/j.aohep.2023.100965

## P- 69 CHRONIC HEPATITIS B: EPIDEMIOLOGICAL CHARACTERISTICS, EVOLUTION AND PREVALENT PHASES, IN REFERENCE CENTERS IN PARAGUAY

Mirian Colarte, Marcos Girala, Lorena Martinez,
Sebastian Diaz, Jesús Ortiz

*Department of Gastroenterology and Digestive Endoscopy, Clinics Hospital, National University of Asunción, San Lorenzo, Paraguay*

**Introduction and Objectives:** Viral hepatitis is a public health problem worldwide. Approximately 325 million people worldwide were living with chronic hepatitis at the end of 2015: the most prevalent, HBV. There is not much information on the characteristics of patients with chronic hepatitis B in Paraguay. This study aimed to know the characteristics of the population with chronic Hepatitis B who consulted and/or had a follow-up in two hepatology reference centers in the period between 2000 - 2019.

**Materials and Methods:** Observational, descriptive, retrospective. Excel for data collection. Variables are expressed as frequency, mean and percentages.

**Results:** 12,972 medical records were evaluated, of which 171 (1.3%) had a diagnosis of Chronic Hepatitis B. 127 files were included, and 44 (26%) of the stories did not have enough information for the present analysis. Eighty-two (65%) of the patients were Paraguayan, 44 (35%) of Asian origin, and 1 (0.8%) were African. A liver biopsy was performed on 17% of the patients: 7 were in the cirrhotic stage and 4 had no inflammatory activity. Of the 127 patients studied: 3 (3%) were in Phase 1, 38 (32%) in Phase 2 (82% Western); 61 (51%) in Phase 3 and 16 (14%) in Phase 4 (44% from the far East communities). Thirty (24%) were in the cirrhotic stage; in 20 of these, some manifestation of Portal Hypertension was found, the most frequent being esophageal varices. Three of the 127 (2.4%) were diagnosed with HCC (two of them in the cirrhotic stage: corresponding to 6.7% of this population).

**Conclusions:** This series contributes to estimating the characteristics of patients with chronic Hepatitis B in Paraguay. Most are indigenous cases, but there is an important number from Far Eastern communities. A considerable percentage of patients are in a phase that requires treatment.

https://doi.org/10.1016/j.aohep.2023.100966

## P-70 HEPATITIS B IMMUNITY AMONG CHRONIC RENAL DISEASE UNDER HEMODIALYSIS

Alanna Calheiros Santos[1], Juliana Gil Melgaço[2],
Lucas Lima da Silva[1], Vanessa Duarte da Costa[1],
Juliana Custódio Miguel[1],
Elisangela Ferreira da Silva[1], Julia Trece Marques[1],
Giselle Prado do Nascimento[1],
Vanessa Salete de Paula[3], Livia Melo Villar[1]

[1] *Viral Hepatitis Laboratory, Oswaldo Cruz Foundation, Rio De Janeiro, Brazil*
[2] *Institute of Technology in Immunobiologicals, Bio-Manguinhos, Oswaldo Foundation Cruz, FIOCRUZ, Rio de Janeiro, Brazil*
[3] *Laboratory of Molecular Virology, Oswaldo Cruz Institute, Oswaldo Cruz Foundation, Rio de Janeiro, Brazil*

**Introduction and Objectives:** Hepatitis B Virus (HBV) has been a cause of acute and chronic hepatitis with progression to cirrhosis and hepatocellular carcinoma. Individuals with chronic kidney disease (CKD) are especially susceptible to HBV infection. Some studies have

shown high rates of positivity for the HBV infection marker in this population and therefore, vaccination becomes a safe method for Hepatitis B prevention. CKD patients are generally immunosuppressed and have a lower response to the Hepatitis B vaccine when compared to healthy individuals. Some factors associated with vaccine non-response are older age and immunosuppression. This study aimed to evaluate the humoral immune response through the titration of antibodies against HBsAg (anti-HBs) after hepatitis B vaccination in chronic renal disease patients.

**Material and Methods:** This is a cross sectional study conducted in two hemodialysis units serving individuals with CKD in Rio de Janeiro State, where 98 patients were included. All of them consented to participate and donated blood samples. All individuals have fulfilled a questionnaire about demographic characteristics, including information about previous HBV vaccination. Serum samples were tested for anti-HBSs employing chemiluminescent immunoassay (CLIA) technology with the commercial kit (LIAISON® XL, DiaSorin).

**Results:** Among 98 patients studied so far, the mean age was 51.9 years, 54/98 (56.8) female. With regard to the presence of anti-HBs, 56/98 (57.1%) individuals tested positive. Among those individuals, 45 had taken at least one dose of the hepatitis B vaccine. On the other hand, 9/42 (21,4%) seronegative patients all reported having taken the hepatitis B vaccine.

**Conclusions:** The vaccine remains the best and most effective method of preventing and controlling hepatitis B. This study demonstrated low HBV immunity in this population, reinforcing the need for four-dose booster schedules for this population. In addition, host factors should be investigated in non-responder to the vaccine.

https://doi.org/10.1016/j.aohep.2023.100967

## P- 71 BACTERIAL INFECTIONS IN CIRRHOTIC PATIENTS: ARE WE FACING AN EPIDEMIOLOGICAL CHANGE?

Bulaty Sofía[1], Jaureguizahar Fernanda[1], Zitelli Ludmila[1], Tamagnone Norberto[1], Navas Lisandro[1], Rifrani Gabriel[1], Ahumada Natalia[1], Cortese María Mercedes[1], Trevizan Victoria[1], Tanno Hugo[1], Tanno Federico[1], Tanno Mario[1], Reggiardo María Virginia[1], Vorobioff Julio[1], Hernández Lucía[2], Bessone Fernando[1]

[1] *Gastroenterology and Hepatology Service, Centennial Provincial Hospital, Rosario, Santa Fe, Argentina*
[2] *College of Economic Sciences and Statistics, National University of Rosario, Rosario, Santa Fe, Argentina*

**Introduction and Objectives:** Infections in cirrhotic patients are frequent. Early diagnosis and treatment are essential to minimize the risk of serious complications. Currently, an epidemiological change in the causal bacterial agents is being evidenced. This study aimed to identify the involved bacterial infections in cirrhotic patients to determine the prevalence of multi and extremely-resistant and quinolone bacterial-resistant infections and to evaluate the mortality rate of these patients.

**Materials and Methods:** Retrospective, descriptive and observational study including hospitalized patients older than 18 years with liver cirrhosis from September 2018 to October 2020. All of them were studied in a third-level of complexity hospital in Rosario, Argentina and admitted to suffering bacterial infections.

**Results:** 70 patients were analyzed. The mean age was 47 years, male sex was 59%. The most frequent cause of cirrhosis was alcoholic (47%). Healthcare-associated infections predominated (44%). The most frequent infection was spontaneous bacterial peritonitis (21%). The most frequently isolated germs were Gram-negative (65%), with a predominance of E. Coli (45%). Gram-positive germs were recovered in 43%. Bacteria with high antibiotic resistance were isolated in 59.5% (E. coli, K. pneumoniae, enterococci) and 23% were associated with extremely resistant germs. No significant results were obtained when we compared the prophylactic use of quinolones, rifaximin, proton pump inhibitors, and previous use of antibiotics with the finding of resistant bacteria. The isolation of resistant germs was associated with a greater need for hemodialysis (p 0.034) and the presence of encephalopathy (p 0.044). Deaths (21%) were higher in those patients linked to systemic inflammatory response syndrome (SIRS) (p 0.036), in-hospital infections (p 0.017) and associated with resistant bacteria (p 0.02).

**Conclusions:** A high percentage of both resistant and extremely resistant bacteria to treatment were found in our study. A high number of them were associated with gram-positive germs. These data indicate a change in the epidemiological behavior of cirrhotic infections.

https://doi.org/10.1016/j.aohep.2023.100968

## P- 73 ULTRASOUND VISUALIZATION OF THE LIVER

Ezequiel Demirdjian[1], Diego Arufe[1], Mariana Moreyra[1], Guillermo Troiani[2], Analia Cellerino[2], Diego Costa[3], Maria Pia Raffa[1]

[1] *Department of Liver Transplantation, Holy Heart Sanatory, CABA, Argentina*
[2] *Department of Radiology, Holy Heart Sanatory, CABA, Argentina*
[3] *Department of Cardiology, Holy Heart Sanatory, CABA, Argentina*

**Introduction and Objectives:** Screening patients with liver cirrhosis for the detection of hepatocarcinoma is a daily challenge. Abdominal Doppler ultrasound has moderate sensitivity, as observed so far in published studies. The characterization of the liver visualization obtained can play an important role in determining its diagnostic capacity. This study aimed to evaluate the degree of liver visualization according to the US-LiRads system in patients with liver cirrhosis.

**Materials and Methods:** Prospective descriptive study of patients in the Hepatology service of the *Holy Heart Sanatory* from October 2018 to May 2022. One hundred-one patients with liver cirrhosis were evaluated by ultrasound during the usual follow-up of the service, collecting and characterizing laboratory data, body mass index (BMI), cause of cirrhosis and ultrasound (Ascites). Liver visualization was characterized according to the US-LiRads system. It classifies into Visualization A (no or minimal limitations), Visualization B (moderate limitations), and Visualization C (severe limitations. A statistical analysis was carried out to determine if these factors influence the degree of visualization, comparing the continuous variables with the Student's t test and the categorical ones with the chi-square test. A p value less than 0.05 was considered statistically significant.

**Results:** 101 patients evaluated, we have documented that 68.3% present Visualization A, 28.7% Visualization B and the remaining 3% Visualization C (figure 1). We were unable to detect an association between age, cause of cirrhosis, sex, BMI, or presence of ascites with the degree of visualization (Table 1).

**Conclusions:** We can assert that liver Doppler ultrasound continues to be an acceptable method of screening since most patients present acceptable liver visualization. It was not observed that the patient's own factors affect liver Visualization. It would be necessary to carry out future studies to determine how less liver visualization affects screening.

**Table 1**. Characterization of the liver visualization and Associations

| Visualization<br>n | A<br>69 | B<br>29 | C<br>3 | *p-value* |
|---|---|---|---|---|
| Age (years) | 51.19 (11.84) | 53.10 (12.74) | 43.33 (21.08) | 0.401 |
| Cause (%) | | | | 0.702 |
| Primary Biliary Cholangitis | 3 (4.3) | 4 (13.8) | 0 (0.0) | |
| Secondary Biliary Cholangitis | 0 (0.0) | 1 (3.4) | 0 (0.0) | |
| Primary Sclerosing Cholangitis | 2 (2.9) | 0 (0.0) | 0 (0.0) | |
| Criptogénic | 1 (1.4) | 0 (0.0) | 0 (0.0) | |
| Autoimmune Hepatitis | 14 (20.3) | 10 (34.5) | 1 (33.3) | |
| Hepatitis B | 1 (1.4) | 0 (0.0) | 0 (0.0) | |
| Hepatitis C | 17 (24.6) | 5 (17.2) | 0 (0.0) | |
| NAFLD | 14 (20.3) | 6 (20.7) | 1 (33.3) | |
| Alcoholic Cirrhosis | 17 (24.6) | 3 (10.3) | 1 (33.3) | |
| Ascites (%) | | | | 0.238 |
| Absent | 50 (72.5) | 18 (62.1) | 1 (33.3) | |
| Mild | 10 (14.5) | 4 (13.8) | 2 (66.7) | |
| Moderate | 5 (7.2) | 4 (13.8) | 0 (0.0) | |
| Severe | 4 (5.8) | 3 (10.3) | 0 (0.0) | |
| Male Gender(%) | 27 (39.1) | 13 (44.8) | 1 (33.3) | 0.843 |
| BMI (kg/m$^2$) | 27.80 (4.56) | 29.70 (5.96) | 28.80 (7.63) | 0.240 |

https://doi.org/10.1016/j.aohep.2023.100969

## P- 75 COMPARISON OF EUS-GUIDED COIL PLUS CYANOACRYLATE VS CONVENTIONAL CYANOACRYLATE TECHNIQUE IN THE MANAGEMENT OF ACUTE GASTRIC VARICEAL BLEEDING. WHICH ONE IS BETTER?

Aldo Carvajal, Jorge Vargas, Ana Madrigal, Carolina Gutierrez, Manfred Aguilar, Marlon Rojas, Luis Arguedas, Pablo Cortes, Francisco Vargas, Karina Hidalgo, Esteban Cob, Adrian Gonzalez, Francisco Hevia

*University of Costa Rica, San Juan de Dios Hospital, Costa Rican Social Security Foundation. San Jose, Costa Rica*

**Introduction and Objectives:** Gastric varices affect approximately 20% of patients with portal hypertension; bleeding appears in 50-80%, with a mortality of 45%. There are two therapeutic options, cyanoacrylate and TIPS. The latter, due to its complexity, is limited. Cyanoacrylate is a more accessible technique, which can be performed conventionally by upper endoscopy (EGD) with direct visualization of the varices or guided by endoscopic ultrasound (EUS). This study aimed to compare the EUS-guided coil plus cyanoacrylate vs. the conventional technique of injection of cyanoacrylate in the management of acute gastric variceal bleeding.

**Materials and Methods:** Twenty-three cases of acute gastric variceal bleeding that received cyanoacrylate either by EUS-guided or conventional technique due to active or recent bleeding were analyzed, assessing their ability to stop it and the presence of bleeding at the same admission.

**Results:** Two groups were similar; 10 patients were male and 13 female. The type of gastric varices found was GOV1 in 12 patients (52.1%), GOV2 in 8 patients (34.7%) and in 3 patients (13.2%) both types were documented. At the time of EGD, 21.7% had active bleeding and bleeding was successfully controlled in all patients. There was one case of re-bleeding in the group of conventional cyanoacrylate technique that was controlled with EUS-guided embolization. The average number of injections was lower with EUS-guided therapy.

**Conclusions:** Cyanoacrylate is essential in the approach to acute bleeding from gastric varices. The EUS method seems to be safer. However, it requires training in the EUS, in addition to being more expensive. In bleeding without being able to visualize gastric varices veins by direct visualization, the EUS is the best option. Any endoscopy unit that handles digestive bleeding requires personnel and equipment trained to have both techniques.

https://doi.org/10.1016/j.aohep.2023.100970

## P- 76 ELEVATED FIBROSIS LEVEL IN PATIENTS COINFECTED WITH HEPATITIS AND COVID-19 DURING A LONGITUDINAL STUDY

Lucas Lima Da Silva[1], Vanessa Duarte Da Costa[1], Alanna Calheiros Santos[1], Juliana Custódio Miguel[1], Luciana Texeira De Barros E Vasconcellos[2], Wilian Jeans Wiggers[3], Claudia Alexandra Pontes Ivantes[3], Priscila Pollo-Flores[4], Lia Laura Lewis[1], Livia Melo Villar[1]

[1] *National Reference Laboratory for Viral Hepatitis, Institute Oswaldo Cruz, Fiocruz, Rio de Janeiro, Brazil*
[2] *Federal Hospital of State Servers, Ministry of Health, Rio de Janeiro, Brazil*
[3] *Gastroenterology, Hepatology and Liver Transplantation Service, Nossa Senhora das Graças, Paraná, Brazil*
[4] *Federal Fluminense University, Rio de Janeiro, Brazil*

**Introduction and Objectives:** Altered biochemical and hematological markers have been associated with the aggravation of covid-19. There is limited information on the evaluation of the degree of liver injury, especially fibrosis, in infected patients who already have a history of liver injury. This study aimed to evaluate the level of fibrosis in patients coinfected with hepatitis and covid-19 during a one-year follow-up.

**Materials and Methods:** This is a longitudinal observational study. Two hundred and thirty individuals were recruited for a period of 12 months during the years 2020 to 2021. Blood was collected for hematological and biochemical tests for fibrosis calculation by using APRI index. Nasal and oropharyngeal swab samples were submitted to RT-qPCR test for detection of SARS-CoV-2 RNA.

**Results:** Mean age of the population was 48 years (± 17.09; 11-90) and half of them were women (115/230). Among the study participants, 40% (90/230) had hepatitis, and of this group, 14% (13/90) had covid-19. Compared to the group without hepatitis (140), 27% (39/140) had only covid-19 and high fibrosis grade (FIB-4) presented as a risk factor for this group. Notably, during the longitudinal study, it was noticed that there was an elevation in the degree of fibrosis among the coinfected patients when compared to the other groups. At the beginning of follow-up and during the acute phase of SARS-CoV-2 infection, coinfected patients presented a low grade of fibrosis (F0); after one year, and in a post-COVID setting, a high grade of fibrosis (F4) was observed in this group. The increase in fibrosis grade was not observed among monoinfected COVID-19 or hepatitis groups.

**Conclusions:** We observed an increased level of fibrosis among COVID-19 patients with liver disease as a post-covid condition in this group, which may represent an impact of SARS-CoV-2 infection in patients with a history of liver injury.

https://doi.org/10.1016/j.aohep.2023.100971

## P- 77 EPIGENOME OF PATIENTS WITH LIVER FIBROSIS, WITH SUSTAINED VIRAL RESPONSE TO HCV IN LIVER BIOPSY AND LIQUID BIOPSY REVEALS THE ASSOCIATION OF DNA METHYLATION AND miRNA EXPRESSION WITH THE DEGREE OF SEVERITY

Ricardo De la Rosa-Bibiano[1], Rebeca Escutia-Gutiérrez[1], Eira Cerda-Reyes[3], Juan Manuel Aguilar[4], Ana Soledad Sandoval-Rodríguez[1], Juan Armendáriz-Borunda[1,2]

[1] *Department of Molecular and Genomic Biology, Institute of Molecular Biology in Medicine and Gene Therapy, CUCS, University of Guadalajara, Guadalajara, Mexico*
[2] *EMCS, Tecnológico de Monterrey, Guadalajara Campus, Zapopan, Mexico*
[3] *Central Military Hospital: Departments of Gastroenterology, Radiology, Pathology and Clinical Laboratory*
[4] *Mexican Group for the Study of Liver Diseases*

**Introduction and Objectives:** It has been shown that DNA methylation patterns and miRNA levels are effective markers for distinguishing different stages of liver fibrosis in European patients. A liquid biopsy allows the evaluation of ccfDNA methylation levels from hepatocytes damaged by necrosis/apoptosis, releasing degraded genomic DNA into the circulatory system, which reflects the gene changes present in hepatocytes. This study aimed to evaluate the potential association of specific miRNAs and the percentage of DNA methylation of genes linked with fibrosis in liver tissue and liquid biopsy from MEXICAN patients with various degrees of liver fibrosis and its severity.

**Materials and Methods:** Transjugular liver biopsies and liquid biopsies were collected from 23 patients with sustained viral response to HCV and residual fibrosis. The percentage of methylation in CpG islands of PPAR$\alpha$, gamma and $\delta$ gene promoters, as well as TGF$\beta$1 and PDGF$\alpha$, will be determined by pyrosequencing in DNA extracted from the liver and ccfDNA. Fibrosis was stratified according to Metavir. miR-21, miR-34, miR-122, miR181b, miR192, and miR-200a/b expression was evaluated.

**Results:** Higher methylation percentages were detected in antifibrotic gene promoters (PPAR$\alpha$ and gamma) in patients with more severe degrees of fibrosis (F4), both in tissue and in liquid biopsy. TGF$\beta$1 and PDGF$\alpha$, profibrogenic genes, showed significant hypomethylation in their promoter regions, indicating hyperactivation. In addition, the overexpression of miRNAs evaluated was associated with the degree of fibrosis and severity.

**Conclusions:** Epigenetic mechanisms (DNA methylation and microRNA expression) regulate the expression of multiple genes and their measurement can be a biomarker associated with the degree of fibrosis. Liquid biopsy is an effective and accessible method for evaluating the degree of fibrosis in Mexican subjects and for monitoring clinical protocols.

https://doi.org/10.1016/j.aohep.2023.100972

## P- 78 DIETHYINITROSAMINE AND 2-ACETYLAMINOFLUORENE CHRONIC ADMINISTRATION LEADS TO BIOCHEMICAL, HISTOLOGIC AND GENETIC CHANGES RELATED TO HEPATOCELLULAR CARCINOMA IN WISTAR RATS

Jaime Sánchez-Meza[1], Marina Campos-Valdez[1], José Alfredo Domínguez-Rosales[1], Saraí Citlalic Rodríguez-Reyes[2], Erika Martínez-López[2], Juliana Marisol Godínez-Rubí[3], Adriana María Salazar-Montes[1], Laura Verónica Sánchez-Orozco[1]

[1] *Institute of Chronic Degenerative Diseases, Department of Molecular Biology and Genomics, University Center of Health Sciences, University of Guadalajara, Guadalajara Jalisco, Mexico*
[2] *Institute of Nutrigenetics and Translational Nutrigenomics, Department of Molecular Biology and Genomics, University Center of Health Sciences, University of Guadalajara, Guadalajara Jalisco, Mexico*
[3] *Diagnostic Pathology and Immunohistochemistry Laboratory, Department of Microbiology and Pathology, University Center of Health Sciences, University of Guadalajara, Guadalajara Jalisco, Mexico*

**Introduction and Objectives:** Hepatocellular carcinoma (HCC) is one of the neoplasms with the highest mortality worldwide. The causes of the development of HCC have been related to hepatitis B virus and exposure to aflatoxin B1; however, chronic alcohol use, nonalcoholic fatty liver disease, and hepatitis C virus infection are the most important risk factors for developing HCC. The establishment of animal models of HCC is crucial for both basic and translational studies of hepatocellular carcinoma and is a valuable tool to identify alterations during the progression of the disease. This study aimed to analyze the biochemical, histological, and gene expression alterations produced in a model of chemical hepatocarcinogenesis by the chronic administration of diethylnitrosamine (DEN) and 2-acetylaminofluorene (2-AAF) in Wistar rats.

**Materials and Methods:** Twelve Wistar rats weighing 180 to 200 g were divided into control and damage groups: rats were treated with DEN (50 mg/kg/wk) i.p and an intragastric dose of 2-AAF (25 mg/kg/wk) for 18 weeks. Serum clinical biochemistry was performed on VITROS Chemistry System 350® equipment. Masson's trichrome and Hematoxylin-Eosin stains were performed on the liver tissue. Relative gene expression was performed by RT-qPCR in LightCycler®96.

**Results:** The damage group had significant increases in total cholesterol, HDL-C, AST, ALT, ALKP, and GGT. Furthermore, histological analysis showed the loss of normal liver architecture with nuclear pleomorphism in the hepatocytes, atypical mitosis, and fibrous septa distributed between portal triads and collagen fibers through the hepatic sinusoids. The expression of *TGFb1* was significantly increased ($p<0.05$); on the contrary, *ALB*, *CAT* and, *PPAR$\alpha$* were downregulated ($P<0.05$), *CPT1A* was downregulated too but without significance.

**Conclusions:** Chronic administration of DEN and 2-AAF induces characteristic alterations of hepatocellular carcinoma in Wistar rats. The uncontrolled proliferation of malignant cells requires a constant supply of energy and macromolecules. In this work, cancer cells reprogrammed their fatty acid oxidation pathway by downregulation of *PPAR$\alpha$* and *CPT1A*.

https://doi.org/10.1016/j.aohep.2023.100973

## P- 79 LIVER TRANSPLANTATION FOR HEPATOCELLULAR, LOOKING FOR THE BETTER SELECTION CRITERIA. RESULTS FROM THE URUGUAYAN LIVER TRANSPLANT PROGRAM

Cinthya Coronado[1], Josemaría Menéndez[1], Alejo Gestal[2], Victoria Mainardi[1], Solange Gerona[1]

[1] *National Liver Transplant Program. Hepatic Biliary and Pancreatic National Center. Montevideo. Uruguay*
[2] *Military Hospital, Montevideo. Uruguay*

**Introduction and Objectives:** Liver transplantation (LT) is an established therapeutic in hepatocellular carcinoma (HCC). Since 90' Milan's criteria have been the gold standard for the selection of the best candidate. In the last decade, new expanded criteria have been developed, like UCSF, Up to 7 and AFP Model, with the purpose of achieving a better selection of liver transplant candidates. This study aimed to describe the results of LT for HCC in our center, evaluate different selection criteria, and assess survival.

**Materials and Methods:** Retrospective analysis of adult patients transplanted with HCC in the National Liver Transplant Program of Uruguay (07/2009-06/2022).

**Results:** Of 259 LT performed, 63 (23,9%) had HCC. Study Population: Age:57 ± 7 years, 82% males. Etiology: 32% hepatitis C, 32% alcohol, 13% NASH, 9% Autoimmune Hepatitis, 5% hepatitis B, 9% others. The median waiting list time is 68 days. At listing: median serum AFP 56 ± 160 ng/L, real MELD-Na 13 points, assigned supplementary 22 points in all diagnosed cases. 48.3% had locoregional treatments before transplant, 22.5% as downstaging and 25.8% as bridging therapy. Milán in= 81% (including effective downstaging), Beyond Milan and UCSF in = 6% and beyond UCSF= 2%. Incidentals=11%. In the explanted liver: non-confirmed HCC 3,3%, beyond Up to 7 criteria 25%, microvascular invasion 16,7 %, macrovascular invasion 6,7%. Imaging accuracy showed that 20% of the patients clinically within Milan criteria exceeded them on pathology. Considering AFP Model, 80% were in criteria. Recurrence-free survival at 1, 3, and 5 years: 94%, 86% and 86%, respectively. Overall Survival at 1, 3 and 5 years: 90%, 75% and 73%, respectively.

HCC-related and non-related deaths were 38% (n=7) and 61% (n=11), respectively.

**Conclusions:** Our results are similar when compared to other regional and international data. The AFP model seems to be a good patient selection tool in our setting.

https://doi.org/10.1016/j.aohep.2023.100974

## P- 80 DIFFERENTIAL EXPRESSION OF MATRIX METALLOPROTEINASE 7 IN CHRONIC LIVER DISEASES

Daniel Montes de Oca-Angeles[1], M. Lemus-Peña[1], A. Hernandez-Barragan[1], M. Hernández-Santillán[1], Moisés Martinez-Castillo[1], Z. Medina-Avila[1], D. Santana-Vargas[2], A. Torre-Delgadillo[4], J.L. Pérez-Hernández[2], F. Higuera-De la Tijera[2], P. Cordero-Pérez[3], L. Muñoz-Espinosa[3], D. Kershenobich[4], G. Gutiérrez-Reyes[1]

[1] *Liver, Pancreas and Motility Laboratory, Unit of Research in Experimental Medicine, School of Medicine, Autonomy National University of México (UNAM), Mexico City, Mexico*
[2] *Department of Gastroenterology, Mexican General Hospital "Dr. Eduardo Liceaga", Mexico City, Mexico*
[3] *Universitary Hospital "Dr. José Eluterio González", School of Medicine, Autonomy National University of Nuevo León (UANL), Nuevo Leon, Mexico City, Mexico*
[4] *National Institute of Medical Sciences and Nutrition "Salvador Zubirán," Mexico City, Mexico*

**Introduction and Objectives:** We recently published that in the serum of patients with chronic Hepatitis C, there are high concentrations of inactive Matrix Metalloproteinases (MMP). However, the MMP has not been studied in other liver diseases. This study aimed to evaluate serum concentrations of MMP-7 in different hepatic etiologies and according to fibrosis stage.

**Materials and Methods:** A cross-sectional and multicenter study was carried out, including subjects with alcoholism (WHO criteria), without (OH) and with liver injury (cirrhosis, CiOH); diagnosed by clinical, biochemical data, non-alcoholic fatty liver (NAFLD) and chronic Hepatitis C (CHC). Transitional elastography (Fibroscan) was performed in NAFLD and CHC, considering mild fibrosis (MF: F0, F1, F2) and advanced fibrosis (AF: F3, F4). As controls, subjects without alcohol consumption (CT) were recruited. For the quantification of MMP-7, Multiplex-MERCK© was used. Statistical analysis was performed using SPSS V.22 using Mann Whitney U, $p<0.05$.

**Results:** It included 99 subjects (OH); 45 (CiOH); 48 (CHC, FL); 54 (CHC, FA); 27 (NAFLD, FL); 36 (NAFLD, AF) and 131 CT. MMP-7 was found to be elevated in CHC (FL and FA) vs. CT; and decreased in OH, CiOH, NAFLD (FL and FA) vs. CT, plus there are significant differences between all etiologies, $p<0.001$. MMP-7 is a matrilysin that degrades extracellular matrix products (proteoglycans); it increases significantly in subjects with CHC compared to CT, while in other pathologies with stages, even in advanced fibrosis, the levels are decreased compared to CT.

**Conclusions:** The increased MMP-7 in serum of chronic Hepatitis C and decrease in alcoholism and non-alcoholic fatty liver patients suggests that, according to the etiology, the levels can be useful to make a differential diagnosis. We considered that it is a potential non-invasive biomarker.

**Funding:** This work was partially financed by CONACyT SALUD-2016-272579 and PAPIIT- UNAM TA200515.

https://doi.org/10.1016/j.aohep.2023.100975

## P- 81 PREVALENCE OF HEV INFECTION IN HIV CARRIERS, PATIENTS WITH INFLAMMATORY BOWEL DISEASE AND CIRRHOTIC PATIENTS

Luan Henrique Paim Santos[1], Luíza Araújo de Santana Cavalcanti[1], Daniela Santana Mendes[1], Victoria Cruz Paraná[1], Júlia Stifelman Freire Alves[1], Fernanda Souza Novais[1], Sidelcina Rugieri Pacheco[1], Maria Alice Sant'Anna Zarife[3], Hermes Pedreira da Silva Filho[4], Carina Carvalho dos Santos[2], Ricardo David Couto[2], Marina Pamponet Motta[2], Carlos Roberto Brites Alves[2], Maria Isabel Schinoni[2], André Castro Lyra[2], Mitermayer Galvão dos Reis[1], Luciano Kalabric Silva[1]

[1] *Gonçalo Moniz Institute (IGM), Fiocruz, Salvador-BA, Brazil*
[2] *Federal University of Bahia (UFBA), Salvador-BA, Brazil*
[3] *Public Health Central Laboratory of Bahia (LACEN-BA), Salvador-BA, Brazil*
[4] *Recôncavo Federal University of Bahia (UFRB), Cruz das Almas-BA, Brazil*

**Introduction and Objectives:** Hepatitis E is a neglected disease in Brazil. Hepatitis E virus (HEV) can cause chronic illness in immunocompromised patients. This study aimed to determine the seroprevalence and prevalence of HEV infection in different populations: HIV carriers, patients with inflammatory bowel disease (IBD) and cirrhotic patients.

**Materials and Methods:** The study design was cross-sectional. Participants were recruited from the HIV/AIDS and hepatology outpatient clinic and from the hepatology ward of the University Complex Hospital Professor Edgar Santos (HUPES, UFBA). The proposed sample size was 150 HIV carriers, 100 IBD patients and 50 cirrhotic patients (data and samples collection are in progress). Data were collected through interviews and a review of medical records, and a blood sample was collected for the investigation of anti-HEV IgM and IgG antibodies (Wantai), measurement of serum transaminases AST and ALT (Wiener lab) and detection of HEV -RNA (RealStar® HEV RT-PCR Kit 2.0, Altona).

**Results:** To date, 214 volunteers have been recruited, 143 of whom have HIV, 38 have IBD and 33 have cirrhosis. Serological tests

were performed on a subgroup of 156 samples, 14 of which were reactive for anti-HEV-IgG (Prev. 9.0%; 95% CI: 5.0-14.6%) and none for anti-HEV-IgM (Prev. 0%). In addition, most participants had ALT and AST liver transaminases within the reference range, 88% and 84%, respectively. The seroprevalence of anti-HEV IgG varied according to the group: 14.3% in cirrhotic patients, 8% in IBD patients and 8.5% in HIV patients. The variables with the greatest positive association (PR greater than 2.00) were: being male and eating pork.

**Conclusions:** Although the data are preliminary, all groups studied were already exposed to HEV. However, no case of current infection was detected. Keywords: hepatitis E, prevalence, HIV, inflammatory bowel disease, cirrhotics. Funding Agencies: Laboratory fee from the Laboratory of Pathology and Molecular Biology (LPBM).

https://doi.org/10.1016/j.aohep.2023.100976

## P- 82 VERY HIGH PREVALENCE OF STEATOSIS AND STRIKINGLY ELEVATED ANTIE VIRUS ANTIBODIES: RESULTS OF A LIVER DISEASE SCREENING CAMPAIGN

Alceo Galimberti[1], Victoria Trevizan[1], Sofia Bulaty[1], Fernanda Jaureguizahar[1], Antonela Ferrari[1], Ludmila Zitelli[1], Norberto Tamagnone[1], Juan Maurino[2], Silvina Valentini[3], Ana Cavatorta[4], Julian Acosta[4], Maria Virginia Reggiardo[1], Tanno Federico[1], Tanno Mario[1], Daniel De Vuono[5], Miguel Taborda[4], Agustina Bessone[1], Delfina Uboldi[1], Juan Pablo Castello[1], Martin Lucero[1], Julio Vorobioff[1], Hugo Tanno[1], Fernando Bessone[1]

[1] *Department of Gastroenterology and Hepatology. Faculty of Medicine, Centenary Provincial Hospital, National University of Rosario, Rosario, Argentina*
[2] *Cardiology Department. Faculty of Medicine, Centenary Provincial Hospital, National University of Rosario, Rosario, Argentina*
[3] *Diagnostic Imaging Service. Faculty of Medicine, Centenary Provincial Hospital, National University of Rosario, Rosario, Argentina*
[4] *School of Biochemical and Pharmaceutical Sciences, Institute of Molecular and Cellular Biology of Rosario-CONICET, National University of Rosario, Rosario, Argentina*
[5] *Central Laboratory. Faculty of Biochemical and Pharmaceutical Sciences, National University of Rosario, Rosario, Argentina*

**Introduction and Objectives:** Liver disease accounts for approximately 2 million deaths per year worldwide and is often not detected early in the general population. This study aimed to study the presence of liver disease in the general population of Rosario, Argentina (1.5 million inhabitants).

**Materials and Methods:** 600 individuals over 18 years were studied who spontaneously attended our Hospital as part of a campaign called "Take care of your liver," carried out from October 4 to 14, 2019. Anthropometric data, history of previous diseases and socioeconomic status were documented. Liver tests, serology for hepatitis A, B and C and abdominal ultrasound were also performed. IgG-HEV was analyzed in 400/600 (66%) of the cases. Hepatic elastography was performed in a subgroup of patients with steatosis.

**Results:** 365/600 (61%) were women, a median age of 54 years (range 18-84). 222/600 (37%) had a BMI between 25-29.9 and >30 in 270/600 (45%). Alcohol intake between 30-60 gr/day was observed in 41/600 (7%) and >60 gr/day in 27/600 (4.5%). Anti-core IgG was positive in 33/600 (5.5%), while 3/600 (0.5%) were HBsAg positive. 8/600 (1.3%) presented HCV positive. ALT, AST, FAL and GGT levels were elevated at 6% (median 60 UI/L), 8,3% (median 64,5 UI/L), 17% (median 133 UI/L), 15% (median 109 UI/L), respectively. A diagnosis of steatosis was made in 235/600 (39%), of whom 17/600 (2.4%) had a BMI less than 25. Elastography in 65 pts with steatosis showed F4: 3, F3: 5, F2: 4, F0/F1: 53. As a finding, 40/600 (6.6%) presented liver cysts, 7/600 (1%) angiomas and 18/600 (3%) solid nodules. IgG-VHE was positive in 23/400 (5.75%).

**Conclusions:** A high prevalence of fatty liver was observed in the general population of Rosario, where 2.4% corresponded to thin pts. Advanced hepatic fibrosis was found in 8 cases with steatosis. A strikingly elevated presence of IgG-HEV was documented.

https://doi.org/10.1016/j.aohep.2023.100977

## P- 84 ENDOSCOPIC ULTRASOUND GUIDED LIVER BIOPSY, IS IT READY FOR PRIMETIME?

Daniela Hernández-Castro[1], Wagner Ramírez-Quesada[2], Carolina Gutiérrez-Ramírez[2], Sylvia Álvarez-Umaña[3], José Pablo Cortes-Navarrete[2], Aldo Carvajal-González[2], Francisco Hevia-Urrutia[2], Ana Lorena Madrigal-Méndez[2], Jorge Vargas-Madrigal[2]

[1] *Gastroenterology Department, México Hospital -University of Costa Rica, San José, Costa Rica*
[2] *Gastroenterology Department, San Juan de Dios Hospital -University of Costa Rica, San José, Costa Rica*
[3] *Gastroenterology Department, Hospital de Ciudad Neily-University of Costa Rica, San José, Costa Rica*

**Introduction and Objectives:** Endoscopic ultrasound-guided liver biopsy (EUS-LB) has been proposed as a novel technique that could offer some advantages over traditional methods, especially regarding specimen adequacy. A systematic review that included 32 studies evaluating the quality of percutaneous hepatic biopsies (PC-LB) demonstrated that the average number of portal tracts with this technique was 7.5 +/-3.4. (1) The objective of our study was to determine if EUS-LBs meet AASLD quality criteria, defined by the presence of more than 11 portal tracts.

**Materials and Methods:** A retrospective study was carried out from a prospectively created EUS-LB database. The primary objective was to evaluate the sample quality, using as a parameter the number of portal tracts. The secondary objective was to determine the security profile of the procedure and evaluate the rate of complications.

**Results:** 82 patients were included (average age 55). The main indication for tissue acquisition was elevated transaminases. Steatosis/steatohepatitis was the most common histological diagnosis. The average number of portal tracts was 19.23 +/- 7.2. All the samples had at least 11 portal tracts. The rate of adverse events was 9.75%. The majority were minor complications (post-procedure pain). Only one patient presented a severe complication, bleeding secondary to an arterio-biliary fistula, that required embolization by interventional radiology.

**Conclusions:** EUS-LBs meet quality criteria established by AASLD, have an excellent security profile, and might be considered the method of choice for liver tissue acquisition in the centers where the resource is available.

https://doi.org/10.1016/j.aohep.2023.100978

## P- 85 HIGHER LEVELS OF ALKALINE PHOSPHATASIS AFTER 6-MONTH TREATMENT WITH URSODEOXYCHOLIC ACID WERE ASSOCIATED WITH EVOLUTION TO ORTHOTOPIC LIVER TRANSPLANTATION IN PATIENTS WITH PRIMARY SCLEROSING CHOLANGITIS AND INFLAMMATORY BOWEL DISEASE

Diogo Delgado Dotta,
Marcus Vinicius De Acevedo Garcia Gomes,
Ana Elisa Rabe Caon, Davi Viana Ramos,
Luisa Leite Barros,
Débora Raquel Benedita Terrabuio,
Eduardo Luiz Rachid Cançado

*University of São Paulo School of Medicine, Clinics Hospital, São Paulo, Brazil*

**Introduction and Objectives:** Primary sclerosing cholangitis (PSC) is a cholestatic disease that commonly affects young males with inflammatory bowel disease (IBD). There is no efficient medical treatment, being orthotopic liver transplantation (OLT) the only curative treatment recommended in decompensated cirrhosis, intractable pruritus and recurrent cholangitis.

**Objectives:** Describe clinical, laboratory and histological findings in patients with PSC-IBD of a quaternary hospital and identify prognostic factors for OLT.

**Materials and Methods:** Review of patients' medical records with PSC-IBD followed from 01/2000 to 05/2022, excluding cases with insufficient data.

**Results:** Among 73 patients, 57% were male; the mean age during PSC diagnosis was 34,2±14,3 years, with a follow-up period of 8,8±5.4 years, 85% of those presenting ulcerative colitis. During diagnosis, 93% were symptomatic, usually presenting with pruritus and fatigue. A liver biopsy was performed in 30 patients, and 60% of those revealed F3/4. 4 patients presented dominant strictures (DS) and 68 were treated with ursodeoxycholic acid (UDCA) 16mg/kg/d. 16 (21.9%) underwent OLT in a period of 6.3±4,5 years after diagnosis; the main indication was decompensated cirrhosis. Ten patients had cancer, and the two most frequent were colorectal carcinoma and cholangiocarcinoma. 13 patients died; from those, four were transplanted and six died of infection. Between patients with and without OLT, there were no significant differences in age during diagnosis, type of IBD, comorbidities, presence of symptoms during diagnosis, histological fibrosis, or presence of DS. The OLT group had higher levels of bilirubin (3 × 0,8mg/dL;p<0,001) and lower albumin levels (3,4 × 4,3g/dL; p<0,001) during diagnosis. They also presented higher levels of alkaline phosphatasis (394 × 223U/L;p<0,001) and lower frequency of normalization (0 × 30%;p=0,027) after 6-month treatment with UDCA.

**Conclusions:** Higher levels of bilirubin and lower albumin during diagnosis and higher levels of alkaline phosphatasis after 6-month treatment with UDCA were associated with an increased risk of disease progression for OLT.

https://doi.org/10.1016/j.aohep.2023.100979

## P- 89 CHARACTERISTICS AND SURVIVAL OF PATIENTS WITH LIVER CIRRHOSIS AT A REFERRAL CENTER IN PARAGUAY

Elías Morán, Marcos Girala, Guillermo Fernández,
Adriana Medina, Jesús Ortiz Villalba

*Department of Gastroenterology and Digestive Endoscopy, Clinics Hospital, San Lorenzo, Paraguay*

**Introduction and Objectives:** There is little information on the survival and characteristics of cirrhotic patients in Paraguay. This information is vital to generate public policies that allow access to effective treatments. This study aimed to determine the survival of outpatients with liver cirrhosis in a gastroenterology and hepatology department in Paraguay.

**Materials and Methods:** Observational and retrospective design. Medical records of outpatients with cirrhosis whose first consultation was in 2019 were reviewed. Survival estimation was performed with the Kaplan-Meier model.

**Results:** 96 patients included. Average age: 54±15 years. Cirrhosis etiology: alcohol: 35%; autoimmune:18%; unknown:15%; cholestatic:13%; NAFLD:11%; viral:6%; hemochromatosis:2%. 72% of patients presented decompensation in the first consultation: ascites: 58%; acute variceal bleeding (AVB): 32%; hepatic encephalopathy (HE): 15%. Overall survival at 12 and 24 months was 81% and 67.5%, respectively. Comparing CP-A with CP-B+C, survival at one year and two years was 72% and 58%, respectively (p=0.034). Survival among patients with MELD <15 and ≥15 was: 89.2% vs. 69.8% per year and 80% vs. 51.5% at two years (p=0.01). The survival of patients with ascites was 70% and 53% at 1 and 2 years, respectively, compared to the group without ascites, 94% and 86% (p=0.002 and 0.001). There is no significant difference between patients with AVB vs. non-AVB (survival of 78.3% and 74.1% at 1 and 2 years). The group with HE had lower survival at two years (24.6%, p=0.04).

**Conclusions:** Cirrhotic patients in Paraguay have survival rates similar to those reported in the literature. Unlike many countries in the region, cirrhosis secondary to viral hepatitis is not very prevalent in this group. More studies are needed to determine if this situation can be extrapolated to the country in general.

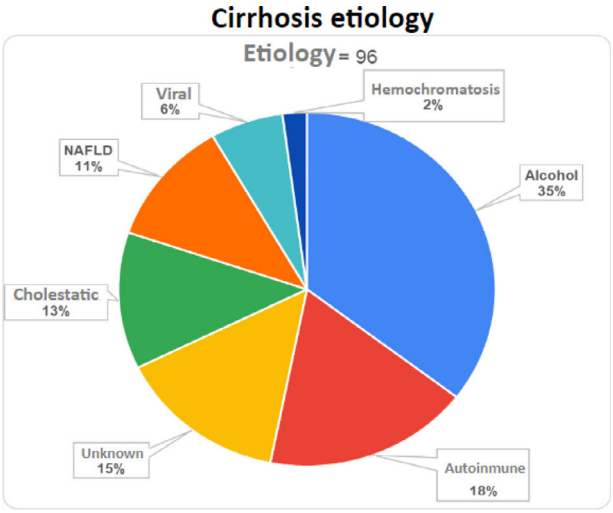



**Figure 1.** Cirrhosis etiology (n=96)

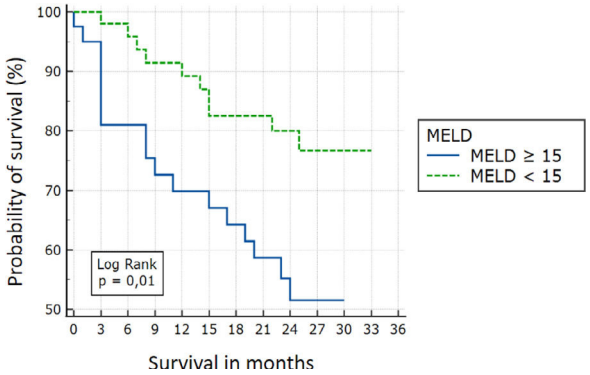



**Figure 2.** Kaplan-Meier survival curve of all-cause mortality according to the MELD score

https://doi.org/10.1016/j.aohep.2023.100980

## P- 90 EFFECT OF THE DELIVERY OF WRITTEN INFORMATION ON DISEASE-RELATED KNOWLEDGE IN PATIENTS WITH CIRRHOSIS AND ASSOCIATED FACTORS

Daniela Simian[1], Rosario Pino[1], Camila Vera[2], Emerson Rioseco[2], Camila Campos[2], Axel Polanco[2], Máximo Cattaneo[1], Juan Pablo Roblero[1], Álvaro Urzúa[1], Matías Martínez[2], Jaime Poniachik[1]

[1] *Section of Gastroenterology, Department of Internal Medicine, Clinic Hospital University of Chile, Santiago, Chile*
[2] *Faculty of Chemical and Pharmaceutical Sciences, University of Chile, Santiago, Chile*

**Introduction and Objectives:** In chronic pathologies, such as cirrhosis, information is essential for disease acceptance, adherence to treatment and prevention of complications. This study aimed to determine whether written information in patients with cirrhosis has an effect on the level of knowledge and treatment adherence and to evaluate possible factors associated with disease-related knowledge in cirrhosis.

**Materials and Methods:** Longitudinal, analytical study. Adult outpatients with cirrhosis were included in July-December 2021. Self-completed survey with demographic, clinical information, disease-related knowledge with "Cirrhosis Knowledge Questionnaire" (1 - 7 points) and treatment adherence with Morisky-Green-Levine scale (Low, Medium, High) were assessed. History of complications and hospitalizations in the last two years were obtained from clinical records. Patients were provided with an educational brochure and after four months, the disease-related knowledge and treatment adherence were re-evaluated. Comparative analysis was performed with T Student or ANOVA. Multiple linear regression models were assessed to identify possible associated factors ($p < 0.05$).

**Results:** We included 104 patients, 53% men, the median age of 64 years, and 80% of them with middle or higher education. The most frequent etiologies of cirrhosis were alcohol (27%) and non-alcoholic steatohepatitis (26%). The median level of disease-related knowledge was 3 (RIC 2 - 5). Forty-three percent of the patients answered >50% of the answers correctly. Bivariate and multivariate analyses of the disease-related knowledge are described in Table 1. Disease-related knowledge levels increased after delivery of written information at the 4-month follow-up (3.21 vs. 3.96; p=0.0007), but treatment adherence did not.

**Conclusions:** Less than half of the patients answered > 50% of disease-related knowledge correctly. Higher educational levels, history of hospitalization and complications due to cirrhosis were associated with a higher disease-related knowledge level score. The provision of written information is associated with an increase in disease-related knowledge levels in patients with cirrhosis.

**Table 1.** Bivariate analysis

| BIVARIATE ANALYSIS<br>Variable | N° | Disease-related knowledge (mean) | CI 95% | p value |
|---|---|---|---|---|
| **Gener** | | | | |
| Female | 49 | 2.9 | 2.3 – 3.4 | 0.069 |
| Male | 55 | 3.6 | 3.1 – 4.1 | |
| **Marital status** | | | | 0.038 |
| Married/couple | 63 | 3.2 | NA | |
| Single | 19 | 4.2 | | |
| Separated/widowed/ divorced | 21 | 2.7 | | |
| **Educational level** | | | | 0.004 |
| Elemental | 21 | 2.3 | NA | |
| High school | 47 | 3.1 | | |
| University/Postgraduate | 36 | 4 | | |
| **Living with:** | | | | 0.942 |
| Alone | 11 | 3.2 | NA | |
| Couple | 26 | 3.1 | | |
| Family | 67 | 3.3 | | |
| **Current employment status** | | | | |
| Active work | 36 | 3.6 | NA | 0.188 |
| Unemployed | 11 | 2.4 | | |
| Housework/Retired | 57 | 3.2 | | |
| **Comorbidities** | | | | |
| With comorbidities | 27 | 0.0 | 2.2 – 3.8 | 0.410 |
| Without comorbidities | 77 | 3.3 | 2.9 – 3.8 | |
| **Years of disease** | | | | |
| ≤ 1 year | 31 | 3.2 | NA | 0.516 |
| 1 – 5 years | 36 | 3.0 | | |
| ≥ 5 years | 34 | 3.5 | | |
| **Treatment adherence** | | | | |
| Low | 29 | 3.1 | NA | 0.354 |
| Media | 51 | 3.1 | | |
| High | 40 | 3.7 | | |
| **Hospitalizations due to cirrhosis in the last 2 years** | | 2.5 | | |
| No | 35 | 3.6 | 2.0 - 3.1 | 0.005 |
| Yes | 68 | | 3.2 - 4.1 | |
| **Complications due to cirrhosis in the last 2 years** | | | | |
| No | 26 | 2.3 | 1.5 - 3.1 | 0.002 |
| Yes | 78 | 3.6 | 3.2 - 4.0 | |

| MULTIVARIATE ANALYSIS<br>Variable | Coef. | Standard Error | CI 95% | p value |
|---|---|---|---|---|
| **Gender** male | 0.239 | 0.356 | -0.467 - 0.946 | 0.503 |
| **Marital status**[¥] | | | | |
| Single | 0.224 | 0.484 | -0.737 - 1.18 | 0.644 |
| Separated/widowed/ divorced | -0.563 | 0.440 | -1.439 - 0.311 | 0.204 |
| **Educational level**[£] | | | | |
| High school | 0.224 | 0.484 | -0.234 - 1.612 | 0.142 |
| University/Postgraduate | -0.563 | 0.440 | 0.516 - 2.516 | 0.003 |
| **Hospitalizations due to cirrhosis in the last 2 years** | 0.839 | 0.373 | 0.098 - 1.581 | 0.027 |
| **Complications due to cirrhosis in the last 2 years** | 0.901 | 0.412 | 0.081 - 1.721 | 0.031 |

For bivariate analysis, T Student or ANOVA was used depending on the number of variables. For multivariate analysis, a linear regression model was used (r-squared 0.250).

[¥]Reference category marital status: married

[£]Reference category educational level: elementary

https://doi.org/10.1016/j.aohep.2023.100981

## P- 91 CHANGES IN EARLY VISUAL PERCEPTION IN PATIENTS WITH MINIMAL HEPATIC ENCEPHALOPATHY

José Luis Pérez Hernández[1], Diana Montemira Orozco[1], Christian Israel Hinojosa-Segura[1], Julieta Zavala Ramírez[2], Imran Gibran Cruz Reyes[2], Maria Escobedo Silva[2], Fatima Higuera-de la Tijera[1], Daniel Santana Vargas[2,3]

[1] *Department of Gastroenterology and Hepatology, Mexican General Hospital "Dr. Eduardo Liceaga," Mexico City, Mexico*
[2] *Research Department, Mexican General Hospital "Dr. Eduardo Liceaga," Mexico City, Mexico*
[3] *Sleep Disorders Clinic, Department of Experimental Medicine, School of Medicine, UNAM*

**Introduction and Objectives:** Minimal Hepatic Encephalopathy (MHE) is characterized by very subtle cognitive changes that are diagnosed with the Psychometric hepatic encephalopathy score (PHES) and critical flickering frequency (CFF). Patients with MHE are slower in attention tests evaluated with visual cognitive evocative potentials, which are late indicators. However, it is unknown whether there is also slowness in automatic responses of early visual perception, such as those of stationary visual potential P100. This study aimed to detect early visual changes in patients with minimal hepatic encephalopathy

**Materials and Methods:** Cirrhotic patients who went to the Liver Clinic of the Gastroenterology Service of the Mexican General Hospital "Eduardo Liceaga" were included. The PHES, CFF test was applied and the electroencephalogram (EEG) was recorded while repeated visual stimuli were presented to obtain the stationary visual potential P100.

**Results:** 89 patients with hepatic cirrhosis participated in 54 women (60.7%) with 53 ± 7.9 years of age and 8.3 ± 3.4 years of schooling. Fifty-seven patients (64.0%) and 64 FCP-positive (71.9%) were PHES-positive. MHE (PHES and CFF positive) was detected in 53 patients (59.6%). 29 MHE patients and 10 patients with cirrhosis agreed to do the perceptual tests. P100 latency of the visual potential was quantified lower in patients with MHD 113 ± 9 milliseconds than in cirrhotic 94 ± 14 milliseconds.

**Conclusions:** Patients with MHE showed slowness in early perceptual processes that preceded cognitive processes.

https://doi.org/10.1016/j.aohep.2023.100982

## P- 93 INTERVENTIONS AND CLINICAL OUTCOMES IN PATIENTS EXCLUDED FROM PRE-LIVER TRANSPLANT EVALUATION IN A SINGLE CENTER EXPERIENCE

Alejandra Amaya[1], Margarita Gutiérrez[1], Martín Garzón[2], Fabiola Villalba[3], Yanet Mendez[4], Oscar Beltran[2], Geovanny Hernández[2], Carolina Salinas[2], Cristina Torres[2], Enrique Ponce[2], Ceballos Jorge[2], Varón Adriana[2]

[1] *Gastroenterology Fellow Pgy-2, Cardioinfantil Fundation- La Cardio, University of Rosario, Bogotá, Colombia*
[2] *Gastroenterology, Hepatology and Liver Transplant Department, Cardioinfantil Foundation- La Cardio, Bogotá, Colombia*
[3] *Social Worker, Hepatology and Liver Transplant Department, Cardioinfantil Foundation- La Cardio, Bogotá, Colombia*
[4] *Psychologist, Hepatology and Liver Transplant Department, Cardioinfantil Foundation- La Cardio, Bogotá, Colombia*

**Introduction and Objectives:** Liver transplantation is the best treatment option for patients with end-stage liver disease of any etiology. The success of the clinical intervention depends on the proper selection of the donor and the recipient. Biopsychosocial determinants influence the rate of post-transplant complications and mortality. This study aimed to identify interventions and clinical outcomes in patients excluded from pre-liver transplant evaluation with a clinical indication for liver transplantation between January 2019 and December 2021 in a single-center experience in Bogotá.

**Materials and Methods:** A cross-sectional study of patients >18 years old with a clinical indication for liver transplantation that was not suitable during the social work and psychology assessment for pre-liver transplant evaluation between January 2019 to December 2021.

**Results:** Between January 2019 to December 2022, 565 patients were considered candidates for pre-liver transplant evaluation. Of these, 122 patients were included in our study because they were excluded from evaluation by psychology and social work. 58.2% (n=71) were men, 77% (n=94) belonged to the private health system, 38.5% (n=47) had a primary education level, 34.4% (n=42) were unemployed, and the median monthly income was $250 USD (IQR 200 - 487 USD). 32.5% (n=37) become included in the pre-liver transplant study after some intervention. The activation of the extended family network showed a statistically significant difference in its frequency between the groups included and those not included in the pre-transplant study (p=0.011).

**Conclusions:** Interventions by the multidisciplinary liver transplantation support group allow access to pre-transplant evaluation, admission to the waiting list and transplantation to patients initially excluded for different reasons that can be modified with these tools.

https://doi.org/10.1016/j.aohep.2023.100983

## P- 97 CHARACTERIZATION OF PATIENTS INFECTED WITH HEPATITIS C IN 2 REFERENCE CENTERS IN PARAGUAY, FROM APRIL 2000 TO SEPTEMBER 2021

José Mongelos, Marcos Girala, Sebastian Diaz, Sara Melgarejo, Jesus Ortiz

*Department of Gastroenterology and Digestive Endoscopy, National University of Asunción, San Lorenzo, Paraguay*

**Introduction and Objectives:** The actual situation of HCV infection in Paraguay is not clearly known. There are few published works in relation to the characteristics of this disease in this country. This study aimed to describe patients with HCV infection and their clinical and epidemiological characteristics.

**Materials and Methods:** Observational, cross-sectional, retrospective, descriptive design. Patients from the Department of Gastroenterology and Digestive Endoscopy from April 2011 to September 2021 and patients from a private reference center from April 2000 to September 2021 were included.

**Results:** We identified 92 patients with positive Anti-HCV; 53 had positive RNA PCR and sufficient data. 58.5% (31) were male. The median age was 48 years. 42% (22) were foreigners. 42% (22) had no identified risk factor, and 34% (18) had some transfusion history. 33% (17) were in the cirrhotic stage at the time of diagnosis; of these: 80% (12) were Child A, 20% (3) were stage B and the mean MELD was 10.3. Of the 53 patients, 44 (83%) had documented HCV genotype. The distribution by genotypes was: Genotype 1: 24 (55%) (1a: 23%; 1b: 21%); Genotype 3: 9 (20%); Genotype 2: 8 (18%) and Genotype 4: 3 (7%). Five patients (9.4%) had extrahepatic manifestations, two with lichen planus, two others with seronegative arthritis, one with Sjögren's syndrome and two patients with HIV-HCV coinfection (3.8%).

**Conclusions:** This work offers data limited to the experience of two centers. Larger population studies are needed to determine whether this preliminary information reflects the situation of the Paraguayan population.

https://doi.org/10.1016/j.aohep.2023.100984

## P- 99 ASSOCIATION OF LIVER ABNORMALITIES WITH DISEASE SEVERITY IN COVID-19

Jhankarla Hinojosa, Caio Magrini, Perla Schulz, Andrea Vieira, Roberto da Silva Junior

*Departament of Medicine, Santa Casa de São Paulo School of Medical Sciences, São Paulo, Brazil*

**Introduction and Objectives:** Identifying independent risk factors for adverse outcomes in patients infected with severe acute respiratory syndrome coronavirus 2 can support prognostication, resource utilization, and treatment. The presenting symptoms of this virus are variable and the evolution and clinical significance of abnormal liver chemistries on outcomes in patients with coronavirus disease 2019 (COVID-19) is not well characterized. This study aimed to evaluate if aspartate aminotransferase (AST) and alanine aminotransferase (ALT) levels could predict disease severity in patients with COVID-19.

**Materials and Methods:** a retrospective, observational and cross-sectional study was carried out with data from the medical records of patients who had positive SARS-CoV2 nasal swabs, were over 18 years of age and were admitted consecutively and under free demand at a Brazilian academic hospital from April 1 to May 31, 2021. The characteristics of liver abnormalities and outcomes of patients with COVID-19 were compared.

**Results:** altogether, 222 patients were enrolled, three patients with cirrhosis and 82% with abnormal liver chemistries during hospitalization. Of these, 20% showed transaminases >5 times the upper limit of normal (ULN). The most prevalent liver abnormality was AST. The increase in transaminases was directly proportional to the higher rates of intensive care unit admission, longer hospital stays, higher rates of vasoactive drug use and greater pulmonary involvement in its severe forms. We found that elevations of transaminases >5 times the ULN, at any time during hospitalization were associated with increased mortality.

**Conclusions:** coronavirus 2 hepatitis may lead to poor outcomes in patients who are hospitalized for the disease. Therefore, monitoring liver chemistries, especially AST is necessary for hospitalized patients with COVID-19.

https://doi.org/10.1016/j.aohep.2023.100985

## P- 101 TREATMENT OF PATIENTS INFECTED WITH HEPATITIS C VIRUS IN TWO REFERENCE CENTERS IN PARAGUAY.

José Mongelós, Marcos Girala, Mariam Garayo, Sara Melgarejo, Sergio Morinigo, Jesús Ortiz Villalba

*Department of Gastroenterology and Digestive Endoscopy, National University of Asunción, San Lorenzo, Paraguay*

**Introduction and Objectives:** Treatment with Direct-Acting Antivirals (DAA) has revolutionized the treatment of hepatitis C, with a high success rate. There is very poor information on the outcome of treatment in these patients in Paraguay. Gathering information in this regard would help develop health-related public policies related to the management of this infection in the country. The aim is to determine the proportion of patients with Hepatitis C who received treatment, of what type, and the percentage of patients with a sustained virologic response (SVR).

**Materials and Methods:** Observational, descriptive, cross-sectional, retrospective design. Patients from the Gastroenterology Department of the Clinicas Hospital were included from April 2011 to September 2021 and patients from a private referral center from April 2000 to September 2021.

**Results:** 8,504 medical records from the Clinicas Hospital and 8,137 from the private center were analyzed. Fifty-three patients diagnosed with HCV infection were identified. 55% (29) received an IFN-based regimen, 32% (17) received DAA-based treatments, and 19% (10) did not have access to treatment. Among the patients in the first group, 20 received PEG-INF + Rivabirin, with SVR in 65% of the cases, and 6 received non-pegylated IFN + Rivabirin, achieving SVR at 33%. In the DAA group, we found that 100% of patients achieved SVR. 41% of them received Sofosbuvir + Ledipasvir, 24% Sofosbuvir + Daclatasvir and 18% Sofosbuvir + Velpatasvir.

**Conclusions:** This study showed 46 patients treated in our country. All those treated with DAAs (17) achieved SVR. Due to their great effectiveness, we must direct public health efforts to ensure that patients can have free access to DAAs.

https://doi.org/10.1016/j.aohep.2023.100986

## P- 102 CLINICAL CHARACTERISTICS OF LIVER CIRRHOSIS SECONDARY TO METABOLIC SYNDROME AND COMPARISON WITH ETHYL CIRRHOSIS

Laura Martínez[1], Elias Morán[2], Marcos Girala[3]

[1] *Medical Clinic Department, Clinicas Hospital, San Lorenzo, Paraguay*
[2] *Department of Gastroenterology and Digestive Endoscopy, National University of Asunción, San Lorenzo, Paraguay*
[3] *Hepatology Unit, Clinicas Hospital, San Lorenzo, Paraguay*

**Introduction and Objectives:** Liver cirrhosis secondary to metabolic syndrome has become one of the most prevalent causes of cirrhosis and is assumed to have a prognosis similar to that of cirrhosis of other etiologies. This study aimed to describe the clinical characteristics of liver cirrhosis secondary to metabolic syndrome (MAFLD) at the Clinicas Hospital and compare it with ethyl cirrhosis (ET).

**Materials and Methods:** Analytical, retrospective, cross-sectional, non-probabilistic observational study of consecutive cases. The medical records of the Gastroenterology Department of the Clinicas Hospital for the years 2018 and 2019 were reviewed and patients diagnosed with ET cirrhosis and MAFLD were recruited. For data processing, the computer programs Excel 2010, Word 2010 and the statistical programs MedCalc version 20.110, Epi dat 3.1 and IBM SPSS were used.

**Results:** 900 medical records were analyzed, 100 patients with liver cirrhosis were identified, 77 of alcoholic etiology and 23 secondary to metabolic syndrome.

**Conclusions:** In the present study, liver cirrhosis secondary to MAFLD presents complications typical of cirrhosis, the incidence of hepatocarcinoma, functional status and average survival similar to those of alcoholic cirrhosis. However, elements of the metabolic syndrome are much more so in cirrhotic MAFLD than in cirrhotic ET.

Comparing both groups, the following results were obtained:

| | | Cirrhosis ET | Cirrhosis MAFLD | p |
|---|---|---|---|---|
| Average age (years) | | 55,87 | 58,91 | 0,750 |
| Sex (%) | M | 84,4 | 56,5 | 0,005 |
| | F | 15,6 | 43,5 | 0,005 |
| Source (%) | Urban | 61 | 65,2 | 0,717 |
| | Rural | 37,7 | 34,8 | 0,802 |
| Average MELD (points) | | 14,99 | 12,83 | 0,143 |
| Child-Pugh (%) | A | 24,7 | 39,1 | 0,175 |
| | B | 40,3 | 52,2 | 0,311 |
| | C | 32,5 | 8,7 | 0,024 |
| Arterial hypertension (%) | | 19,5 | 87 | 0,000 |
| Obesity (%) | | 2,6 | 47,8 | 0,000 |
| Type 2 diabetes (%) | | 18,2 | 82,6 | 0,000 |
| Portal hypertension (%) | | 90,9 | 95,7 | 0,462 |
| Hepatocellular carcinoma (%) | | 3,9 | 8,7 | 0,354 |
| Survival (months) | | 19,7 | 23,9 | 0,449 |

https://doi.org/10.1016/j.aohep.2023.100987

## P- 103 PREVALENCE OF SARCOPENIA IN CIRRHOTIC PATIENTS IN AN OUTPATIENT SERVICE IN BRAZIL

Carolina Pretti Tumang de Andrade[1], Lara Ferrari Dalcumune[1], Nubia Mesquita Fiorese[1], Livia Zardo Trindade[1,2], Felipe Bertollo Ferreira[1,2], Mariana Poltronieri Pacheco[1,2]

[1] *School of Sciences of Santa Casa de Misericórdia de Vitória, Vitória, Brazil*
[2] *Gastroenterology and Hepatology Department, Santa Casa de Misericórdia de Vitória Hospital, Vitória, Brazil*

**Introduction and Objectives:** Sarcopenia is defined by progressive and generalized loss of muscle mass and strength, a phenomenon observed in many patients affected by chronic illnesses. It reflects proteic-energetic malnutrition due to a metabolic imbalance, and it is associated with worse prognostics and higher mortality rates in post-hepatic transplant patients. This study aimed to assess the epidemiological distribution of sarcopenia and its association with liver function and complications of hepatic disease in cirrhotic patients in an outpatient service in Santa Casa de Misericórdia de Vitória Hospital -ES.

**Materials and Methods:** Transversal, epidemiologic and unicentric study. We applied a questionnaire and measured hand grip strength using a dynamometer, taking three measures of hand grip maximum strength for 3 seconds each.

**Results:** The study included 64 cirrhotic patients, with a mean age of 58 years and alcohol as the most present etiology. Sarcopenia was defined as present according to two different cut-off values: using cut-off value 1, sarcopenia was identified in 33 patients (51,6%); by cut-off value 2, 23 (35,9%) were sarcopenic. The study showed a significant association between the female sex and sarcopenia in both cut-off values. Furthermore, there was a relevant increase in sarcopenia by cut-off value 2 in patients with Model for End-Stage Liver Disease (MELD) scores greater or equal to 15. There was no association of sarcopenia with the event of ascites and/or hepatic encephalopathy.

**Conclusions:** Within the data obtained, there was a variation of sarcopenia of 35-52% regarding hand grip values, which was associated with elevated MELD scores, demonstrating a possible connection between sarcopenia and worse outcomes. Therefore, the presence of sarcopenia in cirrhotic patients might be related to prognostic factors and should be assessed in the clinical management of these patients.

https://doi.org/10.1016/j.aohep.2023.100988

## P- 104 EXPERIENCE AND CARDIOVASCULAR OUTCOMES IN POST-LIVER TRANSPLANT PATIENTS AT A REFERENCE TRANSPLANT CENTER IN COLOMBIA

Carlos Martinez[1], Catalina Gutierrez[2], Daniel Rojas[3], Sandra Saummet[4], Camila Galindo[5], Rafael Conde[6], Adriana Varon[7]

[1] *Internal Medicine Resident, University of Rosario, Gastroenterology Service, La Cardiovascular Center, Bogotá, Colombia*
[2] *Internal Medicine Resident, University of Rosario, Gastroenterology Service, La Cardio, Bogota, Colombia*
[3] *Internist, University of Rosario, Fellow in Gastroenterology, University of Rosario, Gastroenterology Service, La Cardio. Bogotá, Colombia*
[4] *Undergraduate Student, University of Rosario, Gastroenterology Service, La Cardio Bogota, Colombia*
[5] *Undergraduate Student, University of Rosario, Gastroenterology Service, La Cardio Bogota, Colombia.*
[6] *Pneumologist, Colombian Pneumological Foundation, Pneumology and Pulmonary Hypertension Service. Bogotá, Colombia*
[7] *Gastroenterologist, University of Rosario, Gastroenterology and Liver Transplant Service, La Cardiovascular Hospital, Gastroenterology and Pulmonary Hypertension Service. Bogota, Colombia*

**Introduction and Objectives:** Liver transplant patients require a vast and complex evaluation prior to transplant surgery. Hemodynamic evaluation by Doppler echocardiography is important in the identification of systolic/diastolic alterations as a predictor of post-liver transplant outcomes, from cardiovascular alterations to graft dysfunction and mortality. This study aimed to describe the relationship between the hemodynamic variables evaluated by Doppler echocardiography and post-transplant liver outcomes in patients diagnosed with cirrhosis at LaCardio hospital. We describe the demographic variables of our cohort and outcomes such as mortality, acute kidney injury, need for dialysis and hospital admission for acute heart failure in the post-transplant period up to one year of follow-up.

**Materials and Methods:** Retrospective cohort study. Patient with liver transplant at LaCardio hospital, in Bogotá, Colombia, between January 2005 and July 2021. Analysis of sociodemographic variables, comorbidities, echocardiography and intraoperative variables, with primary outcomes such as early graft dysfunction, acute kidney injury and intraoperative mortality. A classification and regression tree (CART) was performed.

**Results:** 397 patients were analyzed, with 54.4% men. The median of age was 56 years and the most common etiology of cirrhosis was alcoholic. The most common comorbidities were hypertension (54%) and type 2 diabetes mellitus (24%). In 71% of patients, there was some degree of diastolic dysfunction and left ventricular hypertrophy (30.9%). The presence of graft dysfunction was present in up to 8% of patients and was associated with acute kidney injury (AKI) in 21%, requirement of multiple transfusions during surgery and renal replacement therapy with a mortality of 15% during study follow-up. In the CART model for mortality and graft dysfunction outcomes, it was related to the presence of BMI<19 or the combination of BMI between 19 and <24 with dialysis.

**Conclusions:** Echocardiographic variables, the presence of sarcopenia and the presence of AKI or requirement of renal replacement therapy were related to mortality and graft dysfunction outcomes.

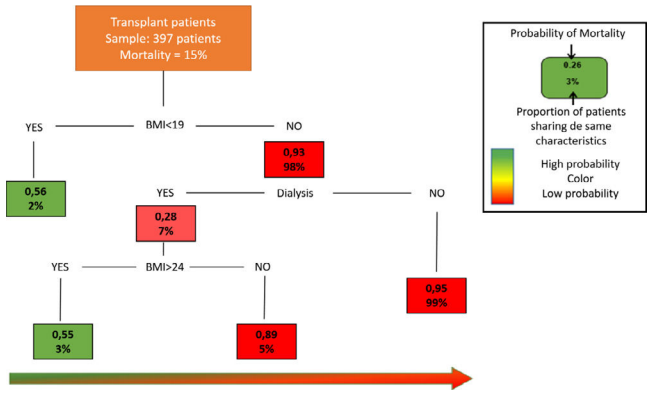



**Figure 1:** Distribution of liver transplant patients and mortality during the observational period (Up to 1 year). We classified the risk groups by a regression tree. This method provides a predictive model of three profiles of risk: a body mass index (BMI) less than 19 and a BMI less than 24 with or without the requirement of dialysis.
https://doi.org/10.1016/j.aohep.2023.100989

## P- 105 DETECTION OF HEPATITIS D VIRUS IN PATIENTS WITH CHRONIC HEPATITIS B FROM SOUTH AMERICA.

María Belén Pisano[1], Viviana E. Ré[1], Enrique Carrera[2], Domingo Balderramo[3], Jhon Prieto[4], Javier Díaz-Ferrer[5], Marco Arrese[6], Angelo Z. Mattos[7], José D. Debes[8,9], Andre Boonstra[9]

[1] *Institute of Virology "Dr. J. M. Vanella", Faculty of Medical Sciences, National University of Córdoba, Córdoba, Argentina*
[2] *Department of Gastroenterology and Hepatology, Eugenio Espejo Hospital, Quito, Ecuador*
[3] *University Private Hospital of Córdoba. University Institute of Biomedical Sciences of Córdoba, Córdoba, Argentina*
[4] *Cehyd, Bogotá, Colombia*
[5] *San Martín de Porres University, Lima, Perú*
[6] *Catholic University of Chile, Santiago de Chile, Chile*
[7] *Federal University of Medical Sciences of Porto Alegre, Porto Alegre, Brazil*
[8] *University of Minnesota, Minneapolis, USA*
[9] *Erasmus University Hospital Rotterdam, Rotterdam, The Netherlands*

**Introduction and Objectives:** Worldwide, there is incomplete information about the epidemiology of hepatitis D virus (HDV), a hepatotropic satellite pathogen with an RNA genome, which requires the hepatitis B virus (HBV) as a collaborating agent for its transmission and spread. HDV genotypes have a defined geographical distribution. Very few studies have been carried out in South America. This study aimed to study the circulation of HDV in subjects with chronic HBV from South America.

**Materials and Methods:** We studied 38 samples obtained between 2019 and 2021 from individuals chronically infected with HBV by assessing the ESCALON network (a cross-sectional and prospective study addressing hepatobiliary disease in South America). Samples were from Argentina (n=12), Peru (n=11), Colombia (n=4), Ecuador (n=4), Chile (n=4), and Brazil (n=3). Total anti-HDV antibody detection was performed using the Liaison XL Murex anti-HDV kit (DiaSorin). Positive samples were subjected to viral RNA detection by RT-PCR, and genotyped by Sanger sequencing.

**Results:** Median age was 59 years old (IQR 48.5-67.3); 75% of the individuals were males and 25% were females. Three samples were positive for anti-HDV antibody detection (8%). Two of them, from Colombia and Chile, belonged to individuals with cirrhosis, while the third one, from Ecuador, originated from an individual with hepatocellular carcinoma (HCC). This sample could be amplified by RT-PCR, corresponding to a 44 years-old male. The sequencing showed HDV genotype 3.

**Conclusions:** The results show circulation of HDV in South America, with a prevalence close to that estimated by the WHO (5%). The detections were performed in patients with severe liver disease, likely secondary to the presence of the two viral agents (HDV+HBV). Although our cohort is small, its strength lies in the geographical amplitude of the samples (6 countries). The study remains active and is expected to substantially increase the sample size over the coming year.

https://doi.org/10.1016/j.aohep.2023.100990

## P- 107 EPIDEMIOLOGY, CLINICAL AND TISSUE CHARACTERISTICS OF A LARGE COHORT OF NAFLD/ NASH FROM SOUTH AMERICA

Jhon Prieto Ortiz[1], Joseph Akambase[2], Angelo Mattos[3], Enrique Carrera Estupinan[4], Javier Diaz Ferrer[5], Andre Curia[6], Patricia Gallardo[7], Esteban Gonzalez Ballerga[6], Domingo Balderramo[8], Jose Debes[9]

[1] *Liver and Digestive Disease Center (CEHYD), Bogotá, Colombia*
[2] *Division of Epidemiology, School of Public Health, University of Minnesota, Minneapolis, MN, USA*
[3] *Department of Gastroenterology, Federal University of Health Sciences of Porto Alegre, Porto Alegre, Brazil*
[4] *Gastroenterology Service, Hospital de Especialidades Eugenio Espejo, Quito, Ecuador*
[5] *Department of Gastroenterology, Hospital Nacional Edgardo Rebagliati Martins, Lima Peru*
[6] *Department of Gastroenterology, Clinics Hospital José de San Martín, Buenos Aires, Argentina*
[7] *Department of Gastroenterology, Fundación Sayani, Jujuy, Argentina*
[8] *University Private Hospital of Córdoba / University Institute of Biomedical Sciences of Córdoba, Córdoba, Argentina*
[9] *Department of Medicine, University of Minnesota. Minnesota, USA*

**Introduction and Objectives:** Some of the highest rates of non-alcoholic fatty liver disease (NAFLD) in the world are present in the South American continent. Indeed, recent reports suggest that NAFLD is becoming a common cause of hepatocellular carcinoma in the continent. Nonetheless, little is known about the epidemiology and tissue finings of NAFLD in the region. We provide an extensive assessment of the inter-relation of NAFLD with metabolic variables as well as medication intake and biopsy findings in South America.

**Materials and Methods:** A retrospective chart review of patients with NAFLD from 5 countries in Latin America (Argentina, Brazil, Peru, Ecuador and Colombia) via the South American Liver Research Network (SALRN). Diagnosis of NAFLD was obtained via imaging reports and biopsies. Logistic regression models were used to examine associations between clinical and tissue characteristics with individual patient features. Each center was responsible for its own ethics approval.

**Results:** 2722 patients from five different centers (and five different countries) were included in the analysis, with proportions being the following: Argentina 556 (20%), Brazil 596 (22%), Colombia 1490 (55%), Ecuador 50 (2%) and Peru 30 (1%). The median age was 53 years (IQR 21-41) and the median BMI was 29 kg/m$^2$ (IQR 26-36). 63% were female. Biopsy reports were available for 35% (n=947), with 25% (n=232) of those showing significant fibrosis, 27% (n=254) severe steatosis, and 65% (n=616) inflammation. Only 17% of subjects had diabetes mellitus, 34% dyslipidemia, and 31% Hypertension., The median ALT for the entire cohort was 38 IU (IQR 25-65) and AST 28 IU (IQR 21-41). Of 1407 subjects with medication information, 29% were on lipid-lowering agents, 12% on aspirin, 28% on metformin and 5% on vitamin E. Independent predictors of significant fibrosis (≥ F2) on biopsy were: Diabetes mellitus (OR =2.97, 95% CI, 2.12 − 4.15, p < 0.0001), hypertension (OR =1.59, 95% CI, 1.17 − 2.17, p = 0.003), and metformin (OR =2.71, 95% CI, 1.82 − 4.02, p < 0.0001). There was no statistically significant association between F≥ 2 fibrosis and obesity or overweight. Diabetes and Hypertension were both independently associated with severe steatosis (OR =1.93, p = 0.0001 and OR =2.13, p < 0.0001, respectively).

**Conclusions:** This study provides critical information defining the epidemiology of NAFLD in South America, showing important correlations between hypertension and diabetes mellitus with clinically significant biopsy findings.

https://doi.org/10.1016/j.aohep.2023.100991

## P- 108 POLYMORPHISMS OF HLA (LOCI DR 4*) IN HISPANICS AS RISK FACTOR FOR DE-NOVO AUTOIMMUNE HEPATITIS AFTER LIVER TRANSPLANTATION

Adriana Varón[1], Luisa Santos[1], Oscar Beltrán[1], Martin Garzón[1], Geovanny Hernandez[1], Carolina Salinas[1], Maria C. Torres[1], Andres Murcia[2], Jairo Rivera[2], Gilberto Mejia[2]

[1] *Hepatology Department, La Cardio –Cardioinfantil Foundation, Bogotá, Colombia*
[2] *Liver Trasplant Department, La Cardio –Cardioinfantil Foundation, Bogotá, Colombia*

**Introduction and Objectives:** De-novo Autoimmune Hepatitis (De-novo AIH) after Liver Transplantation (LT) is an entity recently described and considered rare. Its importance relies on a severe clinical course, with graft loss in the short term, non-response to immunosuppressant therapies and requiring retransplantation even more than once. The Colombian population has a higher incidence of autoimmune liver diseases when compared to the literature, with a more aggressive clinical course and poorer response to classical immunosuppressive therapies requiring LT. This suggests a unique genetic component of the Colombian population that determines specific management and prognosis. The HLA (loci DR 3 * and DR 4 *) has been associated with De-novo AIH, especially in children, but no studies have been published in Hispanic Adults to date.

**Materials and Methods:** A retrospective observational study. The overall objective of this study was to determine the allelic frequencies of HLA (loci DR 3 * and DR 4 *) in donor livers of a Colombian population of patients with LT and its association with De-novo AIH.

**Results:** Out of 260 adult patients with LT at Cardioinfantil Foundation, eight were identified with De-novo AIH, all with graft loss and indication for liver retransplantation, 2 of them with graft loss for the second time in less than one year. HLA DR 4 was identified in all donors of patients who developed De-novo AIH.

**Conclusions:** The association between HLA DR-4 and De-novo AIH after LT establishes a precedent in the history of liver transplantation not only in Colombia but the world and requires immediate attention.

https://doi.org/10.1016/j.aohep.2023.100992

## P- 109 NON-INVASIVE ASSESSMENT OF FIBROSIS REGRESSION IN VIROLOGICAL RESPONDERS SUSTAINED BY HEPATITIS C VIRUS

Dania Anaberta Campos García[1], Sánchez Abel[2]

[1] *Internal Medicine MSc; Resident of Gastroenterology and Digestive Endoscopy, Hospital Roosevelt, Universidad de San Carlos de Guatemala. Guatemala City. Guatemala*
[2] *Chief of Gastroenterology and Digestive Endoscopy Service, Hospital Roosevelt; Postgraduate Professor of Gastroenterology and Digestive Endoscopy, Universidad de San Carlos de Guatemala. Guatemala City. Guatemala*

**Introduction and Objectives:** Hepatitis C virus is the leading cause of end-stage liver disease worldwide. Assessing the severity of liver disease is necessary before the start of therapy since this will depend on the regimen and subsequent prognosis, so there are invasive and non-invasive measures documenting advanced liver fibrosis and cirrhosis are related to worse results; at the time of diagnosis, more than 50% have evidence of cirrhosis, so it is necessary to evaluate the follow-up of patients with advanced liver disease and document its regression non-invasively due to sustained virological response. This study aimed to determine with non-invasive methods the regression of fibrosis in sustained virological responders in the Infectious Disease Unit and to document which stage is predominant when presenting sustained virological response.

**Materials and Methods:** Observational, retrospective, longitudinal study, elastography was performed, FIB4 and APRI were calculated before and after the sustained virological response. The regression was analyzed with McNemar's Chi square to document differences before and after treatment.

**Results:** 53 patients were acquired, and of these, 51% were women; the three non-invasive methods were represented in tables before and after, being F2 in the three methods the main degree of fibrosis before treatment and when they had sustained virological response this was found to F0 and F1, p <0.001 when comparing before and after treatment in the three non-invasive methods.

**Conclusions:** There is regression now of having sustained virological response in patients who presented advanced disease documented with non-invasive methods. The stages in order of frequency according to APRI after treatment are F0 with 72%, FIB 4 with 51% stage F0 and for elastography, it is F0 with 26% and F1 with 44%.

https://doi.org/10.1016/j.aohep.2023.100993

## P-110 BIOPSY IN FOCAL LIVER LESIONS: CORRELATION FROM CLINICAL TO HISTOPATHOLOGY

Enrique Carrera, Freddy Holguin, Gabriela Quingalombo, Estibalys Zambrano, Silvia Lozada

*Gastroenterology Service, Hospital of Specialties Eugenio Espejo, Quito, Ecuador*

**Introduction and Objectives:** Liver biopsy is an invasive technique through which we obtain a small sample of tissue for histopathological analysis under a microscope. This technique is

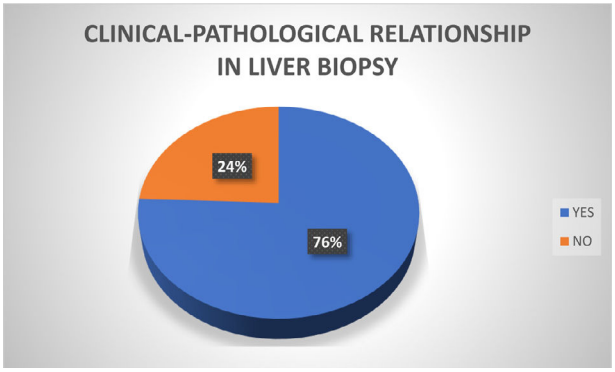
considered a gold standard for the study of low clinical-analytical expression. Currently, its usefulness is directed toward the diagnosis, prognosis and evaluation of liver disease. This study aimed to define the clinical-pathological correlation in liver samples biopsied in our hospital.

**Materials and Methods:** This study was retrospective, observational and descriptive. Data from 78 patients (47 women and 31 men) were included. Liver mass biopsies were generated at our institution from November 2016 to March 2021. The data were organized and analyzed in a spreadsheet matrix.

**Results:** Presumptive diagnoses, prior to biopsy, were classified as liver metastases, malignant lesions, benign lesions, and inconclusive mass. The most frequent histopathological diagnoses identified in our sample were:

- Metastasis 38 (49%): originated in colon 11 (29%), uncertain 6 (16%), lung 5 (13%), breast 3 (8%), pancreas 3 (8%), uterus 2 (5%), gallbladder 2 (5%), cholangiocarcinoma 1(3%), right maxilla 1 (3%), skin 1 (3%), prostate 1 (3%), rectum 1(3%), and testicular 1 (3%).
- Malignant lesions 30 (38%): hepatocellular carcinoma 19 (24%), cholangiocarcinoma 5 (7%), adenocarcinoma 4 (5%). non-hodgkin B lymphoma 1 (1%), and GIST 1 (1%)
- Benign lesions 8 (10%): benign liver nodule 2 (4%), liver adenoma 1 (1%), liver cirrhosis 1 (1%), hemangioma 1 (1%), focal nodular hyperplasia 1(1%), chronic inflammation 1 (1%), and polycystic liver disease 1(1%)
- Inconclusive hepatic mass 2 (3%)

**Conclusions:** Our comparison between presumptive and histopathological diagnoses suggested that there was an adequate relationship in 59 cases (76%). In those cases that did not, there was probably a presumptive misdiagnosis. Our data showed that most cases presented clinical and histological correlation, supporting the usefulness of performing a biopsy in liver lesions.




https://doi.org/10.1016/j.aohep.2023.100994

## P- 111 MORTALITY ON LIVER TRANSPLANT WAITING LIST: ANALYSIS OF A TRANSPLANT CENTER IN COLOMBIA

Cristina Torres[1], Andres Murcia[2], Diana Benavides[1], Oscar Beltran[1], Martin Garzon[1], Carolina Salinas[1], Geovanny Hernandez[1], Gilberto Mejia[2], Rivera Jairo[2], Adriana Varon[1]

[1] *Hepatology Department, La Cardio – Cardioinfantil Foundation, Bogota, Colombia*
[2] *Liver Transplant Department, La Cardio – Cardioinfantil Foundation, Bogota, Colombia*

**Introduction and Objectives:** Cirrhosis and acute liver failure have a high mortality rate and liver transplantation is the only treatment that has shown improvement in the survival of these patients, being 90% in the first year after transplantation and 80% in five years. Currently, in our center there are 95 patients on the liver transplant waiting list, being the largest in the country. The availability of an organ is of key importance and is directly related to the morbidity and mortality of our patients. This study aimed to determine direct and indirect variables that affect mortality on the waiting list in our transplant center.

**Materials and Methods:** We did a retrospective observational study in which we reviewed the clinical charts of the 116 patients who died in the liver transplant list between 2015 and 2021. We described the stage of cirrhosis, its complications and the cause of death. For the analysis of the results, we performed a statistical description.

**Results:** Between 2015 and 2021, 116 patients died on the liver transplant waiting list. The cause of cirrhosis was autoimmune disease in 42%of the patients, 75% were CHILD C and 39.7% had MELD >25. The main cause of death was an infection, and the main complications of cirrhosis were ascites (84.5%), encephalopathy (59.5%) and variceal hemorrhage (39.7%). Between 2020 and 2021, COVID-19 infection was documented in 16.7% of deceased patients.

**Conclusions:** Infection in patients on the waiting list is the main cause of death before transplantation. It has been documented in the literature that one-year mortality, according to the Meld score, is 30% and 50% for scores of 20-29 and 30-39, respectively. Because of this reason, liver transplantation is the only alternative to impact the survival of these patients. The pandemic contingency affected the care of patients with terminal liver disease, reducing the number of transplants performed because of the lower donation rate. Being pioneers in Colombia of living donor transplantation, it was possible to mitigate the low availability of organs during the Covid-19 pandemic, and in 2020 -2021, 38% of the transplants performed in our center were from a living donor.

https://doi.org/10.1016/j.aohep.2023.100995

## P- 112 METABOLIC FATTY LIVER DISEASE: FIBROSIS AND SARCOPENIA FREQUENCIES AND CORRELATION

Helen Cristine Saldanha Ferreira[1], Hévila de Farias Passos[1], Rafaela Cunha da Silva[1], Larissa Carvalho Pereira[1], Juliana Pereira da Silveira dos Santos[1], Patrick Machado Cibin[1], Vinicius Costa Viana[1], Gabriela Landier[1], Maria Auxiliadora Nogueira Saad[2], Débora Vieira Soares[2], Priscila Pollo Flores[2]

[1] *School of Medicine – Fluminense Federal University, Fluminense, Brazil*
[2] *Department of Clinical Medicine Fluminense Federal University, Fluminense, Brazil*

**Introduction and Objectives:** Fatty liver disease associated with metabolic dysfunction is a global health problem with a prevalence of about 25% worldwide. The measurement of hepatic stiffness by elastography stratifies patients with a greater propensity for cirrhosis in addition to systemic manifestations. This study aimed to estimate liver fibrosis and sarcopenia in patients at risk for metabolic fatty liver disease.

**Materials and Methods:** Selected patients were selected for cross-sectional clinical evaluation. Non-invasive assessment was performed using biomarkers, assessment of APRI and FIB-4, ultrasound and elastography. By ultrassonography 12 % had light steatosis, 12% moderate and the sarcopenia tests used were: self-reported registry, hand grip test and hepatic frailty index (FI) test.

**Results:** Our series of 49 patients was 80.6% female and 19.4% male; mean age of 59 years, mean BMI 32 kg/m$^2$; 28.6% had fibrosis >=2, designated as significant. The elastography average obtained was 9 kpa. Steatosis by the parameter attenuation coefficient (CAP) was not significantly different according to fibrosis. Fibrosis was associated with elevated AST (p value 0.04). ALT and fibrosis were not correlated (p=0.07). The mean value of the FIB-4 was 1.47, while that of the APRI was 0.36. Five patients in our series presented sarcopenia by LFI and there was a correlation with the presence of hepatic fibrosis (p<0.05).

**Conclusions:** Our study showed 28.6% of a quaternary hospital with MAFLD risk had fibrosis by elastography, 31.5% altered FIB-4, and 13.5% altered APRI. Fibrosis by elastography and by the FIB-4 test is more sensitive than APRI. Sarcopenia by liver frailty index was correlated with fibrosis, although other studies are necessary for an accurate conclusion.

https://doi.org/10.1016/j.aohep.2023.100996

## P- 113 TREATMENT OF CHRONIC HEPATITIS B IN TWO REFERENCE CENTERS IN PARAGUAY.

Mirian Colarte, Marcos Girala, Lorena Martínez, Sebastián Diaz, Jesús Ortiz

*Department of Gastroenterology and Digestive Endoscopy, Clinics Hospital, National University of Asunción, San Lorenzo, Paraguay*

**Introduction and Objectives:** Viral hepatitis is a public health problem worldwide. In Paraguay, there is little information regarding which are the most frequently used treatments and the response obtained from them. This study aimed to report the results of hepatitis B treatment in two reference centers in Paraguay.

**Materials and Methods:** Observational, descriptive, retrospective. Excel for data collection. Variables are expressed in frequency, mean and percentages.

**Results:** 12,972 medical records were evaluated in the period 2000 - 2019, of which 171 (1.3%) had a diagnosis of Chronic Hepatitis B. Forty-four (26%) of the stories did not have sufficient information for the present analysis. Finally, 127 patients were studied. We had 30 patients in the cirrhotic stage, of which 20 patients (77%) had activity: Hepatitis B antigen e positive (Hepatitis HBeAg +), 11 patients (42%) and Hepatitis B antigen e negative (Hepatitis HBeAg -): 9 patients (35%). Considering all study participants, 47 (37%) were treated: 29 (62%) with Tenofovir disoproxil fumarate (TDF), 9 (19%) with lamivudine; 4 (9%) with entecavir, the rest, combinations of these and other drugs. Forty-two of those treated (89%) were Hepatitis HBeAg +. Of these, eight (19%) presented e-antigen seroconversion, in a mean time of 18.6 months (range 3 to 38 months). HBsAg seroclearance occurred in 3 (6.4% of the 47 treated); one of them was cirrhotic, all of them Westerners. The average time in which HBsAg seroclearance occurred was 12 months.

**Conclusions:** The cases of hepatitis B treated in the Paraguayan centers studied, in the different phases of the disease, had a response (seroconversion of HBeAg and HBsAg seroclearance) similar to that reported in the literature.

https://doi.org/10.1016/j.aohep.2023.100997

## P-114 APPLICATION OF THE DONOR RISK INDEX IN LIVER TRANSPLANTATION IN THE MAIN TRANSPLANT CENTER IN PERU

P.Martin Padilla-Machaca[1,2], Omar Mantilla[1], José Rivera[1], Alfonso Solar[1], Bertha Cárdenas[1], Carmen Cerrón[1], Saul Espinoza[1], Wilmer Bacilio[1], A Montufar[1], Carlos Rondón[1]

[1] *Transplant Department. Guillermo Almenara National Hospital. Lima, Perú*
[2] *National Univesity of San Marcos. Lima, Perú*

**Introduction and Objectives:** The evaluation of cadaveric donors through the application of the donor-recipient risk index (DRI) since 2006 in the USA has been useful in the standardization of criteria during organ allocation in liver transplantation. This study aimed to apply the DRI > or < 1.7 and the relationship with morbidity and mortality, hospital stay, post-reperfusion syndrome, diagnosis, and origin, steatosis, BMI, cold ischemia times (WIT), Child-Pugh score and MELD score in our center.

**Materials and Methods:** Descriptive, cross-sectional, retrospective study. The medical records of all liver transplant patients were reviewed to extract demographic data and clinical characteristics based on the criteria established in the DRI assessment.

**Results:** 78 patients out of 303 met the criteria for evaluation registration, DRI < 1.7: 70.51% (mortality 16.36%), DRI > 1.7: 29.8% (mortality: 30.43). Post reperfusion syndrome: 47.82%. Cause of brain death: Traumatic brain injury: 43.58%, stroke: 41.02%, anoxic brain injury: 11.53%. Male: 60.25% and female: 39.74%. Donor graft weight: IDR <1.7: 1412 gr (700-2440g), WIT: 5.91 h (1.38-11.4 h), Age: 31 y (10-55), BMI: 24.93 (12.11-33.33), brain death time: 24 h and admission time: 4.3 hours, in the group with DRI > 1.7 graft weight: 1407 g (336-1900), WIT: 7.4 h (4-12.24), age: 51.22 y (29-67), BMI: 26.27 (26.23-29.38), brain death time: 24.5 h and admission time: 3 h. DRI group < 1.7: mild steatosis: 80%, moderate: 18% and in the IDR group > 1.7: mild steatosis: 87% and moderate in 13%. (see table 1)

**Conclusions:** Medical-surgical morbidity and mortality, post-reperfusion syndrome, hospital stay, stroke, BMI, and use of SPLIT grafts were higher in patients with IDR > 1.7. Other variables studied had no statistical relationship. We conclude that the IDR should be included in the evaluation of donors in our reality.

**Table 1.** results of 78 patients out of 303 met the criteria for evaluation registration

| DRI | < 1.7 | % | >1.7 | % |
|---|---|---|---|---|
| Mortality | 9 | 16.36 | 7 | 30.43 |
| Surgical morbilty | 18 | 32.72 | 12 | 52.17 |
| Medical morbility | 28 | 50.9 | 15 | 65.21 |
| Post Reperfusion Syndrome | 15 | 27.27 | 11 | 47.82 |
| Admission time (h) | 17.41 (120—-5) | | 24.21 (5—90) | |

https://doi.org/10.1016/j.aohep.2023.100998

## P-115 SUSCEPTIBILITY TO LIVER DAMAGE IN WOMEN DUE TO RISKY ALCOHOL CONSUMPTION.

José Luis Pérez-Hernández, Ernaldo Morales-Mairena, Andrea Enríquez-Constantino, Daniel Angel Santana Vargas, Fátima Higuera-de la Tijera

*Department of Gastroenterology and Hepatology. Mexican General Hospital "Dr. Eduardo Liceaga." México City. México*

**Introduction and Objectives:** Liver damage from alcohol consumption is different between genders, and the susceptibility shown by women is greater than that of men; there are several factors for this difference to exist. We evaluated the complications of cirrhosis due to alcohol in a group of women and compared it with a group of men. This study aimed to compare the effect of alcohol consumption and complications between both genders.

**Materials and Methods:** An observational, descriptive, and analytical study compares the pattern of alcohol consumption, the

number of grams of alcohol between men and women, and its complications.

**Results:** 222 patients were included; 122 women (55.0%) with 51.7±11.5 years of age, Child-Pugh A=24 (10.8%), B=69 (30.6%) and C=130 (58.6%). The grammage/day of alcohol was Women 175.6.9± 131.4 and Men 301.5±106.7. The type of consumption was regular risk M=6.6%; excessive M=45.9% and H=58.0%; intoxication M=11.5% and H=8.0%; binge M=36.1% and H=34.0%. Next, the comparison of medians with the Mann-Whitney U test for MIH by type of consumption with significant differences is described (see table 1)

**Conclusions:** It was found that women develop more liver damage and more complications with lower consumption of grams of alcohol.

**Table 1**

*OH: alcohol,*

| Factors | Men | Women | P |
|---|---|---|---|
| HTDA- excessive consumption OH | 51(56,48) | 60 (65,51) | p<0.0001 |
| HTDA- Grams of oH | 195(412,180) | 135(180,120) | p<0.0001 |
| Water retention-excessive OH consumption | 18(19,16) | 18(25,18) | p=0.039 |
| Kidney damage-excessive consumption of OH | 390(450,312) | 107(106,60) | p=0.046. |
| Hepatitis toxic A-excessive OH intake | 52(55,51) | 40(47,36) | p=0.09 |
| Encephalopathy-excessive consumption in weight/day | 315(357,277) | 136(225,88) | p=0.034 |
| ACLF-atracón | 50(53,31), | 39(43,25) | p=0.025 |

*HTDA: Upper Gastrointestinal Tract Bleeding,*
*ACLF: Acute on the chronic liver failure*

*OH: alcohol,*
*HTDA: Upper Gastrointestinal Tract Bleeding,*
*ACLF: Acute on the chronic liver failure*

https://doi.org/10.1016/j.aohep.2023.100999

## P-116 AUTOIMMUNE DISEASES ASSOCIATED WITH AUTOIMMUNE HEPATITIS: EXPERIENCE IN TWO PARAGUAYAN CENTERS.

Florencia Otazú[1], Marcos Girala[2], Pedro Mercado[1], Guillermo Fernández[2], Jesús Ortiz Villalba[2]

[1] *Third Chair of Medical Clinic, Clinic Hospital, National University of Asuncion, San Lorenzo, Paraguay*
[2] *Department of Gastroenterology and Digestive Endoscopy, Clinic Hospital, National University of Asuncion, San Lorenzo, Paraguay*

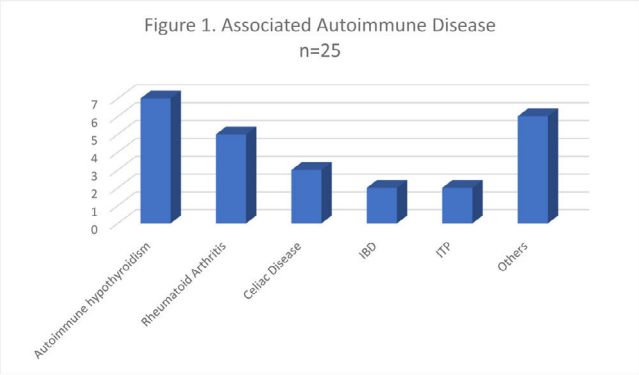
**Introduction and Objectives:** Autoimmune hepatitis (AIH) occurs in patients with a personal or family history of other autoimmune diseases (AID). In Paraguay, there is no information regarding what these diseases are and how often these diseases are found in patients with AIH. This study aimed to determine which autoimmune diseases occur in first-degree families and in patients with HAI in Paraguay.

**Materials and Methods:** Design: an observational longitudinal retrospective descriptive observational study. Patients from the Department of Gastroenterology of the Clinics Hospital and another outpatient reference center, with a diagnosis of AIH, according to the criteria of the Revised Original AIH Score, over 18 years of age, who consulted between January 2014 and December 2018, were included.

**Results:** 77 patients; average age: 40±19. Female 83%; male 17%: Ratio 4.9/1. Twenty-two (29%) had a family history of AID: autoimmune hypothyroidism in 7 (32%); AIH in 4 (18%); rheumatoid arthritis (RA) in 4 (18%); Systemic lupus erythematosus (SLE) in 3 (14%); other AIDs in 4 (18%).

Twenty-five (33%) patients had AIH-associated AID. These were: autoimmune hypothyroidism in 7 (28%); RA in 5 (20%); celiac disease in 3 (12%); inflammatory bowel disease in 2 (8%); autoimmune thrombocytopenic purpura in 2 (8%) and other AIDs in 6 (24%)

**Conclusions:** As in series from other countries, patients with AIH frequently have an associated AID and/or family history of AID. As a family or personal history, autoimmune thyroid disease was the most frequently associated with AID.




https://doi.org/10.1016/j.aohep.2023.101000

## P-117 HEPATOBILIARY INJURIES: EXPERIENCE OF THE MULTIDISCIPLINARY COMMITTEE AT THE HOSPITAL DE ESPECIALIDADES EUGENIO ESPEJO (HEE) IN QUITO – ECUADOR

Estibalys Zambrano, Silvia Lozada, Freddy Holguín, Gabriela Quingalombo, Enrique Carrera

*Gastroenterology Service. Hospital of Specialties Eugenio Espejo Quito - Ecuador*

**Introduction and Objectives:** The identification, characterization and management of focal lesions detected at hepatic and biliary level are a common problem in daily clinical practice. Occasionally, these constitute an incidental finding in health check-ups and in other situations due to their symptoms, becoming a challenge for the Ecuadorian health system. Since 2019, the HEE has created a multidisciplinary group for the analysis and management of these injuries. This study aimed to determine the diagnosis of focal hepatobiliary lesions by comparing cirrhotic and non-cirrhotic patients.

**Materials and Methods:** This study was descriptive, observational and retrospective. Data from 96 patients (73 women and 23 men) were analyzed by a multidisciplinary committee from 2019 to June 2022. The average age was 64.5 years. Patients were diagnosed with hepatobiliary lesions through imaging methods or liver biopsy. The analysis was performed using the R software version 4.1.2

**Results:** Among the 96 cases analyzed, a total of 41 (42.7%) presented cirrhosis. The most common hepatobiliary injuries included: hepatocellular carcinoma 36 (37.5%), regeneration nodules 12 (12.5%), hemangioma 9 (9.3%), liver metastases 8 (8.3%), cholangiocarcinoma 7 (7.3%).), adenoma 7 (7.3%), hydatid cyst 3 (3.1%), simple cyst 3 (3.1%), hepatic cystadenoma 2(3.6%), polycystic liver disease 2 (3.6%), focal nodular hyperplasia 1 (1.8%), choledochal cyst 1 (1.8%), complex cyst 1 (1.8%), hepatocholangiocarcinoma 1 (1.8%), gallbladder cancer 1 (1.8%), bilioma 1(1.8%), and Caroli disease 1 (1.8 %)

**Conclusions:** Our data revealed that cirrhotic patients presented solid lesions, and the vast majority were malignant with

hepatocellular carcinoma followed by metastasis. In the group of patients without cirrhosis, the majority presented benign lesions. A relationship of 3:1 between the solid type was found. Mostly included: hemangiomas, adenomas, and cystic type complex (including hydatid disease). In both groups, the main risk factor was the presence of type 2 diabetes mellitus.

**Table 1**

Table 1. Characteristics of patients with and without cirrhosis

| VARIABLES | All patients (n=96) | With cirrhosis (n=41) | Without cirrhosis (n=55) |
|---|---|---|---|
| Average age | 64.54 años | 57.71 años | 57.34 años |
| Gender | | | |
| Female | 73 (76%) | 27 (65.85%) | 46 (83.63%) |
| Male | 23 (24%) | 14 (34.14%) | 9 (16.36%) |
| Lesion consistency | | | |
| Solid | 82 (85.41%) | 41 (100%) | 41 (74.54%) |
| Cystic | 14 (14.58%) | 0 (0%) | 14 (25.45%) |
| Type of lesion | | | |
| Benign | 40 (41.66%) | 9 (21.95%) | 31 (56.36%) |
| Malignant | 56 (58.33%) | 32 (78.04%) | 24 (43.63%) |
| Characterization of the lesion | | | |
| Hepatocellular carcinoma | 36 (37.5%) | 30 (73.17%) | 6 (10.90%) |
| Regeneration nodules | 12 (12.5%) | 7 (17.07%) | 5 (9.09%) |
| Hemangioma | 9 (9.3%) | 1 (2.43%) | 8 (14.54%) |
| Liver metastases | 8 (8.3%) | 0 (0%) | 8 (14.54%) |
| Cholangiocarcinoma | 7 (7.3%) | 1 (2.43%) | 6 (10.90%) |
| Hepatocellular adenoma | 7 (7.3%) | 0 (0%) | 7 (12.72%) |
| Hydatid cyst | 3 (3.1%) | 0 (0%) | 3 (5.45%) |
| Simple liver cyst | 3 (3.1%) | 0 (0%) | 3 (5.45%) |
| Hepatic cystadenoma | 2 (2.08%) | 0 (0%) | 2 (3.63%) |
| Polycystic liver disease | 2 (2.08%) | 0 (0%) | 2 (3.63%) |
| Focal nodular hyperplasia | 1 (2.08%) | 1 (2.43%) | 0 (0%) |
| Choledochal cyst | 1 (2.08%) | 0 (0%) | 1 (1.81%) |
| Complex liver cyst | 1 (2.08%) | 0 (0%) | 1 (1.81%) |
| Hepatocholangiocarcinoma | 1 (2.08%) | 1 (2.43%) | 0 (0%) |
| Gallbladder cancer | 1 (2.08%) | 0 (0%) | 1 (1.81%) |
| Biliioma | 1 (2.08%) | 0 (0%) | 1 (1.81%) |
| Caroli disease | 1 (2.08%) | 0 (0%) | 1 (1.81%) |
| Comorbidities | | | |
| Diabetes | 23 (23.95%) | 14 (34.14%) | 9 (16.36%) |
| Hypertension | 21 (21.87%) | 10 (24.39%) | 11 (20%) |
| Chronic kidney disease | 1 (1.04%) | 1 (2.43%) | 0 (0%) |
| Hypothyroidism | 10 (10.41%) | 6 (14.63%) | 4 (7.27%) |

https://doi.org/10.1016/j.aohep.2023.101001

## P-118 HEPATOCELLULAR CARCINOMA. AN EXPERIENCE IN A TRANSPLANT CENTER IN COLOMBIA

Adriana Varón[1], José Leonardo Pérez[2], Cristina Torres[1], Juan Manuel Pérez[3], José Gabriel Caviedes[3], Diego Piñeros[3], Gilberto Mejía[4], Jairo Rivera[4], Ciro Murcia[4], Geovanny Hernández[1], Martin Garzón[1], Oscar Beltrán[1]

[1] *Hepatology Department, LaCardio, Cardioinfantil Foundation. Bogotá, Colombia*
[2] *Gastroenterology Department, LaCardio, Cardioinfantil Foundation. Bogotá, Colombia*
[3] *Interventional Radiology Department, LaCardio, Cardioinfantil Foundation. Bogotá, Colombia*
[4] *Liver Transplant Department, LaCardio, Cardioinfantil Foundation. Bogotá, Colombia*

**Introduction and Objectives:** Hepatocellular carcinoma (HCC) is the sixth most frequent type of cancer and the fourth cause of death related to cancer worldwide. Remarkably, HCC is the most common type of liver cancer. According to the International Agency for Research on Cancer (IARC), the incidence of liver cancer in Colombia was 2%, with a 4% mortality in 2020. This study aimed to describe the clinical characteristics of patients with HCC at a liver transplant center in Colombia in the period 2015 to 2020.

**Materials and Methods:** Descriptive study of consecutive patients with HCC. We developed an HCC registry from our outpatient Clinic in which we reported clinical status, imaging, and therapeutic management. The continuous variables were described as the mean and standard deviation, and nominal variables were evaluated based on frequencies and percentages. All analyses were done in Statistical Package for the Social Sciences (SPPS) v. 21.0.

**Results:** In total, 131 HCC patients were included, 76 men and 37 women, with an average age of 65 years. Of these patients, 40% were classified as CHILD PUGH (CP) - A, 42% were CP-B and in less proportion, 16.7% were CP-C. The etiology of the cirrhosis was diverse; most cases had a history of alcoholism (34%) and a past medical history of B and C viral infection (23.6%). The radiological characteristics of patients with HCC are shown in table 1. Therapeutic interventions assessed were radiofrequency ablation (ARF 61.6%), microwave ablation (AMO, 7.53%), transarterial chemoembolization (TACE, 30.8%) and liver transplant after ablative treatment (20.5%). Different outcomes analyzed were complete responses for ARF (52.2%), AMO (72.7%) and TACE (4.4%).

**Conclusions:** In our historical cohort, liver function allowed the achievement of curative therapeutic interventions (ARF/AMO) with a complete response in more than 50% of patients intervened and 20% of patients taken for a liver transplant. Our results highlight the importance of premature detection of high-risk patients and early therapeutic interventions in this population of patients.

**Table.** Radiological characteristics of patients with HCC

| Liver lesions (HCC) Number of lesions | n (%) | *location of liver lesions* Hepatic segment | n (%) |
|---|---|---|---|
| 1 lesion | 63 (70) | Segment II | 4 (6,2) |
| 2 lesions | 12 (13,3) | Segment III | 2 (3,0) |
| 3 lesions | 10 (11,1) | Segment IV | 15 (22,7) |
| 4 lesions | 2 (2,2) | Segment V | 6 (9,1) |
| 5 lesions | 2 (2,2) | Segment VI | 10 (15,2) |
| 6 lesions | 1 (1,1) | Segment VII | 16 (24,2) |
| | | Segment VIII | 13 (19,7) |
| **LIRADS** | | ***Radiological performance*** | |
| LIRADS 4* | 17 (19,3) | Arterial enhancement | 65 (72,2) |
| LIRADS 5 | 71 (80,7) | Contrast wash | 62 (68,9) |
| | | Pseudocapsule formation | 40 (44,4) |
| | | Restriction | 13 (14,4) |

* confirmed with histopathology

https://doi.org/10.1016/j.aohep.2023.101002

## P-119 LIVER TRANSPLANTATION IN ACUTE ON CHRONIC LIVER FAILURE (ACLF): RESULTS OF THE MAIN TRANSPLANT CENTER OF PERU

Carmen Ana Cerron Cabezas[1], Rosa Luz Lopez Martinez[2], Gino Salcedo Bermudez[2], Pedro Martin Padilla Machaca[1,3], Bertha Eliana Cardenas Ramirez[1], Wilmer Bacilio Calderon[1], Omar Mantilla Cruzatti[1], Jose Rivera Romani[1], Alfonso Solar Peche[1], Saul Espinoza Rivera[1], Carlos Felix Rondon Leyva[1]

[1] *Transplant Department, Guillermo Almenara National Hospital, Lima, Perú*
[2] *Intensive Care Unit, Guillermo Almenara National Hospital, Lima, Perú*

[3] *Department of Medicine, San Marcos National University, Lima, Perú*

**Introduction and Objectives:** Acute on chronic liver failure is characterized by acute decompensation of chronic liver disease, associated with different organ failure and, therefore, with high mortality. Management is based on supportive treatment and liver transplantation. Successful liver transplantation in Peru began on March 24, 2000. The ACLF consensus dates back to 2009; the first patient with ACLF transplanted in Peru was performed in January 2015; she was a 61 years old woman with cryptogenic liver cirrhosis with three organ failures, ACLF - 3, with CLIF - C ACLF score of 55 points. This study aimed to stratify the different organ failures involved in acute on chronic liver failure in patients undergoing liver transplantation as treatment.

**Materials and Methods:** Retrospective, a descriptive study from January 2015 to April 2022, included 72 adult liver transplant patients at the "Guillermo Almenara" Hospital. Patients with Hepatopulmonary Syndrome, Liver retransplant, Combined liver-kidney transplant, Hepatorenal polycystosis, SPLIT and Domino Technique, and Pediatric patients were excluded.

**Results:** Of the 72 liver transplant patients, 40.3% (29 patients) had ACLF, 12 (41.4%) type 1 patients, 5 (17.2%) type 2 patients, and 12 (41.4%) type 3 patients. Average CLIF C - ACLF 50 points. The most frequent organ failure after hepatic was cerebral with encephalopathy 2 in 12 (41.4%) patients; the next failure was coagulation with INR 2 - <2.5 in 9 (31%) patients.

**Conclusions:** Liver transplantation represents the optimal and definitive treatment. In our casuistry, 40.3% of cirrhotic patients with ACLF were transplanted, with improvement in organ failure and survival at 28 and 90 days of 100%. The average CLIF C - ACLF score of these patients was 50.4 points, with a maximum of 70 points.

| VARIABLE | ACLF 1 | ACLF 2 | ACLF 3 |
|---|---|---|---|
| Sex | | | |
| Male, n (%) | 7 (58.3) | 4 (80) | 5 (41.7) |
| Female n (%) | 5 (41.7) | 1 (20) | 7 (58.3) |
| Age | | | |
| 18 - 40 years | 2 | 1 | 2 |
| 41 - 64 years | 8 | 3 | 10 |
| >equal 65 years | 2 | 1 | - |
| MELD, average, interval | 25 (15 - 34) | 32 (26 - 38) | 32 (21 - 40) |
| Etiology of chronic liver disease | | | |
| NASH | 4 | - | 4 |
| Overlap syndrome | 3 | 2 | 2 |
| Autoimmune hepatitis | 3 | - | 3 |
| NASH - ASH | - | 1 | 1 |
| Others | 2 | 2 | 2 |
| Nunmber organ failure, average CLIF C - ACLF | | | |
| 2-Jan | 12 (43) | 5 (50) | - |
| 4-Mar | - | - | 8 (55) |
| 6-May | - | - | 4 (65) |

https://doi.org/10.1016/j.aohep.2023.101003

## P-120 ANTHROPOMETRIC AND METABOLIC PROFILE IN NON-ALCOHOLIC FATTY LIVER DISEASE

Lara Ramos de Prado,
Mariana Sophia Santos Almeida,
Ana Ester Amorim de Paula,
Maria Auxiliadora Nogueira Saad,
Rosa Leonora Salerno Soares, Priscila Pollo Flores,
Débora Vieira Soares

*Hepatic Department, Federal University of Fluminense, Fluminense, Brazil*

**Introduction and Objectives:** Non-alcoholic fatty liver disease (NAFLD) is the most frequent cause of liver disease, with a worldwide prevalence of 25%. This disease is characterized by the accumulation of fat in the hepatocyte in the absence of secondary causes such as excessive alcohol consumption, drugs, or hereditary causes and can progress to steatohepatitis with or without fibrosis, cirrhosis and even hepatocellular carcinoma. The association between NAFLD and obesity, type 2 diabetes mellitus and metabolic syndrome is well established. It is estimated that approximately 76% of individuals with obesity, mainly visceral obesity, have NAFLD. In addition, previous studies have shown that simple anthropometric measures of body fat assessment, such as body mass index (BMI), neck circumference (NC), waist circumference (WC) and waist-hip ratio (WHR), are predictors of NAFLD. This study aimed to assess the prevalence of NAFLD in obese individuals and the role of anthropometric measurements that estimate visceral fat as a predictor of NAFLD.

**Materials and Methods: Cross-sectional study. The study sample is a convenience sample:** adults over 18 years of age, followed up at the outpatient clinics of Internal Medicine and Endocrinology of the Hospital University Antonio Pedro and at risk of NAFLD (pre-diabetes, type 2 diabetes mellitus, metabolic syndrome and/or obesity). To participate in the study, it was necessary to sign an informed consent form and clinical and anthropometric assessment, metabolic profile and liver ultrasound, elastography and electrical bioimpedance tests were performed.

**Results:** The evaluation was performed on 95 patients. There is a predominance of females in relation to males (81% vs. 18.9%, respectively) and a higher prevalence of alcoholism and diabetes in males (50% and 66.6%) when compared to females (18.1% and 48%). Furthermore, there is a high prevalence of physical inactivity, smoking, hypertension and dyslipidemia in both sexes. The prevalence of hepatic steatosis in 91.30% of women and 63.6% of men who underwent abdominal ultrasounds is another important observation. Anthropometric measurements such as NC, WC, and WHR are high in both sexes. Circumferences, in cm, of the neck and waist were greater in males (medians 42 cm and 106.9 cm) compared to females (medians 36.1 cm and 105 cm).

**Conclusions:** To date, a high prevalence of patients with visceral obesity, hepatic steatosis and metabolic diseases has been observed. Regarding the anthropometric measures of visceral obesity, they are high in both sexes, proving to be an important risk factor for NAFLD. The study is ongoing and further statistical analyzes will be performed to identify the association of hepatic steatosis with cardiometabolic diseases.

https://doi.org/10.1016/j.aohep.2023.101004

## P-121 CORRELATION BETWEEN HEPATOPULMONARY SYNDROME AND OXYGEN SATURATION PULSE OXIMETRY IN CIRRHOTIC PATIENTS

Dayana Christo, Verônica Nicoli, Perla Schulz,
Andrea Vieira, Roberto da Silva Junior

*Departament of Medicine, Santa Casa de São Paulo School of Medical Sciences, São Paulo, Brazil*

**Introduction and Objectives:** Hepatopulmonary Syndrome (HPS) is a chronic and irreversible disease caused by systemic changes associated with portal hypertension, which greatly compromises patients' expectations and quality of life. It is associated with an increase in morbidity and mortality regardless of the degree of liver dysfunction. Data on the accuracy of the diagnosis of HPS in cirrhosis is limited. This study aimed to analyze the prevalence of HPS in cirrhotic patients at our service and to correlate it with oxygen saturation (SatO2) using a pulse oximeter to evaluate if this is useful as a screening test for HPS.

**Materials and Methods:** A prospective study was conducted in consecutive patients with hepatic cirrhosis, followed up on demand and selected from November 1, 2021, to May 31, 2022. All the patients underwent an oxygen saturation measurement by pulse oximetry and arterial blood gas analysis. The relationship between SatO2 and HPS was assessed.

**Results:** a total of 29 patients with clinically confirmed cirrhosis were analyzed, 16 (56%) male patients. Twenty-six (90%) patients had no symptoms related to HPS and 5 (17%) had arterial blood gas analysis criteria for HPS. The alcoholic etiology of cirrhosis was the most prevalent (52%). The mean age was 59 years. Twenty-two (76%) patients were classified as Child Pugh A and 7 (24%) as Child Pugh B. The relationship between HPS and SatO2 did not show statistical significance.

**Conclusions:** Oxygen saturation alone was not able to detect HPS in the sample of cirrhotic patients. More accurate methods for screening and diagnosis of the syndrome should be used.

https://doi.org/10.1016/j.aohep.2023.101005

## P-122 MAFLD PREVALENCE AND FACTORS ASSOCIATED WITH LIVER STEATOSIS IN PATIENTS WITH TRAUMATIC SPINAL CORD INJURY

Fernanda Barros Viana Coelho[1], Luiz Carlos Cassemiro[2], Sandro Barbosa De Oliveira[3], José Tadeu Stefano[4], Claudia Pinto Marques Souza De Oliveira[4]

[1] *Department of Internal Medicine, SARAH Network of Rehabilitation Hospitals, Brasília, Brazil*
[2] *Department of Spinal Cord Injury, SARAH Network of Rehabilitation Hospitals, Brasília, Brazil*
[3] *Department of Quality Control, SARAH Network of Rehabilitation Hospitals, Brasília, Brazil*
[4] *Department of Gastroenterology, Faculdade de Medicina, University of São Paulo (USP), São Paulo, Brazil*

**Introduction and Objectives:** Metabolic dysfunction is influenced by several factors in patients with traumatic spinal cord injury (SCI), such as physical inactivity, modification in body mass distribution, reduction of androgenic hormones, modification in intestinal microbiota, and neuro-autonomic dysfunction itself. This study aimed to determine the prevalence of MAFLD and the independent factors associated with liver steatosis in patients with traumatic SCI.

**Materials and Methods:** Patients with SCI hospitalized for rehabilitation were randomly assigned to participate. Blood samples were collected, and an abdominal ultrasound was performed. Exclusion criteria were non-traumatic spinal cord injury, less than one year since the injury and less than 18 years old. Patients answered a questionnaire about alcohol drinking and tobacco smoking, as well as a physical activity score. Student's t-test or Mann Whitney test was used to compare groups (fatty liver and non-fatty liver). The chi-square test or Fisher's exact test was used to test the homogeneity between the proportions. Variables with $p< 0.10$ in the simple regression analysis were selected and the multiple logistic regression model was done. The significance level used for the tests was 5%.

**Results:** Two hundred and twenty-five individuals were included initially, but 30 patients were excluded according to exclusion criteria. The mean age was 37 years and 82,6% were men. The prevalence of MAFLD was 17,4% in this population. Multiple logistic regression model showed that age (OR: 1,06 CI 1,03 – 1,09), body mass index (BMI) (OR: 1,21 CI 1,1 – 1,34), AST (OR: 1,07 CI 1,02 – 1,12), and HDL (OR: 0,942 CI 0,90 -0,98) were independent predictors of fatty liver in this population.

**Conclusions:** The prevalence of MAFLD in traumatic spinal cord injured patients was not higher than in the general population. Age, BMI, AST and HDL were predictors of fatty liver. This population will have better long-term survival once we better understand metabolic dysfunction.

https://doi.org/10.1016/j.aohep.2023.101006

## P-123 HEPATOCELLULAR CARCINOMA SURVIVAL: EXPERIENCE OF THE MULTIDISCIPLINARY COMMITTEE AT HOSPITAL ESPECIALIDADES EUGENIO ESPEJO IN QUITO – ECUADOR

Enrique Carrera, Jaysoom Abarca, German Abbdo, Cintya Borja, Wendy Calderon, Gabriela Camacho, Ximena Cuenca, Freddy Holguin, Natalia Hernandez, Flor Lara, Mariana Falconez, Silvya Lozada, Gabriela Quingalombo, Gabriela Orozco, Mauricio Galarza, Andrea Moreno, Darwin Quevedo, Maritza Quishpe, Fabian Tulcanazo, Cecilia Trujillo, Maria José Suarez, Gabriela Velalcazar, Walkenis Waldroph, Estibalys Zambrano

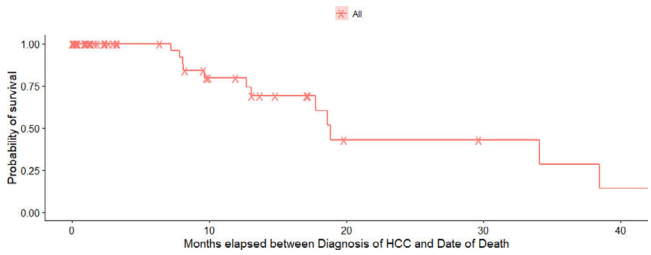
*Gastroenterology Section. Hepatobiliary Injuries Committee. Hospital of Specialties Eugenio Espejo Quito. Ecuador*

**Introduction and Objectives:** Hepatocellular carcinoma represents the most frequent primary hepatic neoplasm and occupies fifth place worldwide. Its prognosis is poor in all regions; therefore, the incidence and mortality rates are equivalent. In South America, it develops mainly in patients with cirrhosis which non-alcoholic fatty liver constitutes the main risk factor. Since 2019, Gastroenterology Section has formed a multidisciplinary team to survey and manage hepatobiliary lesions, including hepatocellular carcinoma, being the first in our country. This study aimed to determine the survival of hepatocellular carcinoma in patients evaluated by a committee in a multidisciplinary team.

**Materials and Methods:** Retrospective analytical descriptive study of cases analyzed since 2019 was performed with a diagnosis of hepatocellular carcinoma through imaging methods or liver biopsy. The Kaplan Meier survival test was used for survival analysis.

**Results:** A total of 50 cases were evaluated, including 30 men (60%) and 20 women (40%). Average age of the sample was 66.7 years. Forty individuals (80%) presented cirrhosis; among them, the main etiology was NASH (n=25, 65.5%), Alcohol (n=5, 12.5%), Cryptogenic (n=8, 20%), Hepatitis B (n=2, 5%), and non-cirrhotic (n= 10, 20%) with identified risk factors such as NASH and Hepatitis B virus. Survival rate was around 75% at 10 months for both groups. Although, females showed higher probabilities of survival at 18 months, while males at eight months. Our analyses suggest that the main factors that affected higher mortality were the level of primary education, the presence of more than five intrahepatic nodules, vascular invasion, and extrahepatic metastasis.

**Conclusions:** Results suggested that the survival of patients with liver cancer and discussed within our multidisciplinary team is higher than those patients who do not. Therefore, we recommend being able to implement this committee in the most complex hospital centers in Latin America.




https://doi.org/10.1016/j.aohep.2023.101007

## P-124 TITLE: CLINICAL CHARACTERISTICS OF CIRRHOTIC PATIENTS WITH VARICEAL BLEEDING IN A SINGLE CENTER EXPERIENCE. DESCRIPTIVE STUDY

Martin Garzon[1], Maria Lucia Bernal[2], David Ramirez[2], Geovanny Hernandez[1], Carolina Salinas[1], Jorge Ceballos[1], Enrique Ponce[1], Cristina Torres[1], Adriana Varon[1], Oscar Beltran[1]

[1] *Gastroenterology, Hepatology and Liver Transplant Department, Cardioinfantil Foundation- La Cardio, Bogotá, Colombia*
[2] *Internal Medicine Department, Cardioinfantil Foundation- La Cardio, University of Rosario, Bogota, Colombia*

**Introduction and Objectives:** The variceal bleeding mortality in cirrhotic patients continues to be 15%-20%. Standard therapy and risk stratification have decreased the failure in bleeding control, risk of rebleeding, and mortality. This study aimed to describe the clinical characteristics of cirrhotic patients with variceal bleeding between 2016 to 2019, the treatment performed, the failure to bleeding control, the risk of rebleeding, and mortality.

**Materials and Methods:** A cross-sectional study of cirrhotic patients older than 18 years with variceal hemorrhage. Demographic and clinical data were collected. We performed descriptive statistics with mean, absolute and relative frequencies.

**Results:** 92 patients were included, mean age 58 years, 54% men, CHILD PUGH A 27%, B 41% and C 29%, MELD mean 14 points; etiology of cirrhosis was alcoholic 30%, autoimmune 29%, viral 12%. Previous bleeding 42%. In secondary prophylaxis 80%, 10% of patients achieved the beta-blockade hemodynamic goal. The use of vasoactive agents was in 86% of patients, terlipressin was used in 97%. Restrictive transfusion therapy in 36%. Use of prokinetic 13%. Antibiotic prophylaxis is 90%, with ampicillin sulbactam at 84%. Digestive endoscopy was performed on average 7 hours after admission. Bleeding from esophagogastric varices 92%, GOV-2 3%, and active bleeding 45%. Successful endoscopic band ligation in 87%, cyanoacrylate in 42% of gastric varices. 38% with an indication for preemptive-TIPS, it was not performed in 56% with the clinical indication. 13% required esophageal stent placement. Rescue TIPS in 3% of patients. The rebleeding rate at five days was 10%. Mortality of 9% at six weeks.

**Conclusions:** The treatment of the patients with variceal bleeding in our single-center experience was according to the standard therapy described. Preemptive-TIPS was only considered in 44% of patients. Refractory bleeding and bleeding control failure were correlated with other studies published. Mortality was only 9%. Secondary prophylaxis and preemptive-TIPS should be reinforced when the indication exists.

https://doi.org/10.1016/j.aohep.2023.101008

## P-126 PREVALENCE OF LIVER FIBROSIS IN THE INFECTION BY THE HEPATITIS B AND C VIRUS IN GUATEMALA

Abel Sanchez[1], Katherine Maldonado[1], Johana Samayoa[2]

[1] *Gastroenterology Department, Roosevelt Hospital, Guatemala City, Guatemala*
[2] *Infectious Diseases Clinic, Roosevelt Hospital, Guatemala City, Guatemala*

**Introduction and Objectives:** It is known that patients with chronic hepatitis C virus (HCV) and hepatitis B virus (HBV) infection develop early fibrosis in the first five years of infection. The evaluation of liver fibrosis is currently reliable by noninvasive methods such as transient vibration-controlled elastography (VCTE), the Fibrosis Index 4 (FIB-4) and the Aspartate Aminotransferase-Platelet Ratio Index (APRI). In Guatemala in 2015, HCV was the main cause of chronic hepatitis, cirrhosis and liver cancer. Despite this, there are few studies on the prevalence of fibrosis in these patients. This study aimed to determine the prevalence of liver fibrosis by non-invasive methods in patients with chronic HBV and chronic HCV infection.

**Materials and Methods:** A retrospective descriptive study including patients registered in the Unit for HIV and Chronic Infections of the Hospital Roosevelt in Guatemala during the period from January 2015 to December 2020. Patients between 18 and 80 years of age were included. The non-invasive methods used were the FIB-4 index, APRI and VCTE.

**Results:** 229 patients were included, 175 with HCV infection and 54 with HBV; 50.6% were male with an average age of 56 years. 54.2% of the patients identified with fibrosis were made by the VCTE method and 45.8% by the APRI and FIB-4 methods. 48.4% of the patients with fibrosis were F4, the most frequent grade of fibrosis was F4, followed by F3 in HCV and F1 in HBV. Most of the patients with fibrosis (55%) were six months to 2 years after diagnosis of the infection. The most frequent clinical manifestation was esophageal varices (15.5%), ascites (5.0%) and upper gastrointestinal bleeding (2.9%)

**Conclusions:** There is a high prevalence of liver fibrosis and advanced fibrosis in patients with chronic infection by hepatitis B and C viruses in Guatemala, mainly in the first two years of diagnosis.

https://doi.org/10.1016/j.aohep.2023.101009

## P-129 LIVER TRANSPLANTATION IN PATIENTS WITH HEREDITARY HEMORRHAGIC TELANGIECTASIA. EXPERIENCE OF TWO CASES AT AN ARGENTINE HHT REFERRAL CENTER

Marcelo Serra[1,2,6], Juan Manuel Diaz[2,3,6], Anibal Arias[4], Martín De Santibañes[5], Eduardo De Santibañes[5], Juan Carlos Bandi[1,3,6]

[1] *Hereditary Hemorrhagic Telangiectasia Unit, Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[2] *Department of Internal Medicine, Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[3] *Section of Hepatology and Liver Transplantation, Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[4] *Department of Cardiology, Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[5] *Section of Hepatobiliary Surgery and Liver Transplantation, Department of Surgery, Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[6] *ARG Argentine Rendu Study Group, Buenos Aires, Argentina*

**Introduction and Objectives:** This study aimed to describe two cases of liver transplantation in HHT with severe hepatic involvement.

**Materials and Methods:** Hereditary hemorrhagic telangiectasia (HHT) is an autosomal dominant disease characterized by mucocutaneous bleeding telangiectasias and arteriovenous malformations in organs, including the lungs, central nervous system, liver and gastrointestinal tract. Hepatic involvement occurs in 78% of patients, of which 8% develop relevant clinical manifestations. Severe liver vascular malformations may lead to high-output cardiac failure with pulmonary hypertension, portal hypertension, or intrahepatic biliary ischemia. Although anti-angiogenic treatment with bevacizumab can

improve symptoms, liver transplantation (LT) emerges as a definitive treatment with Improvement in cardiac function. Liver transplant patients' timing and proper selection are crucial and represent a challenge. We report two cases of liver transplantation in HHT with severe hepatic involvement.

**Results:** Patient 1 (P1) was a 47-year-old male, and patient 2 (P2) was a 37-year-old female with multiple arteriovenous malformations (AVMs). Cardiac index (CI) and cardiac output were 6.8, 9.5 (L/min/m2), and 5.8, 9.3(L/min) in P1 and P2, respectively, associated with dilated cardiomyopathy with mean pulmonary hypertension of 60 mmHg in P1 and 33 mmHg in P2. Additionally, both presented portal hypertension and ischemic biliopathy refractory to medical treatment. They also received bevacizumab one year before LT, showing marked clinical improvement. P1 was anticoagulated due to a mechanical aortic valve. After intensive diuretic therapy, the mean pulmonary pressure was 35 mmHg in P1. Natural MELD was 11 in both patients, and additional MELD was 26 and 28, respectively. Six hours of orthotopic liver transplant with cava preservation and a high-quality donor were performed. Only 1 and 3 units of red cells were transfused, respectively, with non-hemorrhagic perioperative events observed. Post-transplant complications in P1 included vasoplegic shock, splenic steal (solved with artery embolization), and reversible renal failure due to hypotension and tacrolimus, while P2 presented a mild reversible cellular rejection. Tacrolimus was prescribed for both cases due to its antiangiogenic properties. Pre LT clinical characteristics are shown in Table 1. Pre LT and Post LT hemodynamic and echocardiographic parameters are shown in Table 2. After 56 months, P1 is in good clinical conditions CI of 5.6 (L/min/m2), and low doses of diuretic requirements. P2 was discharged ten days post-transplantation and, after 43 months, is in an excellent performance with a CI of 3.31 (L/min/m2).

**Conclusions:** We provide data about the applicability and timing of liver transplantation in selected patients with HHT with severe hepatic involvement. According to our knowledge, this is the first Latin American report of liver transplantation in HHT. Despite the high risk of bleeding, highlight the low rate of perioperative transfusion requirements in both cases.

https://doi.org/10.1016/j.aohep.2023.101010

## P-130 CONGENITAL PORTOSYSTEMIC SHUNTS: EXPERIENCE IN A THIRD LEVEL CHILDREN`S HOSPITAL

Micaela Wisniacki[1], Carol Lezama Elecharri[1], Marcela Galoppo[1], Maria Solaegui[1], Alejandra Pedreira[1], Sabrina Torres[1], Eduardo Galli[2], Guillermo Eiselle[2], Fabian Salgueiro[3], Carlos Luque[3], Elena De Mateo[4]

[1] *Liver Unit, Ricardo Gutierrez Children's Hospital, Buenos Aires, Argentina*
[2] *Interventionist Medicine Unit, Ricardo Gutierrez Children's Hospital, Buenos Aires, Argentina*
[3] *Surgery Unit, Ricardo Gutierrez Children's Hospital, Buenos Aires, Argentina*
[4] *Pathology Department, Ricardo Gutierrez Children's Hospital, Buenos Aires, Argentina*

**Introduction and Objectives:** Congenital Portosystemic Shunts (CPSS) are rare vascular malformations that involve communication between the portal and the systemic venous system. Patients with this condition may be asymptomatic or present with severe complications such as hepatic encephalopathy (HE), hepatopulmonary syndrome (HPS), pulmonary arterial hypertension (PAH), or liver nodules (LN). This study aimed to share our experience in the diagnosis and treatment of patients with CPSS.

**Materials and Methods:** This is an observational, retrospective study including patients diagnosed with CPSS between 2011 and 2022 in our hospital.

**Results:** We present nine children between three months and sixteen years old at the time of diagnosis, which was incidental in four patients and due to CPSS complications in five patients: two presented HE, one HPS and two with LN (one adenoma and one focal nodular hyperplasia). According to the Bicetre classification, four cases were type I, three were type II and two were type IV. Six patients had CPSS-related congenital cardiopathies, one had polysplenia, and another patient had severe scoliosis. Two patients had genetic syndromes: Down Syndrome and Turner Syndrome. We obtained an angioCT or angioMRI in all cases; eight patients also underwent an interventionist study. Four patients underwent shunt closure; one patient was by interventionist radiology and the other three were by conventional surgery, as closure by interventionist radiology was not feasible. Both HPS and HE resolved after closure. Two of the other six patients died of cardiac complications, and none of the other patients have presented CPSS complications to date and are under evaluation for treatment strategies.

**Conclusions:** As CPSS is a rare condition, it is advisable to consider a high diagnostic suspicion, mainly in patients with cardiovascular malformations and/or hyperammonemia of undetermined cause. Abdominal Doppler ultrasound should be considered as a baseline study. Given the complexity of the condition, a multidisciplinary approach is recommended.

https://doi.org/10.1016/j.aohep.2023.101011

## O-1 ECONOMIC IMPACT OF LONG-TERM ALBUMIN INFUSIONS IN PATIENTS WITH DECOMPENSATED CIRRHOSIS AND UNCOMPLICATED ASCITES FROM THE BRAZILIAN PUBLIC AND PRIVATE HEALTHCARE SYSTEMS PERSPECTIVES

Carlos Terra[1,2], Elisabet Viayna[3], Laura Ayzin[4], Cristina Fuster[5], Susana Aceituno[6], Maria Soler[6], Claudio Tafla[7]

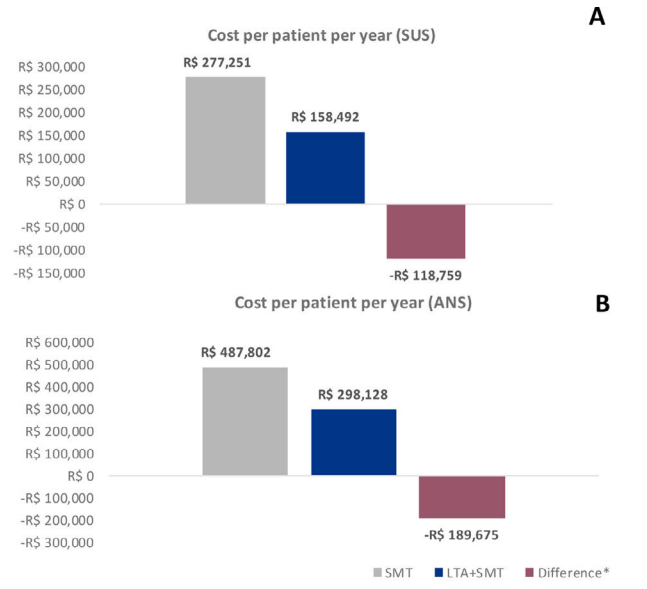
[1] *Liver Unit, Gastroenterology Department, Rio de Janeiro State University, Rio de Janeiro, Brazil*
[2] *Liver Unit of Casa de Saúde São José, Rio de Janeiro, Brazil*
[3] *Health Economics and Outcomes Research, Scientific and Medical Affairs, Grifols S.A., Sant Cugat Del Vallès, Spain*
[4] *International Market Access, Grifols International, Sant Cugat Del Vallès, Spain*
[5] *Scientific and Medical Affairs, Grifols S.A., Sant Cugat Del Vallès, Spain*
[6] *Health Economics and Outcomes Research, Outcomes'10, Castellón de La Plana, Spain*
[7] *Medical Director, Nilo Saúde, Sao Paulo, Brazil*

**Introduction and Objectives:** Liver cirrhosis is among the most common liver-related causes of death and is associated with severe complications that entail a major burden for patients and healthcare systems. The ANSWER trial showed that long-term human albumin infusions (LTA) (40g twice/week for two weeks followed by 40g/week for up to 18 months) added to standard medical treatment (SMT) managed to significantly reduce mortality and disease-related complications in patients with cirrhosis and uncomplicated ascites. Assess the economic impact of implementing LTA following the ANSWER protocol in patients with cirrhosis and uncomplicated ascites in Brazil from the public (SUS) and private (ANS) healthcare systems perspectives.

**Materials and Methods:** Cost/patient/year was calculated for patients treated with LTA+SMT and compared to those treated with SMT only. Incidence of clinical complications and healthcare resource utilization (HCRU) were gathered from the ANSWER trial. Pharmacological costs (spironolactone, furosemide, human albumin) were gathered from the "Health Care Price Bank" and CMED. Costs of clinical complications (spontaneous bacterial peritonitis, other bacterial infections, hepatic encephalopathy, renal dysfunction, hepatorenal syndrome, refractory ascites) and other HCRU (LTA administration visit, large volume paracentesis, hospitalizations) were gathered from the literature and ANS. All costs were transformed to 2021 Brazilian Reals (R$). A univariate sensitivity analysis was performed by applying a 20% increase/decrease to all variables.

**Results:** The overall cost for patients treated with LTA+SMT was R$118,759 and R$189,675 lower than that for patients treated with SMT only for SUS and ANS, respectively. The additional cost of LTA (R$30,767 and R$59,897, respectively) was compensated by a reduction in complications and HCRU (R$149,526 and R$249,572, respectively).

**Conclusions:** Our study suggests that should the clinical outcomes of the ANSWER trial translate to real-world effectiveness, LTA administration to patients with cirrhosis and uncomplicated ascites may lead to cost savings for the SUS and ANS in Brazil.




**A**: cost per patient per year treated with SMT and SMT + LTA and incremental difference from the public healthcare system perspective (SUS). **B**: cost per patient per year treated with SMT and SMT + LTA and incremental difference from the private healthcare system perspective (ANS).
LTA: Long-term albumin; SMT: Standard Medical Treatment
*SMT+LTA vs SMT: negative values indicate savings

https://doi.org/10.1016/j.aohep.2023.101012

## O-2 CHARACTERIZATION OF SERUM LEVELS OF BILE ACIDS, EXTRACELLULAR VESICLES AND ITS CARGO IN ALCOHOL-ASSOCIATED LIVER DISEASE

Jorge Arnold[1], Luis Antonio Díaz[1], Francisco Idalsoaga[1], María Ayala Valverde[2], Gustavo Ayares[1], Paula Rivera[1], Nancy Solís[1], Fidel Allende[3], Sandra Solari[3], Marco Arrese[1], Juan Pablo Arab[1,4]

[1] *Departamento de Gastroenterología, Escuela de Medicina, Pontificia Universidad Católica de Chile, Santiago, Chile*
[2] *Internal Medicine Service, El Pino Hospital. Critical Patient Unit, Dávila Clinic. Santiago, Chile*
[3] *Departamento de Laboratorios Clínicos, Escuela de Medicina, Pontificia Universidad Católica de Chile, Santiago, Chile*
[4] *Division of Gastroenterology, Department of Medicine, Schulich School of Medicine, Western University & London Health Sciences Center, London, Ontario, Canada*

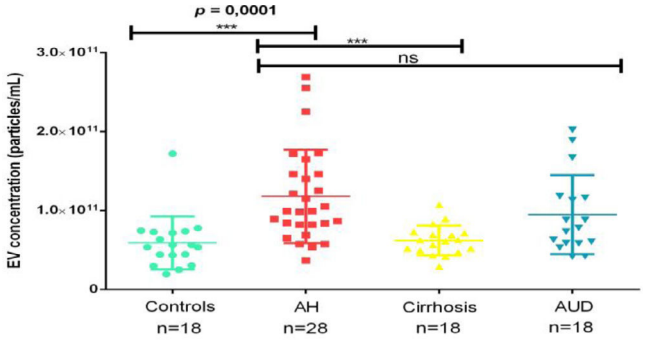
**Introduction and Objectives:** Alcohol consumption is among the five main factors responsible for the burden of disease and mortality. It is associated with changes in serum bile acids, and in recent years, extracellular vesicles (EV's) and their Cargo have shown special interest in various lines of research due to their role in intercellular communication. This study aimed to characterize the serum levels of bile acids, changes in their composition, extracellular vesicles and their cargo in alcohol-associated liver disease (ALD).

**Materials and Methods:** Prospective cohort, years 2019-2021. They were divided into four groups; control group, alcohol-associated hepatitis (AH), alcohol-related cirrhosis, and alcohol use disorder (AUD). Measurement of serum bile acids and C4 was performed through Liquid Chromatography /Tandem Mass Spectrometry, serum measurement of FGF19 and the serum concentration of extracellular vesicles through NTA (nanoparticle tracking analysis) and their cargo of bile acids.

**Results:** A greater concentration of total bile acids was measured in the AUD group (1366.28 ng/ml) compared to the control group (552.42 ng/ml) (p = 0.003). The concentration of chenodeoxycholic acid is higher in the group of patients with AH (734.23 ng/ml) (p=0.04). The EV's concentration is higher in the HA groups (1.292 E^11 ± 6.4E^10 particles/ml) and in AUD (9.9E^10+ 4.9E^ particles/ml) (p=0.005). It was possible to analyze the Cargo of BA in exosomes with proportional differences between the groups.

**Conclusions:** Serum bile acids, both in concentration and composition, are modified in patients with AUD and HA, respectively; both present a higher concentration of exosomes, which could be a hepato-specific, dynamic and potentially prognostic biomarker in subjects with ALD.

**Figure 1.**




https://doi.org/10.1016/j.aohep.2023.101013

## O-4 CLINICAL, HISTOLOGICAL AND SEROLOGICAL FEATURES OF AUTOIMMUNE-LIKE ACUTE LIVER INJURY AFTER SARS-COV-2 VACCINATION

Marlene Padilla Lopez[1,4], Natalia Sobenko[1,4], Lucrecia Garcia Olivera[2], Agustina Martinez Garmendia[4], Eduardo Mullen[3], Paola Casciato[1,4], Sebastian Marciano[4], Alejandra Villamil[1,4]

[1] *Hepatic Autoimmunity Unit, Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[2] *La Pequeña Familia Junín Clinic, Province of Buenos Aires, Argentina*
[3] *Department of Anatomic Pathology, Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[4] *Section of Hepatology, Buenos Aires Italian Hospital, Buenos Aires, Argentina*

**Introduction and Objectives:** Acute autoimmune-like liver injury has been increasingly reported after vaccination against SARS-CoV-2. Pathogenesis, steroid requirement and long-term prognosis are unknown. This study aimed to evaluate clinical, serological and histological features, response to treatment and prognosis in patients with post-vaccination acute hepatitis.

**Materials and Methods:** We included patients without known pre-existing liver diseases with transaminase levels ≥ 2.5 upper limits of normal within 90 days after the SARS-CoV-2 vaccine with an available liver biopsy. Clinical data and outcomes after a six months follow-up were collected.

**Results:** 17 patients were included,12 females, median age 60 (51,5/66) exposed to vectorial (Sputnik V n=7, AstraZeneca n=6), inactivated (Sinopharm n=3) or ARNm Vaccines (Moderna=1). In 8 patients, liver injury developed after the first dose and in 7 after the second dose and in 2 after the third dose. The median time to the development of injury was 33(23,50/53,50) days. Eight patients had a history of extrahepatic autoimmune disease and five patients had metabolic syndrome and used statins. Immune serology showed anti-antinuclear antibody in 10 (58,8%), anti-smooth muscle antibody in 5(29,4%). 14/17 patients presented with elevated IgG levels. Liver histology showed lobular hepatitis in 13/17, portal hepatitis in 17/17 with plasmocytic lymphocytic infiltrate and 4/17 had eosinophils, 6/17 with severe interface hepatitis, and one patient had fibrosis Ishak stage ≥3. 12/17 (70,5%) were treated with steroids. Transaminases improved in 17 cases and normalized in 6/12 by month 6. Only 1/17 developed liver function deterioration, yet no patient required liver transplantation. Most patients tolerated the tapering of steroids and in 6 azathioprine was started before month 3.

**Conclusions:** Long-term follow-up might help to differentiate between induced classical autoimmune hepatitis, autoinflammatory self-limited events, or drug-induced liver injury in these patients.

https://doi.org/10.1016/j.aohep.2023.101014

## O-5 INTEGRATED ANALYSIS OF ARCHAEAL, FUNGAL AND PROTOZOAN GUT TRANSCRIPTOME IN METABOLIC ASSOCIATED FATTY LIVER DISEASE (MAFLD) IN ARGENTINA

Bárbara Suárez[1,2], María Florencia Mascardi[1,2], Flavia Noelia Mazzini[1], M. Ruda Vera[3,4], Sebastián Marciano[5], Paola Casciato[2,5], Adrián Narvaez[5], Leila Haddad[5], Margarita Anders[6], Federico Orozco[6], Ana Jesica Tamaroff[7], Frank Cook[8], John Gounarides[8], Susana Gutt[7], Adrián Gadano[5], Celia Mén dez García[4,9], Martin L. Marro[10,11], Alberto Penas Steinhardt[2,12], Julieta Trinks[1,2]

[1] *1 Institute of Translational Medicine and Biomedical Engineering (IMTIB) - Conicet University Institute of the Italian Hospital. Buenos Aires Italian Hospital. Buenos Aires, Argentina*
[2] *National Council for Scientific and Technical Research (CONICET), Buenos Aires, Argentina*
[3] *Biotherapeutic and Analytical Technologies, Novartis Institutes for Biomedical Research, Cambridge (NIBR), MA, United States of America*
[4] *Chemical Biology & Therapeutics, NIBR, Cambridge, MA, United States of America*
[5] *Liver Unit of Buenos Aires Italian Hospital. Buenos Aires, Argentina*
[6] *Liver Unit of German Hospital, Buenos Aires, Argentina*
[7] *Nutrition Department of Buenos Aires Italian Hospital. Buenos Aires, Argentina*
[8] *Analytical Sciences & Imaging Department, NIBR, Cambridge, MA, United States of America*
[9] *Chemical Biology & Therapeutics, NIBR, Basel, Switzerland*
[10] *Cardiovascular and Metabolic Disease Area, NIBR, Cambridge, MA, United States of America*
[11] *Tectonic Therapeutic, Inc., Watertown, MA, United States of America*
[12] *National University of de Luján, Basic Sciences Department. Computational Genomics Laboratory, Luján, Buenos Aires, Argentina*

**Introduction and Objectives:** Fungi, archaea and protozoa are the least known members of the gut microbiome, but they could represent a niche for biomarkers discovery to risk-stratify MAFLD patients. This study aimed to identify gut metatranscriptomic signatures in MAFLD patients from Argentina.

**Materials and Methods:** Stool samples, diet, demographic and clinical data were obtained from 33 biopsy-proven MAFLD patients (12 simple steatosis (SS) / 21 steatohepatitis (SH)) and 19 healthy volunteers (HV). PNPLA3 rs738409 SNP was genotyped. RNA-seq was performed in NovaSeq6000®. Data were analyzed with Maaslin2-v1.2.0, bioBakery-v1.8 and DESeq2-v4.1.

**Results:** BMI was higher among MAFLD patients than in HV ($q=4.49 \times 10^{-6}$). The risk GG genotype of PNPLA3-SNP was more prevalent among SH (q=0.0198). In MAFLD patients and in subjects with the GG genotype, differentially expressed genes (DEGs) of fungi, such as *Fusarium proliferatum* and *Candida sorbophila*, were up-regulated (q<0.01). After comparing transcript abundance, *Saccharomucetaceae* was the most active family among MAFLD patients, whereas *Aspergillaceae* family prevailed in HV. DEGs of methanogenic archaea and protozoa, such as *Fonticula alba* and *Blastocystis spp.*, were highly expressed in MAFLD and SH after comparing them to HV and SS groups, respectively. The analysis of the functionally active protozoan families revealed that the *Blastocystidae* and *Fonticulidae* families were more functionally abundant in MAFLD and SH groups after comparing to HV and SS, respectively (Figure exhibits the statistically significant differences between groups). In subjects with the GG genotype, DEGs of *Fonticula alba* were up-regulated and those of *Blastocystis spp*. were less expressed after comparing to those with CC/CG genotypes. In SH, functional profiling of archaeal and fungal DEGs revealed an over-representation of viral capsid assembly and phage shock processes, whereas copper metabolism, peptidoglycan turnover and non-autophagic vacuolization were enriched by protozoan DEGs.

**Conclusions:** The switch in microbiome signatures characteristic of MAFLD onset and progression is achieved through the activity of several community members.

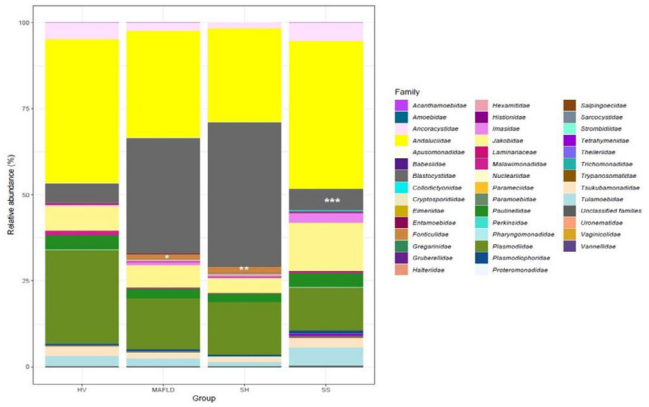



**Figure.** Relative abundance of the most prevalent functionally active protozoan families. * FDR = 1.26 × 10-7 when compared to HV, ** FDR = 2.9 × 10-18 when compared to SS, and *** FDR = 7.1 × 10-6 when compared to SH.

https://doi.org/10.1016/j.aohep.2023.101015

## O-6 ENHANCED METABOLISM OF AROMATIC AMINO ACIDS AND LOW-DIVERSITY GUT MICROBIOTA: SIGNATURES OF HEPATIC ENCEPHALOPATHY IN DECOMPENSATED CIRRHOTIC PATIENTS FROM WESTERN MEXICO

Tonatiuh Abimael Baltazar-Díaz[1], Luz Alicia González-Hernández[2], Juan Manuel Aldana-Ledesma[3], Donovan Cortina-Romero[1], Marcela Peña-Rodríguez[4], Alejandra Natali Vega-Magaña[5], Sara Minia Zepeda-Morales[6], Rocío Ivette López-Roa[6], Susana Del Toro-Arreola[1], Miriam Bueno-Topete[1]

[1] *Institute for Research in Chronic-Degenerative Diseases, University Center of Health Sciences, Guadalajara University, Guadalajara, México*
[2] *VIH Unit, Civil Hospital of de Guadalajara Fray Antonio Alcalde, Guadalajara, México*
[3] *Gastroenterology Service, Civil Hospital of Guadalajara Fray Antonio Alcalde, Guadalajara, Mexico*
[4] *Laboratory for the Diagnosis of Emerging and Reemerging Diseases, University Center of Health Sciences, University of Guadalajara, Guadalajara, Mexico*
[5] *Biomedical Sciences Research Institute, University Center of Health Sciences, University of Guadalajara, Guadalajara, Mexico*
[6] *Pharmaceutical Research and Development Laboratory, University Center of Exact Sciences and Engineering, University of Guadalajara, Guadalajara, Mexico*

**Introduction and Objectives:** Alterations in the intestinal microbiota in decompensated cirrhosis are recognized as being critical in clinical evolution. The onset of hepatic encephalopathy (HE) worsens the prognosis. Metabolic functions related to intestinal microbiota, such as ammonia production and imbalance of amino acid biosynthesis, are believed to play a key role on the pathophysiology of HE. This study aimed to evaluate the composition and functions of the intestinal microbiota in patients with decompensated cirrhosis and HE.

**Materials and Methods:** Fecal samples from 31 decompensated cirrhotic patients (20 with HE, 11 without HE) and 18 age-balanced healthy controls (HC) were included. Microbial composition was characterized by 16S rRNA sequencing and analyzed using QIIME2. Metabolic pathways were inferred by PICRUSt2. SCFAs quantification was performed by gas chromatography (GC).

**Results:** Intestinal microbiota in HE group was characterized by a decreased $\alpha$-diversity, compared to no-HE group ($p<0.01$) and HC ($p<0.001$); $\beta$-diversity was also different between HE vs. no-HE group ($p<0.05$) and HE vs. HC ($p<0.001$). Intestinal microbiota from HE was defined by the presence of taxa such as *Escherichia/Shigella*, Burkholderiales and Lactobacillales. Furthermore, no-HE was characterized by the presence of *Veilonella* and *Bacteroides*. Both groups were depleted of potential beneficial taxa, such as *Ruminococcus* or *Faecalibacterium*, which correlates with diminished levels of fecal SCFAs in these groups. Inferred metabolic pathways showed that HE group was characterized by an enhanced chorismate metabolism, which is a key precursor of aromatic amino acids, along with antibiotic resistance and ammonia-producing pathways. HE and no-HE group showed a significant increase in the metabolism of lipopolysaccharides.

**Conclusions:** The intestinal microbiota of HE patients exhibit a lower diversity compared with no-HE and HC. It is dominated by *Escherichia/Shigella* and characterized by an enhanced metabolism of aromatic amino acids precursors and ammonia-producing pathways, which suggests its participation in the pathophysiology of HE. These results are described for the first time in western Mexico.

https://doi.org/10.1016/j.aohep.2023.101016

## O-7 LIVER TOXICITY OF TYROSINE KINASE INHIBITORS: A DESCRIPTIVE ANALYSIS FROM SLATINDILI NETWORK

Nelia Hernández[1], Fernando Bessone[2], Daniela Chiodi[1], Norberto Tamagnone[2], Inmaculada Medina-Caliz[3], María Isabel Lucena[3], Raúl Andrade[3]

[1] *Gastroenterology Clinic, Clinic's Hospital, University of the Republic, Montevideo, Uruguay*
[2] *Department of Gastroenterology, Centenary Hospital, National University of Rosario, Rosario, Argentina*
[3] *Digestive System CMU, Clinical Pharmacology Service, Institute of Biomedical Research Institute of Malaga and Nanomedicine Platform-IBIMA. BIONAND Platform, Virgen de la Victoria University Hospital, University of Malaga, ciberehd. Malaga, Spain*

**Introduction and Objectives:** Tyrosine kinases (TKs) are a family of proteins with a critical role in controlling cancer phenotypes, and many TK inhibitors (TKI) as anti-cancer agents are available. Mandatory black box warning has been issued for some TKI since 2012, and DILI is the most frequent adverse event quoted. This study aimed to describe the most crucial aspects of DILI linked to TKI in the SLATINDILI registry.

**Materials and Methods:** We revised data concerning liver injury related to any TKI in the SLATINIDLI registry and consigned epidemiological information, latency, implied drug, biochemical, severity, and evolution.

**Results:** From thirteen cases identified, imatinib and pazopanib represented four and three cases each. The mean age was 58 years, and eleven were female. Median latency was 64 days, with median ALT and ALP at the onset of 452 U/L (range 233-941) and 199 U/L (range 85-1621), respectively; a hepatocellular pattern was seen in

ten cases. Autoimmune/Allergic features were present in seven patients. Resolution of liver injury occurred on an average of 183 days. No death was consigned. Liver function tests (LFTs) worsened during an initial period (>7 days) after drug withdrawal in six patients (cases 1,2,3,5,9 and 12), and two of them were treated with corticoids. Table 1 resumes data.

**Conclusions:** Hepatocellular acute liver injury with/without jaundice is the most common presentation of DILI linked to TKI. Clinicians should be aware that LFTs may worsen after drug withdrawal and monitor these patients before making a treatment decision.

Age /Sex

**Table**

| | Age /Sex | TKI /Likelihood Score* | Indication | Latency (days) | Pattern | TB onset/peak | ALT U/L onset/peak | Resolution (days) |
|---|---|---|---|---|---|---|---|---|
| r1* | 61/F | IMATINIB/B | Leukemia | 92 | HC | 1/11 | 791/880 | 510 |
| 2* | 73/F | IMATINIB/B | Renal cancer | 124 | HC | 1.85/3.19 | 941/988 | 138 |
| 3* | 58/M | MASITINIB/- | ALS | 14 | HC | 0.4/0.4 | 351/436 | 230 |
| 4 | 50/F | BOSUTINIB/D | Leukemia | 43 | HC | 0.3/0.3 | 233/233 | 169 |
| 5* | 28/F | IMATINIB/B | Leukemia | 176 | HC | 3.6/24 | 658/658 | 217 |
| 6 | 68/M | PAZOPANIB/C | Renal cancer | 64 | M | 3.7/3.7 | 775/445 | - |
| 7 | 75/F | PAZOPANIB/C | Renal cancer | 44 | M | 11/11 | 508/508 | 203 |
| 8 | 75/F | PAZOPANIB/C | Renal cancer | - | HC | 3.8/3.8 | 403/403 | 204 |
| 9* | 40/F | LENVATINIB/D | HCC | 42 | HC | 2.5/12.6 | 750/750 | 120 |
| 10 | 65/F | IMATINIB/B | Breast cancer | 150 | HC | 0.89/0.89 | 452/452 | 62 |
| 11 | 70/F | BOSUTINIB/D | Leukemia | 112 | - | 0.3/0.3 | 341/341 | 83 |
| 12* | 49/F | PALBOCICLIB/ | Breast cancer | 28 | HC | 0.37/0.96 | 281/1796 | 76 |
| 13 | 41/F | CABOZANTINIB/E | Renal cancer | 84 | HC | 0.34/0.34 | 247/247 | - |

*Likelihood of association with DILI, based upon the known potential of the drug to cause such injury. HCC hepatocellular carcinoma; ALS amyotrophic lateral sclerosis; HC hepatocellular pattern; M mixed pattern; M male; F: female.

https://doi.org/10.1016/j.aohep.2023.101017

## O-8 CHARACTERIZATION AND EPIDEMIOLOGICAL CHANGES OF PATIENTS WITH HEPATITIS C VIRUS TREATED IN THE CHILEAN PUBLIC HEALTH SYSTEM FROM 2016 TO 2021.

Luis Salazar[1], Carlos Valdebenito[1], Alejandro Carvajal[1], Gonzalo Veloso[1], Herman Aguirre[1], Gabriel Mezzano[2,3]

[1] *Training Program in Adult Gastroenterology, University of Chile, Santiago, Chile*
[2] *Gastroenterology and Liver Transplantation Unit, Hospital del Salvador – University of Chile, Santiago, Chile*
[3] *Center for Digestive Disease Clinic, University of The Andes, Santiago, Chile*

**Introduction and Objectives:** International studies have described an epidemiological change in patients with the hepatitis C virus (HCV), with greater involvement of young people and risk groups. The reality in Latin America, particularly in Chile, is unknown. This study aimed to epidemiologically characterize HCV patients treated in the Chilean public health system (period 2016-2021) and compare these characteristics in two periods (2016 - 2019 vs. 2020 - 2021).

**Materials and Methods:** Historical cohort was constructed based on national data and the Hospital del Salvador registry (Santiago, Chile) (n=410). All patients diagnosed with HCV treated in the Chilean public system (2016-2019) and those treated at Hospital del Salvador (2020-2021 period) were included. It was registered: year of diagnosis, age, sex, presence of cirrhosis, HCV genotype, co-infection with hepatitis B virus (HBV) and/or HIV, need for a liver transplant, or intratreatment dead. Both periods were compared using the Mann-Whitney U test or Fisher's exact test, as appropriate.

**Results:** 61.2% of patients were male, with a median age of 57 years. 73.5% presented genotype 1 and 11.6% genotype 4. There was a 19.3% coinfection with HIV. Only 1.4% had therapy failure at 24 weeks and 5.2% of patients underwent liver transplantation. When comparing the periods 2016 – 2019 vs. 2020 – 2021 a reduction in the median age 59 vs 49 (p<0.001) was observed, with a higher proportion of male gender 79.0% vs 51.7% (p<0.001). There is evidence of change in the proportion of the genotypes, with genotype four being the second most frequent after genotype 1. The presence of co-infection with HIV was 49.7% vs. 3.0% (p<0.001) and HBV/HIV 15.5% vs. 0.8% (p<0.001). There was no difference in the percentage of sustained viral response (Table 1).

**Conclusions:** There is an epidemiological change in HCV patients, which suggests different routes of transmission and the need to refocus screening.

**Table 1:** Result and comparison of socio-demographic and clinical variables between the periods 2016-2019 and 2020-2021.

| | Total (n = 410) | Period 2016-2019 (n = 267) | Period 2020-2021 (n = 143) | p-value |
|---|---|---|---|---|
| Age (years), median (p25, p75) | 57 (46, 64) | 59 (52, 66) | 49 (36, 61) | <0.001 |
| Male, n(%) | 251 (61.2%) | 138 (51.7%) | 113 (79.0%) | <0.001 |
| Period years, n(%) | | | | |
| 2016 | 48 (11.7%) | - | - | |
| 2017 | 26 (6.3%) | - | - | |
| 2018 | 183 (44.6%) | - | - | |
| 2019 | 10 (2.4%) | - | - | |
| 2020 | 71 (17.3%) | - | - | |
| 2021 | 72 (17.6%) | - | - | |
| Genotype, n (%) | | | | <0.001 |
| 1 | 285 (73.5%) | 209 (78.9%) | 76 (61.8%) | |
| 2 | 7 (1.8%) | 4 (1.5%) | 3 (2.4%) | |
| 3 | 50 (12.9%) | 36 (13.6%) | 14 (11.4%) | |
| 4 | 45 (11.6%) | 15 (5.7%) | 30 (24.4%) | |
| 3 and 4 | 1 (0.3%) | 1 (0.4%) | 0 (0.0%) | |
| HBV co-infection, n (%) | 17 (4.1%) | 3 (1.1%) | 14 (9.8%) | <0.001 |
| HIV co-infection, n (%) | 79 (19.3%) | 8 (3.0%) | 71 (49.7%) | <0.001 |
| HIV-HBV co-infection, n (%) | 15 (4.4%) | 2 (0.8%) | 13 (15.5%) | <0.001 |
| Cirrhosis, n (%) | 214 (54.7%) | 183 (68.5%) | 31 (25.0%) | <0.001 |
| Failure at 12 weeks, n (%) | 9 (2.8%) | 8 (3.8%) | 1 (0.9%) | 0.17 |
| Failure at 24 weeks, n (%) | 4 (1.4%) | 3 (1.5%) | 1 (1.3%) | 1.00 |
| Use of rescue therapy, n (%) | 139 (35.2%) | 256 (95.9%) | 0 (0.0%) | <0.001 |
| Liver transplant, n (%) | 21 (5.2%) | 20 (7.5%) | 1 (0.7%) | 0.002 |
| Kidney transplant, n (%) | 1 (0.2%) | 1 (0.4%) | 0 (0.0%) | >0.999 |
| Other outcomes, n (%) | | | | 0.495 |
| Therapy failure | 12 (3.4%) | 10 (4.3%) | 2 (1.6%) | |
| SVR | 334 (93.3%) | 216 (92.3%) | 118 (95.2%) | |
| Discontinues treatment | 5 (1.4%) | 4 (1.7%) | 1 (0.8%) | |
| Deads | 7 (2.0%) | 4 (1.7%) | 3 (2.4%) | |

https://doi.org/10.1016/j.aohep.2023.101018

## O-9 THE CHANGING EPIDEMIOLOGY OF HEPATOCELLULAR CARCINOMA IN SOUTH AMERICA: A REPORT FROM THE SOUTH AMERICAN LIVER RESEARCH NETWORK

Enrique Carrera Estupinan[1], Angelo Mattos[2], Javier Diaz Ferrer[3], Marina Farah[4], Domingo Balderramo[5], Estefania Liza Vaca[3], Marco Arrese Jimenez[6], Jhon Prieto Ortiz[7], Jose Debes[8]

[1] *Department of Gastroenterology and Hepatology, Eugenio Espejo Hospital, Quito, Ecuador*
[2] *Department of Gastroenterology, Federal University of Health Sciences of Porto Alegre, Porto Alegre, Brazil*
[3] *Department of Gastroenterology, National Hospital Edgardo Rebagliati Martins, Jesús María, Perú*
[4] *American University of Beirut*
[5] *Private University Hospital of Córdoba. University Institute of Biomedical Sciences of Córdoba. Córdoba, Argentina*
[6] *Department of Gastroenterology, Pontifical Catholic University of Chile. Santiago, Chile*
[7] *Liver and Digestive Disease Center (CEHYD), Bogotá, Colombia*
[8] *Department of Medicine, University of Minnesota. Minnesota, USA*

**Introduction and Objectives:** Hepatocellular carcinoma (HCC) is a leading cause of cancer-related death worldwide and most epidemiological data originates from resource-rich countries. We have previously described the epidemiology of HCC in South America through the South American Liver Research Network (SALRN). Here, we provide an update on the changing epidemiology of HCC in the continent over the last two years.

**Materials and Methods:** We evaluated HCC cases diagnosed between 2019 to 2021 in six centers from six countries in South America. A retrospective chart review of patient characteristics at the time of HCC diagnosis, including demographic, clinical and laboratory data, was completed. Diagnosis of HCC was made radiologically or histologically for all cases via institutional standards. Each center provided ethical approval for the study.

**Results:** A total of 339 HCC cases were included [Peru 37% (n = 125), Brazil 16% (n = 57), Chile 15% (n =51), Colombia, 14% (n = 48), Ecuador 9% (n = 29) and Argentina, 9% (n = 29)]. 61% of patients were male and the median age of diagnosis was 67 years (IQR 59-73). The most common risk factor for HCC was nonalcoholic fatty liver disease NAFLD (37%), followed by Hepatitis C infection (17%), alcohol use disorder (11%) and Hepatitis B infection (12%). The proportion of NAFLD-related HCC was much higher than in our previous report (37% compared to 11%). The majority of HCCs occurred in the setting of cirrhosis (80%), and the most common cause of non-cirrhotic HCC was HBV (31%) and NAFLD (28%). HBV-related HCC occurred at a younger age compared to other causes, with a median age of 46 years (IQR 36-64).

**Conclusions:** We report changes in the epidemiology of HCC in South America over the last 10 years, with a substantial increase in NAFLD-related HCC. HBV-related HCC still occurs at a much younger age when compared to other causes.

https://doi.org/10.1016/j.aohep.2023.101019

## O-10 SIMILAR RISK RECLASSIFICATION OF HCC RECURRENCE BETWEEN THE AFP SCORE AND METROTICKET 2.0 AT LISTING AND AT LAST REASSESSMENT

Federico Piñero[1], Charlotte Costentin[2], Helena Degroote[3], Quirino Lai[4], Fernando Rubinstein[5], Christophe Duvoux[6]

[1] *Austral Universitary Hospital, School of Medicine, Austral University, Argentina and Latin American Liver Research Educational and Awareness Network (LALREAN). Buenos Aires, Argentina*
[2] *Grenoble Alpes University; Institute for Advanced Biosciences, Research Center UGA/Inserm U 1209/CNRS 5309; Gastroenterology, Hepatology and GI oncology department, Digidune, Grenoble Alpes University Hospital; La Tronche, France*
[3] *Department of Hepatology and Gastroenterology, Ghent University Hospital, Ghent, Belgium*
[4] *General Surgery and Organ Transplantation Unit, Sapienza University of Rome, Italy*
[5] *Institute for Clinical Effectiveness and Health Policy (IECS), Buenos Aires, Argentina*
[6] *Department of Hepatology, Medical Liver Transplant Unit, Hospital Henri Mondor AP-HP, University of Paris-Est Créteil (UPEC), Créteil, France*

**Introduction and Objectives:** Recently, two composite models, the alpha-fetoprotein (AFP) score and the Metroticket 2.0, have been proposed to select patients with hepatocellular carcinoma (HCC) for liver transplantation (LT). This study aimed to compare both models in their predictive performance of post-LT outcomes and their net reclassification of risk of recurrence.

**Materials and Methods:** This multicenter cohort study included 2444 adult patients who underwent LT for HCC in Europe and Latin America. The discrimination power of each model was estimated using adapted Harrell c-statistics and the NRI for recurrence was compared considering each model's threshold assessed at listing and at last pre-LT reassessment.

**Results:** At listing, although the Metroticket 2.0 showed a higher discrimination power for HCC recurrence compared to the AFP score, no differences were observed comparing each model's thresholds. At the last tumor evaluation, c-statistics did not significantly differ. Overall, predictive gaps and overlaps were observed between the model's thresholds. At listing and at last pre-LT reassessment, the Metroticket 2.0 did not show a significant gain on the NRI. Patients meeting both composite model's thresholds either within or beyond the Milan criteria showed the lowest risk of HCC recurrence [SHR of 0.28 (95% CI 0.22-0.36; P<.0001)], whereas a higher risk of recurrence was observed in patients exceeding both composite models, even meeting the Milan criteria.

**Conclusions:** the Metroticket 2.0 did not present a gain on risk reclassification of HCC recurrence over the AFP score at the time of listing or at the last tumor reassessment. The combination of these composite models might be a promising clinical approach.

https://doi.org/10.1016/j.aohep.2023.101020

## O-11 THE PUBLIC HEALTH POLICIES REDUCE THE LONG-TERM BURDEN OF ALCOHOL-ASSOCIATED LIVER DISEASE WORLDWIDE: DEVELOPMENT OF A PREPAREDNESS INDEX

Luis Antonio Díaz[1], Eduardo Fuentes-López[2], Francisco Idalsoaga[1], Jorge Arnold[1], Gustavo Ayares[1], Macarena Cannistra[3], Danae Vio[3], Andrea Márquez-Lomas[4], Oscar Corsi[1], Carolina A. Ramírez[5], María Paz Medel[6], Catterina Ferreccio[7], Mariana Lazo[8], Juan Pablo Roblero[9], Thomas Cotter[10], Anand V. Kulkarni[11], Won Kim[12], Mayur Brahmania[13], Alexandre Louvet[14], Elliot Tapper[15], Winston Dunn[16], Douglas Simonetto[17], Vijay Shah[17], Patrick Kamath[17], Jeffrey V. Lazarus[18], Ashwani K. Singal[19], Ramon Bataller[20], Marco Arrese[1], Juan Pablo Arab[1,13,21,22]

[1] *Department of Gastroenterology, School of Medicine, Pontifical Catholic University of Chile, Santiago, Chile*
[2] *Department of Health Sciences, School of Medicine Pontifical Catholic University of Chile, Santiago, Chile*
[3] *School of Medicine Pontifical Catholic University of Chile, Santiago, Chile*
[4] *School of Medicine, Universidad Anáhuac Mayab, Mérida, Mexico*
[5] *Department of Anesthesiology, Las Condes Clinic, Santiago, Chile*
[6] *Department of Family Medicine, School of Medicine, Pontifical Catholic University of Chile, Santiago, Chile*
[7] *Public Health Department, School of Medicine, Pontifical Catholic University of Chile, Santiago, Chile. Advanced Center for Chronic Diseases, Accdis, Santiago, Chile*
[8] *Department of Community Health and Prevention, Dornsife School of Public Health, Drexel University, Philadelphia, Pennsylvania; Urban Health*

*Collaborative, Dornsife School of Public Health, Drexel University, Philadelphia, Pennsylvania; Division of General Internal Medicine, Johns Hopkins University School of Medicine, Baltimore, Maryland*
[9] *Gastroenterology Section, University Clinical Hospital of Chile, School of Medicine. University of Chile, Santiago, Chile*
[10] *Division of Digestive and Liver Diseases, UT Southwestern Medical Center, Dallas, Texas, USA*
[11] *Department of Hepatology, Asian Institute of Gastroenterology, Hyderabad, India*
[12] *Division of Gastroenterology and Hepatology, Department of Internal Medicine, Seoul Metropolitan Government Seoul National University Boramae Medical Center, Seoul National University College of Medicine, Seoul, Korea*
[13] *Division of Gastroenterology, Department of Medicine, Schulich School of Medicine, Western University & London Health Sciences Centre, London, Ontario, Canada*
[14] *Claude Huriez Hospital, Services des Maladies de L'appareil Digestif, Chru Lille, and Unité Inserm 995, Lille, France*
[15] *Division of Gastroenterology and Hepatology, University of Michigan, Ann Arbor, Michigan; Gastroenterology Section, Veterans Affairs Ann Arbor Healthcare System, Ann Arbor, Michigan, USA*
[16] *University of Kansas Medical Center, KS, USA*
[17] *Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN, USA*
[18] *Barcelona Institute for Global Health (ISGLOBAL), Hospital Clinic, University of Barcelona, Barcelona, Spain*
[19] *Department of Medicine, University of South Dakota Sanford School of Medicine, Division of Transplant Hepatology, Avera Transplant Institute, Sioux Falls, SD, United States*
[20] *Center for Liver Diseases, Division of Gastroenterology, Hepatology and Nutrition, University of Pittsburgh Medical Center, PA, USA*
[21] *Alimentiv, London, Ontario, Canada*
[22] *Department of Epidemiology and Biostatistics, Schulich School of Medicine, Western University, London, Ontario, Canada*

**Introduction and Objectives:** The long-term impact of alcohol-related public health policies (PHP) on the burden of liver disease is unclear. This study aimed to assess the association between alcohol-related PHP and alcohol-related health consequences; 2. To develop an instrument to quantify the establishment of alcohol-related PHP in each country.

**Materials and Methods:** We performed an ecological multinational study including 169 countries. We recorded socio-demographic data and the presence of alcohol-related PHP in each country from the WHO Global Information System of Alcohol and Health (GISAH) in 2010. Data on alcohol-related health consequences was collected from the Global Burden of Disease database (between 2010-2019). We classified the WHO categories into five domains to design an instrument with criteria for a low, moderate, and strong establishment of PHP. We estimated an incidence rate ratio (IRR) using multilevel generalized linear models with a Poisson family distribution. The models were adjusted by population size, age structure, and gross domestic product. We also estimated a preparedness index using multiple correspondence analysis.

**Results:** The table summarizes the final instrument. We included 169 countries; the median preparedness index was 54 [34.9-76.8]. The preparedness index was associated with lower alcohol-associated liver disease (ALD) mortality (IRR:0.25, 95%CI: 0.06-1.09, p=0.064), cancer mortality (IRR:0.22, 95%CI: 0.05-0.97, p=0.046), hepatocellular carcinoma (HCC) mortality (IRR:0.20, 95%CI: 0.04-0.95, p=0.043), and cardiovascular mortality (IRR:0.15, 95%CI: 0.04-0.61, p=0.008). There was also a trend to lower alcohol use disorder prevalence (IRR:0.25, 95%CI: 0.06-1.09, p=0.064). The highest linear associations were observed in the Americas and Africa, while Europe exhibits a nonlinear association.

**Conclusions:** The preparedness index on alcohol policies is a valuable instrument to assess the establishment and strength of PHP. Those countries with a higher number of PHP had lower mortality due to ALD, cancer, HCC, and cardiovascular diseases. Our results strongly encourage the development and implementation of PHP on alcohol consumption worldwide.

**Table**.- Five-item instrument to assess the strength of alcohol-related public health policies.

| Item | WHO Categories | Low-level (0) | Moderate-level (1) | Strong-level (2) |
|---|---|---|---|---|
| National policy to fight harmful consequences of alcohol | - National Plan<br>*Written national policy (WNP)*<br>*National action plan* | Without WNP | A WNP without a National action plan | A WNP and National action plan |
| Control over production, pricing, and taxes | - Taxes control, pricing policies<br>- National license, production, and selling control | Those without production control or taxes | Some regulations. Taxes in some alcoholic beverages | Strong regulations. Taxes in all alcoholic beverages |
| Marketing of alcoholic beverages and restrictions to alcohol access | - Control over advertising and promotion<br>- Restrictions to alcohol access<br>- National drinking age rule | Countries without policies to control ads, access or a national legal minimum age | <50% of policies to control ads and access. There is a drinking age rule. | > 50% of policies to control ads and access. There is a drinking age rule |
| Drink-driving policies and<br>- Driving-related policies | No restrictions when driving a vehicle or effective penalties for drink driving | Restrictions on blood alcohol concentration when driving a vehicle and effective penalties for drink driving | | countermeasures<br>Zero tolerance to alcohol consumption when driving and effective penalties for drink driving |
| Monitoring and surveillance | - Monitoring systems | No monitoring systems and support | Monitoring systems or support | Monitoring systems and support |

https://doi.org/10.1016/j.aohep.2023.101021

## O-12 CHARACTERIZATION AND UTILIZATION OF HCV-POSITIVE DONORS IN ARGENTINA

Manuel Mendizabal[1], Margarita Anders[2], Ariel Antik[4], Federico Piñero[1], Gabriela Hidalgo[3], Daniela Hansen Krogh[4], Viviana Tagliafichi[4], Marcelo Silva[1], Liliana Bisigniano[4]

[1] *Hepatology and Liver Transplant Unit, Austral University Hospital, Pilar, Argentina*
[2] *Hepatology and Liver Transplant Unit, German Hospital, Buenos Aires, Argentina*
[3] *Medical Direction, Single Coordinating Institute of Ablation and Implantation (INCUCAI), Buenos Aires, Argentina*
[4] *Scientific and Technical Direction, Single Coordinating Institute of Ablation and Implantation (INCUCAI). Buenos Aires, Argentina*

**Introduction and Objectives:** Increased utilization of hepatitis C virus (HCV)-positive organ donors has been endorsed as one of several ways to combat organ shortages. However, HCV-positive donors remain poorly characterized. This study aimed to evaluate the

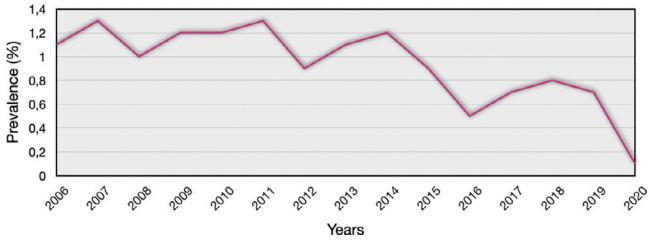
prevalence and utilization of HCV antibody (Ab) positive donors in Argentina.

**Materials and Methods:** We performed a cross-sectional study to analyze data from the INCUCAI in Argentina from January 2006 to December 2020. Demographic and allograft characteristics were evaluated, and utilization of HCV Ab-positive donors across Argentina was studied. Anti-HCV (ELISA), was performed on all donors during the procurement process. A stratified analysis according to the type of donor and HCV Ab was done.

**Results:** Overall, 16,140 deceased donors were denounced. Of these, 8627 (53.5%) were organ donors (7802 [90.4%] were effective) and 7513 (46.5%) were tissue donors. Demographic characteristics were age 42 ± 18 years and male/female ratio was 1.59/1. HCV Ab-positive was reported in 0,92% (n=149). The prevalence ratio per period among HCV Ab-positive donors (see graphic 1) showed that the highest prevalence was observed in 2007 (1.3%) and the lowest prevalence was in 2020 (0.1%). Prevalence for HCV Ab-positive among the type of donors was significantly higher in non-effective donors at 5.81% (n=48/825), followed by tissue donors at only 1.01% (n=76/7513) and lower in effective donors at 0.32% (n=25/7802; P<0.0001). Organ donors with HCV Ab-positive serology had less acceptance rate than those with HCV Ab-negative (34% vs. 90%; respectively, p<0.001). The solid organ transplants performed using HCV Ab-positive donors were 23 kidneys, five liver and one heart transplant. Only four transplants were performed after the advent of DAAs. Five-year recipient and graft survival in kidney and liver recipients was not adversely impacted by donor HCV Ab-positive status.

**Conclusions:** The prevalence of HCV Ab-positive donors in Argentina is low and declining. Therefore, expanding the donor pool using HCV Ab-positive donors is a limited strategy in our country.

**Figure 1:** Prevalence of HCV Ab-positive donors in Argentina during 2006-2020 (N=16,140)




https://doi.org/10.1016/j.aohep.2023.101022

## O-13 PERFORMANCE OF PRE-TRANSPLANT CRITERIA IN PREDICTION OF HEPATOCELLULAR CARCINOMA PROGRESSION AND WAITLIST DROPOUT

Federico Piñero[1,2], Marcos Thompson[1], Ilka Boin[3], Aline Chagas[4], Emilio Quiñonez[5], Carla Bermúdez[6], Mario Vilatobá[7], Luisa Santos[8], Margarita Anders[9], Sergio Hoyos Duque[10], Agnaldo Soares Lima, MD[11], Josemaría Menendez, MD[12], Martín Padilla, MD[13], Jaime Poniachik, MD[14], Rodrigo Zapata[15], Martín Maraschio[16], Ricardo Chong Menéndez[17], Linda Muñoz[18], Diego Arufe[19], Rodrigo Figueroa[20], Adriana Varón[8], Sebastián Marciano[6], Juan Mattera[5], Flair Carrilho[4], Marcelo Silva, MD[1,2]

[1] *Latin American Liver Research Educational and Awareness Network (LALREAN)*
[2] *Austral University Hospital, Austral University, School of Medicine, Buenos Aires, Argentina*
[3] *Clinics Hospital UNICAMP Campinas, Sao Paulo, Brazil*
[4] *Division of Clinical Gastroenterology and Hepatology, Clinics Hospital Department of Gastroenterology, School of Medicine, University of São Paulo, Brazil*
[5] *El Cruce Hospital, Florencio Varela, Argentina*
[6] *Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[7] *National Institute of Medical Sciences and Nutrition "Salvador Zubirán", México City, México*
[8] *Cardioinfantil Foundation, Bogotá, Colombia*
[9] *Germany Hospital of Buenos Aires, Buenos Aires, Argentina*
[10] *Pablo Tobón Uribe Hospital & Gastroenterology Group from the University of Antioquia, Medellín, Colombia*
[11] *Clinics Hospital of Federal de Minas Gerais Federal University, Minas Gerais, Brazil*
[12] *Clinics Hospital, Montevideo, Uruguay*
[13] *San Marcos National University, Guillermo Almenara Hospital, Lima, Perú*
[14] *University of Chile Hospital, Santiago, Chile*
[15] *Germany Clinic, Medical School, University of Desarrollo, Santiago, Chile*
[16] *Córdoba Private Hospital, Córdoba, Argentina*
[17] *Carlos Andrade Marín Hospital, Quito, Ecuador*
[18] *"Dr. José E. González" University Hospital, Monterrey, México*
[19] *Sacred Heart Sanatorium, Buenos Aires, Argentina*
[20] *Allende Sanatorium, Córdoba, Argentina*

**Introduction and Objectives:** Liver transplantation (LT) selection models for hepatocellular carcinoma (HCC) have not been proposed to predict waitlist dropout due to tumor progression. This study aimed to compare the alfa-fetoprotein (AFP) model and other pre-LT models in their prediction of HCC dropout.

**Materials and Methods:** A multicenter cohort study was conducted in 20 Latin American transplant centers, including 994 listed patients for LT with HCC from 2012 to 2018. Longitudinal tumor characteristics and patterns of progression were recorded at the time of listing, after treatments and at last follow-up over the waitlist period. Competing risk regression models were performed, and the model's discrimination was compared by estimating Harrell's adapted c-statistics.

**Results:** HCC dropout rate was significantly higher in patients beyond [24% (95% CI 16-28)] compared to those within Milan criteria [8% (95% IC 5-12%); P<.0001], with an SHR of 3.01 (95% CI 2.03-4.47)], adjusted for waiting list time and bridging therapies (c-index 0.63 (95% CI 0.57;0.69). HCC dropout rates were higher in patients with AFP scores >2 [adjusted SHR of 3.17 (CI 2.13-4.71)], c-index of 0.71 (95% CI 0.65-0.77; P=0.09 vs. Milan). Similar discrimination power for HCC dropout was observed between the AFP score and the Metroticket 2.0 model. In patients within Milan, an AFP score >2 points discriminated two populations with a higher risk of HCC dropout [SHR 1.68 (95% CI 1.08-2.61)].

**Conclusions:** Pre-transplant selection models similarly predicted HCC dropout. However, the AFP model can discriminate a higher risk of dropout among patients within Milan criteria.

https://doi.org/10.1016/j.aohep.2023.101023

## O-14 NONALCOHOLIC FATTY LIVER DISEASE IN PATIENTS WITH CORONARY HEART DISEASE

Máximo Cattaneo[1], Juan Pablo Roblero[1], Luis Vega[1], Marcelo Salinas[1], Andrea Urra[1], Daniela Simian[1], Rosario Pino[1], Álvaro Urzúa[1], Katherine Rojas[1], Juan Rozas[2], Abraham I Gajardo[3], Jaime Poniachik[1]

[1] *Gastroenterology Section, Internal Medicine Department, Clinic Hospital of University of Chile, Santiago, Chile*
[2] *"Dr. Victor Rios Ruiz" Health Care Complex, Los Ángeles, Chile*
[3] *Critical Patient Unit, Medicin Department, Clinic Hospital of the University of Chile, Santiago, Chile*

**Introduction and Objectives:** Patients with nonalcoholic fatty liver disease (NAFLD) are at increased cardiovascular risk, and there is a higher prevalence of this disease in patients with coronary heart disease (CHD). However, the evidence in favor of NAFLD as a risk factor for CHD is scarce. This study aimed to determine the prevalence of NAFLD in patients with CHD and to assess whether significant CHD is associated with NAFLD and liver fibrosis.

**Materials and Methods:** Observational, analytical study in adult patients with coronary angiography for suspected coronary artery disease between July 2021-July 2022. The number of affected coronary vessels and the presence of significant CHD (stenosis >50%) were determined. In addition, FibroScan® was performed to evaluate steatosis and liver fibrosis up to 6 months after the coronary study, considering the presence of fibrosis at F>0. Descriptive statistics, Fisher's exact test and logistic regression models were reported for inferential analysis.

**Results:** Ninety-seven patients were included, 73% male, age 63 ± 10 years (Table 1). 71% presented significant CHD, with 37% multivessel disease (2 or more). The prevalence of NAFLD was 38%, with no differences between those with and without CHD (43% vs. 36%, p=0.646). In turn, 16% of patients presented some degree of fibrosis, linearly associated with the number of vessels involved (OR=1.8, p=0.022), with an even higher risk in patients with two or more vessels involved (OR=3.5, p=0.027).

**Conclusions:** There is a high prevalence of NAFLD in patients with CHD, with no differences between patients with significant stenosis vs not. Patients with multivessel disease have higher odd of presenting some degree of fibrosis. Although the presence of confounders should be evaluated in other studies, these data support the search for NAFLD and fibrosis in patients with CHD.

**Table 1.** Characterization of the patients included in the project

| N = 97 | N (%) |
|---|---|
| **Sociodemographic** | |
| Age (media, SD) | 62.8 (10.1) |
| Male gender | 72 (74) |
| **Medical history** | |
| Comorbidities | |
| Hypertension | 73 (75) |
| Diabetes Mellitus 2 | 36 (38) |
| Dyslipidemia | 54 (56) |
| Other | 32 (33) |
| Smoking habit | |
| Non-smoker | 50 (51) |
| Active smoker | 13 (13) |
| Former smoker | 34 (36) |
| Physical activity | 33 (34) |
| Laboratory (median, IQR) | |
| Glycemia (n = 83) | 108 (94 – 121) |
| Platelets (n = 88) | 231500 (194500 – 275500) |
| Albumin (n = 78) | 4 (3,6 – 4,4) |
| Cholesterol (n = 87) | 153 (118 – 180) |
| Triglycerides (n = 69) | 138 (100 – 216) |
| Alkaline phosphatases (n = 81) | 86 (72 – 97) |
| GPT (n = 25) | 31 (22 – 49) |
| GOT (n = 83) | 31 (25 – 40) |
| GGT (n = 24) | 36.5 (24.95 – 84.5) |
| Bilirubin (n = 82) | 0.57 (0.44 – 0.74) |
| **Anthropometry** | |
| Body Mass Index (median, IQR) | 27.5 (25.3 – 30.1) |
| Waist circumference (median, IQR) | 98.5 (92 – 105) |
| Hip circumference (median, IQR) | 102 (97 – 107) |
| **Fibroscan** | |
| kPa (median, IQR) | 4.6 (4 – 5.4) |
| CAP (media, SD) | 258.6 (54.4) |
| Fibrosis | |
| F0 | 81 (84) |
| F1 | 9 (9) |
| F2 | 3 (3) |
| F3 | 2 (2) |
| F4 | 2 (2) |
| Steatosis | |
| Without steatosis | 47 (48) |
| Mild | 13 (13) |
| Moderate | 6 (6) |
| Severe | 31 (32) |
| **Coronariography** | |
| Significant Coronary Heart Disease | 69 (71) |
| N° coronary vessels affected | |
| 1 | 34 (35) |
| 2 | 16 (16) |
| 3 | 20 (21) |

https://doi.org/10.1016/j.aohep.2023.101024

## O-15 INFECTIONS BY MULTI-DRUG RESISTANT BACTERIA WERE INDEPENDENTLY ASSOCIATED WITH HOSPITAL MORTALITY IN CIRRHOTICS WITH ACUTE DECOMPENSATION: A PROSPECTIVE STUDY ON 433 ADMISSIONS

Gabriela Ruffillo[1], Juan Cruz Codd[1], Limbert Jesús Padilla Martínez[1], Miguel Angel Puga Tejada[1], Adriana Fernández Lausi[2], Graciela Landeira[1], Graciela Priore[2], Cristina Longo[1], Gisela Gualano[1], Nora Domínguez[1], Maximiliano Socas[1], Susana di Bartolomeo[2], Eduardo Fassio[1]

[1] *Gastroenterology Department, Hospital Nacional Prof. Alejandro Posadas National Hospital, El Palomar, province of Buenos Aires, Argentina*
[2] *Central Laboratory Service, Prof. Alejandro Posadas National Hospital, El Palomar, Province of Buenos Aires, Argentina*

**Introduction and Objectives:** It has been described as bacterial infections (BIs) due to multidrug-resistant bacteria (MRB) in cirrhosis with acute decompensation (AD), with a potentially poor prognosis. This study aimed to determine the frequency of BIs due to MRB in a tertiary centre and its association with mortality.

**Materials and Methods:** This is a prospective cohort study. Cirrhotics with AD were enrolled. At admission, polymorphonuclear leukocytes (PMN) count was performed in ascites patients. Blood, urine and fluids cultures were collected in patients with encephalopathy, ascites, digestive bleeding or because of IBs suspicion. Sample cultures were repeated during hospitalization when necessary. BIs diagnosis was established based on international consensus. Association among data versus BIs diagnosis was assessed through respective hypothesis testing. Data association with mortality was verified through univariate/multivariate logistic regression: Odds Ratio (OR), 95% confidence interval (CI).

**Results: A total of 433 inpatients were included:** 327 males, median age of 56. Child-Pugh A, B and C were estimated in 22, 197, and 214 cases, respectively, median MELD of 16. BIs were diagnosed in 212/433 (49%) inpatients: 128/212 community-acquired (CA) infections, 22/212 healthcare-associated (HCA) infections and 62 nosocomial infections. The most frequent BIs were spontaneous bacterial peritonitis in 69/212 cases, followed by 59/212 respiratory tract

infections and 29/212 urinary tract infections. Bacterial isolation was obtained in 108/212 BIs: 35/108 (32.4%) were MRB. MRB was more frequent in cases with HCA (53%) and nosocomial (41%) infections compared with CA (22%) infections; (*P*=.0279). Mortality was 17.6% in patients without BIs, 28.8% in non-isolation BIs, 24.7% in non-MRB BIs and 51.4% in BIs due to MRB (*P*<.001). Multivariate analysis showed that mortality was significantly associated with Child-Pugh C, acute kidney injury, but mainly with MRB BIs (OR 4.41; 95% CI 1.94-10.2; *P*<.001).

**Conclusions:** MRB frequency was 32.4% among BIs with bacterial isolation. It represents an independent predictor for inpatient mortality.

https://doi.org/10.1016/j.aohep.2023.101025

## O-16 MELD-NA AND MELD3.0 HAVE THE BEST PERFORMANCE TO PREDICT THE 28-DAY RISK OF DEATH IN PATIENTS WITH SEVERE ALCOHOLIC HEPATITIS IN THE MEXICAN POPULATION

Fátima Higuera-De La Tijera[1], Claudia Dorantes-Nava[1], Alfredo Servín-Caamaño[2], Francisco Salas-Gordillo[1], Juan Miguel Abdo-Francis[3], Gabriela Gutiérrez-Reyes[4], P Diego-Salazar[1], MY Carmona-Castillo[1], Sandra Teutli-Carrion[1], EJ Medina-Avalos[1], A Servín-Higuera[1], José Luis Pérez-Hernández[1]

[1] *Gastroenterology and Hepatology Department, Mexican General Hospital "Dr. Eduardo Liceaga", México City*
[2] *Internal Medicine Department, Mexican General Hospital "Dr. Eduardo Liceaga", México City*
[3] *Ángeles Acoxpa Hospital, México City*
[4] *Liver, Pancreas And Motility Laboratory (HIPAM), Experimental Medicine Department, Faculty Of Medicine, Unam; Mexico City*

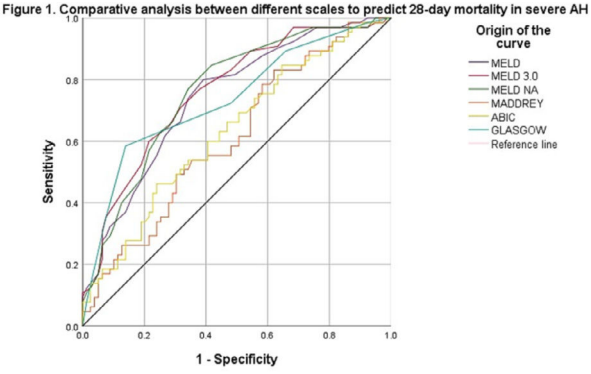
**Introduction and Objectives:** Severe alcoholic hepatitis (AH) has a high mortality rate, and currently, it is still a challenge to be able to establish the prognosis of these patients and their risk of death at admission in order to be able to offer better therapeutic alternatives that save a life in a timely manner. This study aimed to compare several prognostic scores to verify which of them has the best performance in predicting 28-day mortality at admission in patients with AH.

**Materials and Methods:** Observational, cohort study. Data were collected from patients with severe AH who were hospitalized between January 2010 to May 2022. MELD, MELDNa, MELD3.0, ABIC, Maddrey, Glasgow scale for AH were calculated with admission parameters, and their outcome was verified at 28 days. ROC curves were constructed to compare the different prognostic scales.

**Results:** 144 patients were included, 129 (89.6%) men, mean age 43.3±9.3 years, median grams of alcohol consumed/day were 320 (range: 60-1526). 65 (45.1%) died. The mean of MELD, MELDNa and MELD3.0 were higher among the deceased vs. survivors (33.5±7.5 vs. 27.1±6.2; 34.6±5.7 vs. 29.1±5.7; and 35.8±6.0 vs. 30.1±5.5 respectively; p<0.0001). The ROC curve analysis comparing the prognostic scales is shown in Figure 1.

**Conclusions:** AH mortality is high. MELDNa and MELD3.0 have the best performance for predicting on admission which patients with AH are at risk of dying in the next 28 days and can be useful tools for prioritizing patients who will require life-saving strategies, such as liver transplantation.

Figure 1. Comparative analysis between different scales to predict 28-day mortality in severe AH




Diagonal segments are generated by ties.

| Scale | Area under the curve | 95% confidence interval | *P* |
|---|---|---|---|
| MELD | 0.743 | 0.663 - 0.823 | < 0.0001 |
| MELD 3.0 | 0.760 | 0.682 - 0.838 | < 0.0001 |
| MELDNa | 0.761 | 0.682 - 0.839 | < 0.0001 |
| Maddrey | 0.611 | 0.519 - 0.702 | 0.023 |
| ABIC | 0.630 | 0.539 - 0.721 | 0.007 |
| Glasgow | 0.735 | 0.652 - 0.818 | < 0.0001 |

https://doi.org/10.1016/j.aohep.2023.101026

## O-17 STUDY OF THE ASSOCIATION BETWEEN SERUM LEVELS OF SYSTEMIC INFLAMMATORY MARKERS AND ADVANCED FIBROSIS STAGE IN INFECTED PATIENTS WITH HEPATITIS DELTA VIRUS GENOTYPE 3

Mauricio Campos[1], Juan Miguel Salcedo[4], Deusilene Vieira[4], Songeli Freire[1], Raymundo Paraná[1,2], María Isabel Schinoni[1,2,3]

[1] *Institute of Health Science. Federal University of Bahia. Bahía. Brazil*
[2] *Universitary Hospital of Federal University of Bahia. Bahía. Brazil*
[3] *Medical School of Bahia. UFBA. Bahia. Brazil*
[4] *Oswaldo Cruz Foundation (FIOCRUZ) of Rondônia, Brazil*

**Introduction and Objectives:** HDV-3 is responsible for outbreaks of fulminant hepatitis in northeastern South America. There are no studies investigating immune responses in relation to liver damage caused by HDV-3. This study aimed to investigate if systemic inflammatory molecules (SIM) are differentially expressed in patients with advanced fibrosis chronically infected with HDV genotype 3.

**Materials and Methods:** 61 patients coinfected with HBV/HDV-3 naive were included in this study. Diagnostic tests to screen for HBV/HDV infections were performed using standard immune serology testing. HDV quantification and genotyping was performed by semi-nested RT-PCR and RFLP methodology. 92 SIMs were measured by Proximity Extension Assay (PEA) technology(Proseek Multiplex Inflammation I assay). Shapiro-Wilk, Student's t test, Mann-Whitney tests and logistic regression analysis were used when appropriate.

**Results:** The median age was 41 years(18-59 years) and all patients were HBeAg negative. Advanced fibrosis or cirrhosis(F3/F4) was diagnosed by histological staging in 17 patients, while 44 presented with minimal or no fibrosis. Advanced necroinflammatory activity correlated positively with serum levels of AST and ALT (p=0.024 and 0.020, respectively). Established non-invasive fibrosis scores (APRI, FIB-4 and AST/ALT ratio) revealed low sensitivities and PPVs with AUROC maximum of 0.586. Among the 92 SIMs analyzed,

MCP4 (p = 0.032), CCL19(p = 0.024), EN.RAGE(p = 0.014), SCF(p = 0.01) and IL 18(p = 0.054) showed a positive correlation with the fibrosis stage. A combined score including CCL19 and MCP.4 revealed a sensitivity of 81% and an Odds Ratio of 2.202 for advanced fibrosis.

**Conclusions:** Standard non-invasive fibrosis scores showed poor performance in HDV G3 infection. We here suggest that the determination of CCL19 and MCP.4 may be used to identify patients with advanced fibrosis. Moreover, this study gives novel insights into the immunopathogenesis of HDV G3 infection.

https://doi.org/10.1016/j.aohep.2023.101027

## O-18 ETHNIC DISPARITIES IN HISPANIC POPULATION WITH ALCOHOL ASSOCIATED LIVER DISEASE AND TRANSPLANT ENLISTED PATIENTS: A RETROSPECTIVE STUDY OF TWO LARGE DATABASES IN THE UNITED STATES FROM 2011-2018

Gustavo Ayares[1], Luis Antonio Díaz[1], Eduardo Fuentes-López[2], Francisco Idalsoaga[1], Jorge Arnold[1], Thomas Cotter[3], Winston Dunn[4], Douglas Simonetto[5], Vijay Shah[5], Patrick Kamath[5], Ramon Bataller[6], Marco Arrese[1], Robert J. Wong[7], Ashwani K. Singal[8], Juan Pablo Arab[1]

[1] *Department of Gastroenterology, Medical School, Pontifical Catholic University of Chile, Santiago, Chile*
[2] *Health Sciences Department, Faculty of Medicine, Pontifical Catholic University of Chile, Santiago, Chile*
[3] *Division of Gastroenterology and Hepatology, UT Southwestern Medical Center, Texas, USA*
[4] *University of Kansas Medical Center, KS, USA*
[5] *Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN, USA*
[6] *Center for Liver Diseases, Division of Gastroenterology, Hepatology and Nutrition, University of Pittsburgh Medical Center, PA, USA*
[7] *Division of Gastroenterology and Hepatology, VA Palo Alto Healthcare System, Stanford University School of Medicine, Stanford, CA, USA*
[8] *Department of Medicine, University of South Dakota Sanford School of Medicine, Division of Transplant Hepatology, Avera Transplant Institute, Sioux Falls, SD, United States*

**Introduction and Objectives:** there are different variables in patients with alcohol associated liver disease (ALD) and enlisted patients for liver transplant (LT), such as ethnicity, that determine health disparities in access, morbidity and mortality. This study aimed to assess and measure the impact of ethnicity in ALD and patients enlisted for LT.

**Materials and Methods:** we conducted a retrospective study using U.S databases, the National Health and Nutrition Examination Survey (NHANES) and the United Network for Organ Sharing (UNOS) from 2011 to 2018. We created a multivariate model analyzing the clinical characteristics of the interviewed patients for NHANES. Alcohol consumption and ethnicity were self-reported. We also created a competing risks model for time to LT in enlisted patients.

**Results:** of the 39,156 interviewed patients, 17.1% identified as Hispanic. In this group, the prevalence of ALD was 9.0% and the average consumption of pure alcohol was 2.3 L/year. The multivariate-adjusted model showed that Hispanics were independently associated with a higher risk of ALD (OR 1.30; 95%CI: 1.05-1.60, p=0.018). Of the enlisted patients, 13.6% were Hispanic. White ethnicity, lower age, male sex, higher MELD score, renal failure, lower BMI, higher education and private insurance were associated with a higher rate of LT. Hispanics were independently associated with a lower LT (HR 0.80; 95%CI: 0.74-0.87, p<0.001).

**Conclusions:** ethnicity is an important factor in healthcare outcomes. This is a growing area of interest, and research should be carried out to better our understanding of the impact that these disparities have on patients. Studying ethnic minority groups is needed to enable researchers to face the challenges of reducing and ultimately eliminating health disparities.

**Tabla 1.** Competitive Risk Model for Patients Enlisted for Liver Transplant

| Variable | Univariate Model | P Value | Adjusted Multivariate Model | P Value |
|---|---|---|---|---|
| | *hazard ratio (IC 95%)* | | | |
| Whites (ref) | ref | ref | ref | ref |
| vs Blacks | 1.18 (1.07-1.31) | 0.002 | 1.03 (0.87-1.23) | 0.726 |
| vs Hispanics | 0.90 (0.85-0.95) | <0.001 | 0.80 (0.74-0.87) | **<0.001** |
| vs Asian | 0.85 (0.72-1.00) | 0.046 | 0.98 (0.82-1.19) | 0.867 |
| vs Other | 0.83 (0.71-0.98) | 0.026 | 0.82 (0.64-1.04) | 0.100 |
| Men | 1.13 (1.08-1.18) | <0.001 | 1.01 (0.94-1.07) | 0.875 |
| Age at Enlistment | 0.98 (0.98-0.99) | <0.001 | 0.99 (0.98-0.99) | **<0.001** |
| MELD (Model for End-Stage Liver disease) | 1.26 (1.24-1.26) | <0.001 | 1.04 (1.03-1.05) | **<0.001** |
| Diabetes Mellitus | 0.97 (0.92-1.02) | 0.187 | - | - |
| Hepatocellular carcinoma | 1.02 (0.92-1.14) | 0.66 | - | - |
| Obesity | 0.99 (0.98-0.99) | 0.010 | 0.99 (0.98-0.99) | 0.16 |
| Renal Failure | 1.60 (1.54-1.67) | <0.001 | 1.40 (1.32-1.47) | **<0.001** |
| Education <"High school" | ref | ref | ref | ref |
| Education "Some College" | 1.03 (0.98-1.08) | 0.195 | 0.99 (0.93-1.06) | 0.860 |
| Education "College-Bachelor" | 1.07 (1.02-1.12) | 0.006 | 1.04 (0.97-1.11) | 0.263 |
| Medicare | ref | ref | ref | ref |
| Medicaid | 1.01 (0.93-1.11) | 0.721 | 0.98 (0.89-1.09) | 0.760 |
| Private Insurance | 1.18 (1.10-1.27) | <0.001 | 1.01 (0.93-1.10) | 0.784 |

https://doi.org/10.1016/j.aohep.2023.101028

## O-19 COLLABORATIVE CARE TOWARDS MICROELIMINATION OF HEPATITIS C VIRUS IN A DIALYSIS POPULATION IN SOUTHERN BRAZIL

Hugo Cheinquer, Alexandre de Araujo, Dirceu da Silva Reis

*Clinics Hospital of Porto Alegre, Porto Alegre, Brazil*

**Introduction and Objectives:** Hepatitis C virus (HCV) eradication from dialysis facilities in a community using direct acting antivirals (DAAs) may be achieved more effectively under a collaborative care model, including a network of hepatologists, nephrologists and specialized dialysis staff. This study aimed to evaluate the prevalence of HCV infection in patients undergoing renal replacement therapy in all registered dialysis units operating in Rio Grande do Sul State (RS), in Southern Brazil. Furthermore, to implement a strategy to treat HCV infection locally at these units.

**Materials and Methods:** All dialysis units in RS State were contacted between January 2020 and January 2022 to provide results of anti-HCV screening in dialysis patients. Those with positive results were discussed via telemedicine with a team of two hepatologists and one nephrologist located in Clinics Hospital of Porto Alegre, a tertiary health care facility. Dialysis staff was instructed to test HCV RNA with polymerase chain reaction (PCR) and calculate FIB-4 and APRI scores. Viremic patients were selected for therapy and those with FIB-4 >3.25 and/or APRI >1.5 were required to undergo ultrasonography and/or elastography. DAA therapy was started locally by the dialysis unit staff under the supervision of the hepatologists.

**Results:** A total of 6,991 patients from all 66 dialysis facilities in RS State were enrolled. Most patients (93.3%) were on hemodialysis. All patients completed HCV screening and 454 (6.5%) were anti-HCV positive. So far, nine units have completed the proposed model, with 89 anti-HCV positive patients that resulted in 49 (55.5%) with detectable HCV RNA by PCR. All viremic patients started HCV therapy. Interim analysis showed SVR in 21 (95.5%) of 22 patients.

**Conclusions:** A collaborative care model increased the rates of diagnosis and treatment for HCV in dialysis facilities to levels near those established by the World Health Organization towards HCV elimination up to 2030.

https://doi.org/10.1016/j.aohep.2023.101029

## O-20 MOLECULAR AND BIOLOGICAL CHARACTERIZATION OF HEPATITIS B VIRUS SUBGENOTYPE F1b CLUSTERS: UNRAVELING ITS ROLE IN HEPATOCARCINOGENESIS

María Mercedes Elizalde[1], Laura Mojseijczuk[2], Micaela Speroni[1], Luciana Tadey[2], Belén Bouzas[3], Lilia Mammana[3], Rodolfo Héctor Campos[2], Diego Martín Flichman[1]

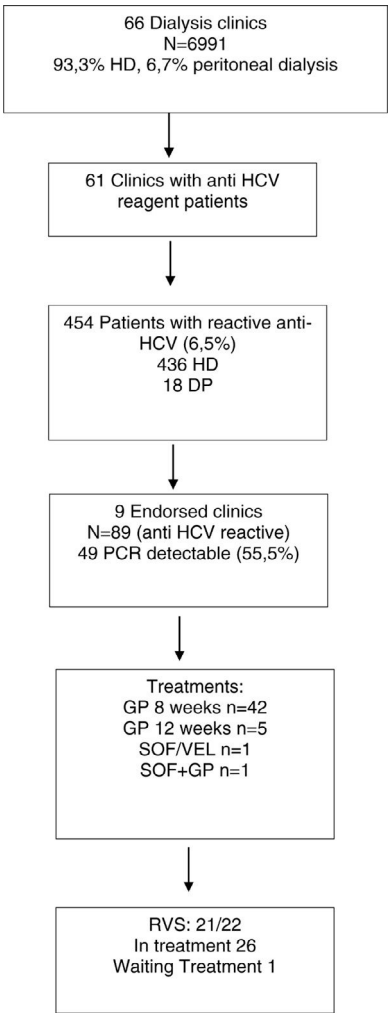
[1] *Institute for Biomedical Research on Retroviruses and AIDS (INBIRS), CONICET, Buenos Aires University, Buenos Aires, Argentina*
[2] *Department of Microbiology, Immunology, Biotechnology and Genetics, Chair of Virology, University of Buenos Aires, Autonomous City of Buenos Aires, Argentina*
[3] *Virology Unit, Infectious Diseases Hospital Francisco J. Muñíz, Autonomous City of Buenos Aires, Argentina*

**Introduction and Objectives:** Hepatitis B virus subgenotype F1b infection has been associated with the early occurrence of hepatocellular carcinoma in chronically infected patients from Alaska and Peru. In Argentina, however, despite the high prevalence of subgenotype F1b infection, this relationship has not been described. This study aimed to unravel the observed differences in the progression of the infection, and an in-depth molecular and biological characterization of the subgenotype F1b was performed.

**Materials and Methods:** 99 subgenotype F1b full-length sequences were obtained, and phylogeny was addressed by the maximum likelihood method. The replicative capacity of the subgenotype F1b clones was assessed by qPCR, Southern and Northern blot analysis. Antigen expression was detected by electrochemiluminescence and Western blot. The analysis of signaling pathways associated with hepatocarcinogenesis was assessed by RT-qPCR.

**Results:** Phylogenetic analysis of subgenotype F1b genomes revealed the existence of two highly supported clusters. One of the clusters, designated as gtF1b Basal included sequences mostly from Alaska, Peru, and Chile, while the other, called gtF1b Cosmopolitan, contained samples mainly from Argentina and Chile. The clusters were characterized by a differential signature pattern of eight nucleotides distributed throughout the genome. *In vitro* characterization of representative clones from each cluster revealed major differences in viral RNA levels, virion secretion, and antigen expression levels. Interestingly, differential regulation in the expression of genes associated with tumorigenesis was also identified.

**Conclusions:** This study provides new insights into the molecular and biological characteristics of the subgenotype F1b clusters and contributes to unraveling the different clinical outcomes of subgenotype F1b chronic infections.




https://doi.org/10.1016/j.aohep.2023.101030

## O-21 EVIDENCE OF SUBOPTIMAL PUBLIC HEALTH POLICIES ON HEPATOCELLULAR CARCINOMA IN THE AMERICAS: A HUGE DEBT OF OUR REGION

Luis Antonio Díaz[1], Gustavo Ayares[1], Francisco Idalsoaga[1], Jorge Arnold[1], Blanca Norero[1,2], Oscar Corsi[1], Gonzalo Pizarro[3], Sergio García[4], Eduardo Fuentes-López[5], Edmundo Martinez[2], Patricia Guerra Salazar[6], Roberta C. Araújo[7], Mario Reis Alvares-Da-Silva[8], Florencia D. Pollarsky[9], Nelia Hernandez[10], Juan Carlos Restrepo[11], Mirtha Infante[12], Enrique Carrera[13], Abel Sanchez[14], Marcos Girala[15], Martín Padilla[16], Javier Díaz[17], Martín Tagle[18], Melisa Dirchwolf[19], Manuel Mendizabal[20], Mariana Lazo[21], Catterina Ferreccio[22], Thomas G. Cotter[23], Mayur Brahmania[24], Nahum Méndez-Sánchez[25], Juan Pablo Roblero[26], Winston Dunn[27], Patrick S. Kamath[28], Ashwani K. Singal[29], Ramón Bataller[30], Marco Arrese[1], Juan Pablo Arab[1]

[1] *Department of Gastroenterology, Medical School, Pontifical Catholic University of Chile, Santiago, Chile*

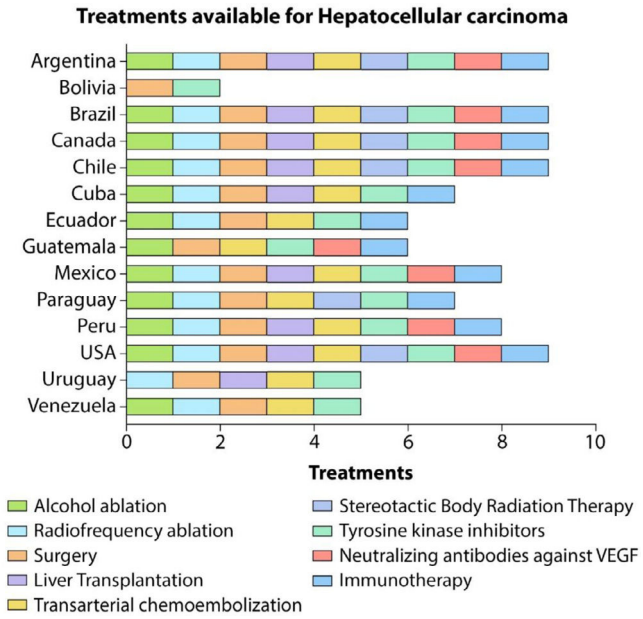
[2] Gastroenterology Service, Dr. Sótero del Río Hospital, Santiago, Chile
[3] Department of Hematology-Oncology, Medical School, Pontifical Catholic University of Chile, Santiago, Chile
[4] Medical School, Pontifical Catholic University of Chile, Santiago, Chile
[5] Department of Health Sciences, Speech-Language Pathology Department, Medical School, Pontifical Catholic University of Chile, Santiago, Chile
[6] Gastroenterology Institute Bolivian-Japanese, Cochabamba, Bolivia
[7] Gastroenterology Division, Ribeirão Preto Medical School, University of São Paulo, 14048-900 Ribeirão Preto, SP, Brazil
[8] Clinic Hospital of Porto Alegre, Porto Alegre, Brazil
[9] Hepatology Section, Gastroenterology Hospital of Dr. Carlos Bonorino Udaondo, Buenos Aires, Argentina
[10] Gastroenterology Clinic, Clinic Hospital Medical School, University of República Uruguay, Montevideo, Uruguay
[11] Hepatology Unit of Pablo Tobon Uribe Hospital, Gastrohepatology Group of Antioquia University, Medellín, Colombia
[12] Medical Science University of La Habana, Havana, Cuba
[13] Eugenio Espejo Hospital, Quito, Ecuador
[14] Gastroenterology Digestive Endoscopy Hepatology, Roosevelt Hospital, Guatemala City, Guatemala
[15] Gastroenterology Department, Clinic Hospital, National University of Asunción, Asunción, Paraguay
[16] Mayor Nacional University of San Marcos. Guillermo Almenara National Hospital, Lima, Perú
[17] Nacional Hospital Edgardo Rebagliati, Jesús María, Perú
[18] Medical School Alberto Hurtado, Peruvian University Cayetano Heredia, Lima, Perú
[19] Liver Unit, Private Hospital of Rosario, Rosario, Argentina
[20] Hepatology and Liver Transplant Unit, Austral Universitary Hospital, Buenos Aires, Argentina
[21] Department of Community Health and Prevention, Dornsife School of Public Health, Drexel University, Philadelphia, Pennsylvania; Urban Health Collaborative, Dornsife School of Public Health, Drexel University, Philadelphia, Pennsylvania; Division of General Internal Medicine, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA
[22] Public Health Department, School of Medicine, Pontifical Catholic University of Chile, Santiago, Chile. Advanced Center for Chronic Diseases, ACCDis, Santiago, Chile
[23] Division of Digestive and Liver Diseases, UT Southwestern Medical Center, Dallas, Texas, USA
[24] Department of Medicine, Division of Gastroenterology, Western University, London Health Sciences Center, London, Ontario, Canada
[25] Liver Research Unit, Medica Sur Clinic & Foundation, Faculty of Medicine, National Autonomous University of Mexico, Mexico City, 14050, Mexico
[26] Gastroenterology Section, Clinical Hospital of University of Chile, Medical School, University of Chile, Santiago, Chile
[27] University of Kansas Medical Center, KS, USA
[28] Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN, USA
[29] Department of Medicine, University of South Dakota Sanford School of Medicine, Division of Transplant Hepatology, Avera Transplant Institute, Sioux Falls, SD, United States
[30] Center for Liver Diseases, Division of Gastroenterology, Hepatology and Nutrition, University of Pittsburgh Medical Center, PA, USA

**Introduction and Objectives:** Although most cases of HCC occur in patients with advanced liver disease and there are effective screening methods, health policies aimed at preventing and detecting HCC are not often on the agenda of government initiatives and policies. This study aimed to explore HCC-related population-wide public health policies, treatment availability, epidemiological surveillance, and awareness campaigns in the Americas.

**Materials and Methods:** We conducted a 43-item survey about HCC among experts from 12 countries. Questions were classified into four categories: policies and civil society (18 questions), clinical guidelines (5 questions), epidemiology (7 questions), and care management (13 questions). The survey was administered using an electronic form in May 2022. Data was collected in a spreadsheet, revised by two independent reviewers, and contrasted with governmental institutions.

**Results:** We obtained 22 responses from 15 out of the 18 countries targeted. A total of 7 (47%) countries had a written national cancer strategy or action plan. Only 4 (27%) countries had a specific written national HCC strategy or action plan, including Argentina, Brazil, Mexico, and the United States. These same four countries also had national clinical guidelines on HCC. HCC is managed by various providers, including Hepatologists (80%), Oncologists (80%), Gastroenterologists (60%), Surgeons (47%), and Palliative medicine (20%). There were important differences in the availability of treatments among countries in the Americas (Figure). Of note, 60% of countries had liver transplantation available for HCC, but only 67% of them had this therapy outside the capital city. Nine (60%) countries had a national disease registry that included HCC. However, only Brazil (7%) had governmental funded awareness campaigns on HCC prevention or screening.

**Conclusions:** Implementation of public health policies on HCC is scarce in the Americas. Important differences in treatments were observed across countries, especially in curative therapies. Our results strongly encourage developing public health policies on HCC in the Americas.




https://doi.org/10.1016/j.aohep.2023.101031

## O-22 DIFFERENTIAL MUTATION PATTERN ASSOCIATED WITH HEPATITIS B E ANTIGEN SEROCONVERSION BETWEEN SUBGENOTYPE F1b CLUSTERS: POTENTIAL ROLE IN PATHOGENESIS

Micaela Martínez[1], Mercedes Elizalde[1], Micaela Speroni[1], Rodolfo Campos[2], Diego Flichman[1]

[1] *Institute for Biomedical Research on Retroviruses and AIDS, UBA-CONICET, Buenos Aires, Argentina*
[2] *Chair of Virology of the Faculty of Pharmacy and Biochemistry, UBA, Buenos Aires, Argentina*

**Introduction and Objectives:** Two clusters of the subgenotype F1b (basal and cosmopolitan) have recently been described. The basal cluster has been associated with the early occurrence of hepatocellular carcinoma in chronically infected patients from Alaska and Peru. In Argentina, where the cosmopolitan cluster is the most prevalent, this relationship has not been observed. In the course of chronic hepatitis B infection, mutations occur in different regions. In particular, mutations in the basal core promoter (BCP) and the preC/C regions are associated with HBe-antigen (HBeAg) seroconversion, an event related to the severity of chronic HBV infection. This study aimed to determine the HBeAg status and to characterize the molecular mutation patterns associated with HBeAg seroconversion in both subgenotype F1b clusters.

**Materials and Methods:** Serum samples from 68 patients with subgenotype F1b chronic hepatitis B infection were analyzed. The BCP and pC/C regions were amplified and sequenced.

**Results:** Twenty-one samples belonged to the basal cluster and 47 to the cosmopolitan cluster. No differences in age or gender were observed between the cases of both clusters. The basal cluster samples showed a lower frequency of positivity for HBeAg (38.1 vs. 57.4 %). In HBeAg negative samples, the basal cluster showed significantly higher rates of A1762T/G1764A (92.3 vs. 50.0, p:0.013) and G1896A (92.3 vs. 20.0, <0.001) mutations in relation to the cosmopolitan cluster.

**Conclusions:** The disparity observed in HBeAg positivity frequency suggests that the basal cluster would be associated with earlier HBeAg seroconversion than the cosmopolitan cluster. The frequency of mutations associated with a worse clinical outcome was significantly higher in the basal cluster samples.

Overall, this study provides new insights into the role of viral variants in the pathogenesis of chronic HBV infection and contributes to identifying molecular determinants associated with the pathogenesis of chronic HBV infection.

https://doi.org/10.1016/j.aohep.2023.101032

## O-23 HEPATITIS B VIRUS STATUS OF ORGAN DONORS IN ARGENTINA

Maria Anders[1], Ariel Antik[2], Manuel Mendizabal[3], Federico Piñero[3], Daniela Hansen Krogh[2], Federico Orozco[1], Viviana Tagliafichi[2], Julia Brutti[1], Marcelo Silva[3], Gabriela Hidalgo[4], Liliana Bisignano[2]

[1] *Transplant Unit, German University, Buenos Aires, Argentina*
[2] *Scientific and Technical Direction, Single Coordinating Institute of Ablation and Implantation, Buenos Aires, Argentina*
[3] *Liver and Liver Transplant Unit, Austral University Hospital, Pilar, Argentina*
[4] *Medical Management, Single Coordinating Institute of Ablation and Implantation, Buenos Aires, Argentina*

**Introduction and Objectives:** Argentina is considered an area with a low prevalence of hepatitis B virus (HBV). However, the real prevalence of the disease is unknown. We aimed to study the prevalence of HBV in potential cadaveric donors.

**Materials and Methods:** We performed a cross-sectional study to analyze data from the National Procurement of Transplantation in Argentina from all donors from 2006 to 2020. HBV serologic tests included hepatitis B virus antigen (HBsAg), core antigen-antibody (HBcIgG) and anti-HBs performed during the procurement process. HBV status was defined as 1) active HBV: donors with positive HBsAg; 2) Past HBV infection or false positive: isolated positive HBcIgG; 3) Cured infection anti-HBs+/HBcIgG+.

**Results:** Overall, 16140 deceased donors were denounced. The prevalence of HBsAg was 0.37% (n=60) and of isolated HBcIgG+ was 3.6% (n=575). Among organ donors only, 328 (3.8%) presented isolated HBcIgG-positive serology. Of these, 252 (77%) were effective organ donors. Solid-organ transplants performed using isolated HBcIgG+ donors were 220 kidneys, 124 livers, and 27 intrathoracic organs. There was no significant 5-year graft and patient survival difference between HBcIgG+ receptor (kidney transplant 65% and 81%, and for liver 65% and 83% respectively) and the general population. Anti-HBs data were available in only 4455 donors, of which 19% (N=847) were anti-HBs+. In those patients with positive anti-HBs, HBcIgG was positive in 8.3% (n=369), reflecting past HBV infection. Of the remaining 4086 AntiS available, only 11.7% were positive; that is, they were effectively vaccinated. The Patagonia region presented the highest prevalence of HBsAg, especially in the provinces of La Pampa (2.3%), Santa Cruz (2.2.%), and Tierra del Fuego (2.1.%).

**Conclusions:** The prevalence of HBsAg in deceased donors in Argentina is low. Since the probability of being a donor is random, the prevalence in this population could be close to the real one in the country.

https://doi.org/10.1016/j.aohep.2023.101033

## O-24 PIRFENIDONE PREVENTS NEOPLASTIC LESIONS DEVELOPMENT BY OXIDATIVE, FIBROGENIC, ANTIPROLIFERATIVE AND EPIGENETIC MECHANISMS REGULATION IN A MODEL OF CHEMICAL HEPATOCARCINOGENESIS

Hipólito Otoniel Miranda-Roblero[1], Hugo Christian Monroy-Ramírez[1], Marina Galicia-Moreno[1], Ana Sandoval-Rodriguez[1], Arturo Santos[2], Juan Armendáriz-Borunda[1,2]

[1] *Institute of Molecular Biology in Medicine and Gene Therapy, University Center of Health Sciences (CUCS), University of Guadalajara, Guadalajara, México*
[2] *School of Medicine and Health Sciences, Technologico of Monterrey Campus Guadalajara, Zapopan, México*

**Introduction and Objectives:** Hepatocellular carcinoma (HCC) is the most frequent hepatic neoplasia, where oxidative, fibrogenic, proliferative, and epigenetic processes are altered. Pirfenidone (PFD) has been shown to have important hepatoprotective properties. However, its efficacy in HCC development is unknown. This study aimed to 1) determine whether PFD has antioxidative, antifibrogenic and antiproliferative effects and 2) determine PFD effects on epigenetic regulation mechanisms.

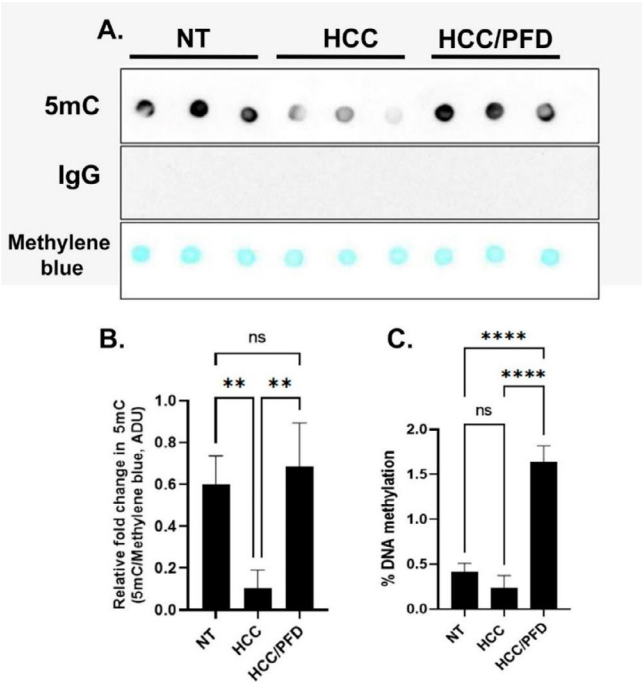
**Materials and Methods:** Male Fischer-344 rats were divided into three groups. Group 1. Control, NT; Group 2. Damage, HCC, generated by diethylnitrosamine weekly administration; (50mg/kg, i.p.) and 2-acetylaminofluorene (25mg/kg, p.o.) for 12 weeks; and Group 3. HCC/PFD: with the same treatment as Group 2, plus PFD (300 mg/kg, p.o./day). Liver enzyme activity was quantified in serum; lipoperoxidation and GSH levels were evaluated in liver tissue samples; histopathological analyzes were performed. In addition, fibrogenic, antioxidant, anti-proliferative and epigenetic regulation markers were determined by Western blot.

Finally, global DNA methylation was determined by Dot-blot and ELISA. The data obtained were analyzed using one-way ANOVA, and a Tukey post hoc test.

**Results:** We demonstrate that PFD treatment reduces the number and size of neoplastic lesions, prevents damage to hepatic architecture and collagen deposition, and decreases the presence of the histopathological marker Glypican-3. On the other hand, it positively regulates antioxidant markers such as GSH, MDA, Nrf2, GSTP1 and Catalase. It was also effective to decrease c-Myc expression and $\beta$-catenin redistribution from the nucleus to the cytoplasm. Finally, PFD stimulated the nuclear transfer of several isoforms of PPARs, SIRT1 and DNMT1, increasing epigenetic mechanisms of global DNA methylation (figure 1).

**Conclusions:** PFD prevents neoplastic lesions development by modulating antifibrogenic, antioxidant, and antiproliferative processes and modulating epigenetic marks to reverse global DNA hypomethylation.

Figure 1. Analysis of global DNA methylation. A) Representative dot blot using anti-5mC which recognizes global methylated DNA, anti-IgG as negative control and methylene blue staining as total DNA loading control. B) Graphs shows mean ± standard deviation of 5mC densitometry brand intensity of study groups. C) Graph that represents the percentage of global methylation of the DNA analyzed with ELISA.A one-way ANOVA statistical test and a Tukey post hoc test were performed. Group NT: only received vehicle; Group HCC: damage group induced by weekly administration of DEN and 2-AAF for 12 weeks; and Group HCC/PFD: which received the same treatment as Group HCC, plus PFD (300 mg/kg) (**p<0.005)




https://doi.org/10.1016/j.aohep.2023.101034

## O-25 ASSESSMENT OF MODELS FOR PREDICTING RESPONSE TO CORTICOIDS TREATMENT IN ALCOHOL-ASSOCIATED HEPATITIS: A GLOBAL COHORT STUDY

Francisco Idalsoaga[1], Luis Antonio Díaz[1], Gustavo Ayares[1], Jorge Arnold[1], Winston Dunn[2], Yanming Li[2], Ashwani Singal[3], Doug Simonetto[4], María Ayala-Valverde[5], Diego Perez[4], Jaime Gomez[5], Rodrigo Escarate[5], Eduardo Fuentes-López[6], Carolina A Ramirez[7], Dalia Morales-Arraez[8], Wei Zhang[9], Steve Qian[9], Joseph Ahn[4], Seth Buryska[4], Heer Mehta[2], Muhammad Waleed[3], Horia Stefanescu[10], Adelina Horhat[10], Andreea Bumbu[10], Bashar Attar[11], Rohit Grawal[12], Joaquín Cabezas[13], Inés García-Carrera[13], Berta Cuyàs[14], Maria Poca[14], German Soriano Pastor[14], Shiv K Sarin[15], Rakhi Maiwall[15], Prasun K Jalal[16], María Fátima Higuera-De La Tijera[17], Anand Kulkarni[18], Nagaraja Rao P[18], Patricia Guerra Salazar[19], Lubomir Skladaný[20], Natália Bystrianska[20], Veronica Prado[21], Ana Clemente-Sanchez[22], Diego Rincón[22], Tehseen Haider[23], Kristina R Chacko[23], Gustavo A Romero[24], Florencia D Pollarsky[24], Juan Carlos Restrepo[25], Luis G Toro[26], Pamela Yaquich[27], Manuel Mendizabal[28], Maria Laura Garrido[29], Sebastian Marciano[30], Melisa Dirchwolf[31], Victor Vargas[32], Cesar Jimenez[32], Guadalupe García-Tsao[33], Guillermo Ortiz[33], Juan G Abraldes[34], Patrick Kamath[4], Marco Arrese[1], Vijay Shah[4], Ramon Bataller[8], Juan Pablo Arab[1,35,36]

[1] *Department of Gastroenterology, Medical School, Pontifical Catholic University of Chile, Santiago, Chile*
[2] *Division of Gastroenterology and Hepatology, University of Kansas Medical Center, KS, USA*
[3] *Division of Gastroenterology and Hepatology, Department of Medicine, University of South Dakota Sanford School of Medicine, Sioux Falls, SD, USA*
[4] *Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN, USA*
[5] *Internal Medicine Service, El Pino Hospital, Santiago, Chile*
[6] *Department of Health Sciences, Faculty of Medicine, Pontifical Catholic University of Chile, Santiago, Chile*
[7] *Department of Anesthesiology, Las Condes Clinic, Santiago, Chile*
[8] *Center for Liver Diseases, Division of Gastroenterology, Hepatology and Nutrition, University of Pittsburgh Medical Center, PA, USA*
[9] *Division of Gastroenterology and Hepatology, University of Florida, Gainesville, FL, USA*
[10] *Regional Institute of Gastroenterology and Hepatology, Cluj-Napoca, Romania*
[11] *Division of Gastroenterology & Hepatology, Cook County Health and Hospital Systems, Chicago, Illinois, USA*
[12] *Division of Gastroenterology and Hepatology, University of Illinois, Chicago, Illinois, USA*
[13] *Gastroenterology and Hepatology Department. University Hospital Marques de Valdecilla. Santander. Spain; Research Institute Valdecilla (IDIVAL). Santander. Spain*
[14] *Department of Gastroenterology, Hospital de La Santa Creu I Sant Pau, Ciberehd, Barcelona, Spain*
[15] *Department of Hepatology, Institute of Liver and Biliary Sciences, New Delhi, India*
[16] *Department of Gastroenterology and Hepatology, Baylor College of Medicine, Houston, TX, USA*
[17] *Gastroenterology Service, General Hospital of México, National Autonomous University of México, México City, México*

[18] *Department of Hepatology, Asian Institute of Gastroenterology, Hyderabad, India*
[19] *Gastroenterology Department, Gastroenterology Institute Bolivian-Japanese, La Paz, Bolivia*
[20] *Division of Hepatology, Gastroenterology and Liver Transplantation, Department of Internal Medicine II, Slovak Medical University, F. D. Roosevelt University Hospital, Banska Bystrica, Slovak Republic*
[21] *Hepatology, Centre Hospitalier de Luxembourg, Luxembourg*
[22] *Liver Unit, Department of Digestive Diseases University General Hospital Gregorio Marañón Madrid, Spain; Ciberehd Biomedical Research Center in the Liver and Digestive Diseases Network Madrid, Spain*
[23] *Division of Gastroenterology and Hepatology, Montefiore Medical Center, Bronx, NY, USA*
[24] *Hepatology Section, Gastroenterology Hospital Dr. Carlos Bonorino Udaondo, Buenos Aires, Argentina*
[25] *Hepatology Unit, Pablo Tobon Uribe Hospital, university of Antioquia, Medellín, Colombia*
[26] *Hepatology and Liver Transplant Unit, Hospitals of San Vicente Fundación, Medellín-Rionegro, Antioquia, Colombia*
[27] *gastroenterology Department, San Juan de Dios Hospital, Santiago, Chile*
[28] *Hepatology and Liver Transplant Unit, Austral University Hospital, Pilar, Argentina*
[29] *Central Hospital San Luis, San Luis, Argentina*
[30] *Liver Unit, Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[31] *Liver Unit, Rosario Private Hospital, Rosario, Argentina*
[32] *Liver Unit, Hospital Vall D'hebron, Universitat Autonoma Barcelona, Ciberehd, Barcelona, Spain*
[33] *Section of Digestive Diseases, Yale University School of Medicine/VA-CT Healthcare System, New Haven/ West Haven, USA*
[34] *Division of Gastroenterology, Liver Unit, University of Alberta, Edmonton, Canada*
[35] *Division of Gastroenterology, Department of Medicine, Schulich School of Medicine, Western University & London Health Sciences Centre, London, Ontario, Canada*
[36] *Department of Epidemiology and Biostatistics, Schulich School of Medicine, Western University, London, Ontario, Canada*

**Introduction and Objectives:** Alcohol-associated hepatitis (AH) is a severe entity associated with high mortality. Corticosteroids might be used in cases with severe disease and several dynamic models can predict mortality and response to corticosteroids in AH patients. However, there is no consensus on the best of them. This study aimed to evaluate dynamic models to predict response to corticosteroid treatment based on short-term mortality in patients with severe AH based on a worldwide cohort.

**Materials and Methods:** A retrospective cohort study of patients with severe AH (between 2009 – 2019). We included patients who received corticosteroid treatment and calculated the Lille model of day 4 (Lille-4), day 7 (Lille-7) (cut-off value ≥0.45), and the Trajectory of Serum Bilirubin (TSB)(cut-off value ≥0.8 of the ratio between bilirubin at admission and day 7) to predict mortality. We estimated up to 30-day survival using Kaplan-Meier curves, and we performed multivariable analyzes using Cox regression. Specifically, we constructed two models to compare Lille-4 vs. TSB and Lille-7 vs. TSB, adjusting by well-known clinical variables associated with higher mortality in AH (age, sex, and creatinine at admission).

**Results:** 1,066 patients were included (30 centers, 10 countries), age 47.7 ± 10.9 years, 30% women. The MELD score on admission was 25 [21-30]. Responders were considered by Lille-4 49.1%, Lille-7 46.6%, and TSB 55.4%. In the first Cox regression, we observed that Lille-4 and TSB predicted 30-day mortality (HR 3.0, 95%CI: 1.7-5.1; p<0.0001, and HR 2.1, 95%CI: 1.3-3.5; p=0.005, respectively) (Table A). In the second Cox regression, Lille-7 also predicted 30-day mortality (HR 3.7, 95%CI: 2.1-6.7; p<0.0001) but not TSB (HR 1.5, 95% CI: 0.8-2.6; p=0.180) (Table B). Creatinine at admission was also statistically significant in both Cox-regressions.

**Conclusions:** Different dynamic models can determine the response to corticosteroids in patients with severe AH. However, Lille-7 and Lille-4 have the best performance. New models are needed for better prognostication in AH.

**Table 1:** Models to compare Lille-4 vs. TSB (Table A) and Lille-7 vs. TSB (Table B)

Table A

| Variable | Hazard Ratio | P value | 95 % Conf. Interval |
|---|---|---|---|
| **Age** | 0.999 | 0.933 | 0.98 - 1.01 |
| **Gender** | 0.954 | 0.829 | 0.62 - 1.45 |
| **Creatinine in Admission** | 1.195 | **0.00** | 1.08 - 1.31 |
| **Lille- 7 Response** | 3.706 | **0.00** | 2.05 - 6.68 |
| **TSB Response** | 1.476 | 0.180 | 0.83 - 2.60 |

Table B

| Variable | Hazard Ratio | P value | 95 % Conf. Interval |
|---|---|---|---|
| **Age** | 0.999 | 0.948 | 0.98 - 1.01 |
| **Gender** | 0.911 | 0.678 | 0.58 - 1.40 |
| **Creatinine in Admission** | 1.193 | **0.001** | 1.07 - 1.31 |
| **Lille- 4 Response** | 2.99 | **0.00** | 1.74 - 5.14 |
| **TSB Response** | 2.08 | **0.005** | 1.25 - 3.45 |

https://doi.org/10.1016/j.aohep.2023.101035

## O-26 IMMUNE PROFILING PROVIDES A SET OF 5 CYTOKINES TO DETECT HEPATOCELLULAR CARCINOMA RELATED TO VIRAL HEPATITIS IN SOUTH AMERICAN PATIENTS

Jose Debes[1], Enrique Carrera Estupinan[2], Melina Rocio Ferreiro[3], Angelo Mattos[4], Domingo Balderramo[5], Maria Massotti[6], Joe Koopmeiners[7], Andre Boonstra[8]

[1] *Department of Medicine, University of Minnesota, Minneapolis, MN, USA*
[2] *Department of Gastroenterology, Eugenio Espejo Hospital, Quito, Ecuador*
[3] *Department of Gastroenterology, Clinic National Hospital, Buenos Aires, Argentina*
[4] *Department of Gastroenterology, Federal University of Health Sciences of Porto Alegre, Porto Alegre, Brazil*
[5] *Department of Gastroenterology, University Private Hospital of Córdoba. University Institute of Biomedical Sciences of Córdoba, Argentina*
[6] *Division of Biostatistics, University of Minnesota, Minneapolis, MN, USA*
[7] *Division of Biostatistics, University of Minnesota, Minneapolis, MN, USA*
[8] *Department of Gastroenterology, Erasmus MC, Rotterdam, the Netherlands*

**Introduction and Objectives:** New peripheral markers are needed for the early detection of hepatocellular carcinoma (HCC). Currently, the only accepted biomarker is alpha-fetoprotein (AFP) which by itself is suboptimal for early HCC detection. We investigated

peripheral immune markers to detect HCC in a large cohort of South American patients and a sub-group of viral hepatitis-related HCC.

**Materials and Methods:** Through the ESCALON network, we prospectively evaluated 127 individuals with HCC and 113 cirrhotic controls from 3 countries in South America (Argentina, Brazil and Ecuador). 42% of HCC cases were related to viral hepatitis B or C. Blood samples were analyzed for 37 unique interleukins, chemokines and growth factors using a multiplex Bio-Rad platform. We used leave-one-out cross-validation (LOOCV) to compute a ROC curve.

**Results:** Median age for HCC patients was 68 y/o and for controls 62 y/o. 70% of cases and 55% of controls were males. 55% of HCCs were under 5cm in diameter. The most common causes of HCC were viral hepatitis (42%) and NAFLD (23%). Twenty-two markers showed a significant difference between cases and controls. Three markers (IL-12p40, Beta-NGF and Gro-alpha) were exclusively dysregulated in viral hepatitis related HCC compared to other HCCs. From all causes of HCCs, we identified five cytokines (MIP-3a, MIG, CCL-25, MDC, and HGF) that were differentially regulated in HCCs compared to cirrhosis controls. ROC analysis of the top-5 markers in HCC cases exclusively related to viral hepatitis showed an AUROC of 0.816 (CI 0.783-0.886). The same panel applied to HCC <5cm related to viral hepatitis showed an AUROC of 0.751 (CI 0.671-0.832).

**Conclusions:** Our study identified a set of 5 cytokines in South American patients that can differentiate HCC from cirrhosis controls in patients with viral hepatitis. The 5 cytokines showed a lower prediction power for HCCs <5cm (likely due to the small size of this cohort).

https://doi.org/10.1016/j.aohep.2023.101036

## O-30 ALCOHOL-HARM PARADOX IN LATIN AMERICA: HOW TO STUDY IT DESPITE DATA LIMITATIONS? THE CHILEAN EXPERIENCE

Juan Pablo Roblero[1], Pablo Roblero[2], Juan Pablo Arab[3], Jaime Poniachik[1], Ramon Bataller[4], Luis Antonio Díaz[3]

[1] *Department of Medicine, University of Chile, Santiago, Chile*
[2] *Sociology Institute, Pontifical Catholic University of Chile, Santiago, Chile*
[3] *Gastroenterology Department, Pontifical Catholic University of Chile, Santiago, Chile*
[4] *Center for Liver Diseases, University of Pittsburgh, Pittsburgh, United States*

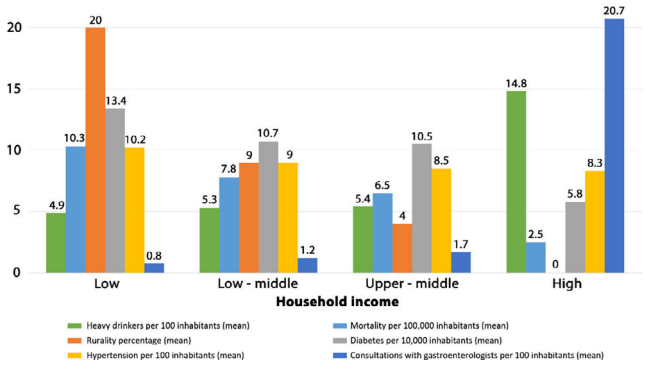
**Introduction and Objectives:** Research on the "Alcohol-Harm Paradox" (AHP) investigates why low-income individuals have more alcohol-related harm despite lower alcohol consumption (AC). Possible explanations have been evaluated in Europe and the US, but data constraints make it difficult in Latin America (LATAM). This study aimed to design a strategy to study the AHP in LATAM's restricted-data context, recognize its strengths and limitations, and identify possible explanations in the Chilean experience. The AHP is expected to be explained by the unequal distribution of comorbidities, risk behaviors, consumption patterns, rurality, education, access to health, social capital, and mental health.

**Materials and Methods:** We first evaluated our hypothesis at the individual level with data from the 2016-17 National Health Survey. We conducted logistic regression models to assess whether the hypothesized explanatory factors mediated the effect of AC on liver disease. Second, we aggregated at the municipal level registry data on deaths from alcohol-related liver disease (Ministry of Health Statistics) and survey data on AC and the hypothesized explanatory factors (National Drug Survey and National Survey of Socioeconomic Characterization) to test our hypothesis using mortality as the outcome of negative binomial regression models.

**Results:** The first analysis suggests that the AHP exists among Chilean men and it is explained by the unequal distribution of metabolic syndrome, diabetes, obesity, smoking, heavy episodic drinking, rurality, education, social support, and depression. The second analysis reinforces these findings and highlights the explanatory potential of healthcare-access inequality (Figure 1).

**Conclusions:** The proposed analyzes support our hypothesis in Chile. They can be replicated in other LATAM countries as an effective restricted-data strategy to start investigating the AHP. However, cross-sectional survey analyzes are limited by reverse causation and aggregate data analyses by ecological fallacy. Better access to administrative data with patient identifier is needed to generate accurate longitudinal evidence on the explanatory mechanisms.

**Figure 1.** Variation in the explanatory factors of the AHP according to the median household income of the municipalities




https://doi.org/10.1016/j.aohep.2023.101037

## O-31 DIAGNOSTIC PERFORMANCE OF BAVENO VII CRITERIA FOR EXCLUSION OF ESOPHAGEAL VARICES: A RETROSPECTIVE STUDY

Williams Celedonio Campos[1], Celide Campoverde-Cueva[2], Brayan Campos[3], Rommel Zambrano-Huailla[1], Alejandra Zevallos[2], Jorge Garavito-Renteria[1,2]

[1] *Liver Unit, Gastroenterology Service, Arzobispo Loayza National Hospital, Lima, Perú*
[2] *Professional School of Human Medicine, Private University San Juan Bautista, Lima, Perú*
[3] *Department of Neurobiology, Duke University, NC, United States*

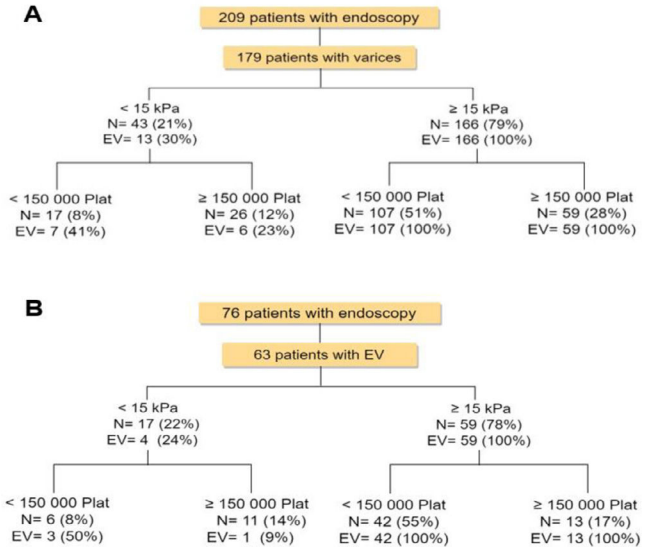
**Introduction and Objectives:** Cirrhosis is the main cause of patient hospitalization and esophageal variceal bleeding is the most serious decompensation. In recent years, transient elastography (TE) has been shown to be a useful tool for the diagnosis and management of esophageal varices (EV). The purpose of this study was to validate the Baveno VII criteria in patients with chronic liver disease in order to exclude the presence of EV.

**Materials and Methods:** A retrospective study was conducted with cirrhotic patients who underwent upper endoscopy and TE from January 2017 to December 2019. ROC analyses were conducted to determine cut-off values for ruling out EV. We evaluated the performance of the Baveno VII criteria (liver stiffness measurement (LSM) <15 kPa and platelet count >150 $\times$ $10^9$ cells/L) for the identification of EV and sparing endoscopies.

**Results:** The study included 209 patients. The mean (SD) age was 59.4 (12.9) years, the mean MELD-Na was 11.7 (4.5), the mean platelet count value was 148.3 (75.2) x $10^9$cells/L and the mean LSM was 27.21 (14.6) kPa. The prevalence of EV was 85.6% and the most frequent etiology of cirrhosis was MAFLD (63,6%). Considering all etiologies, the Baveno VII criteria showed a sensitivity of 96.7% (95% CI 92.3-98.8%) and a negative predictive value of 76.9% (95% CI 56.4-91%) for excluding EV. However, when MAFLD patients were excluded, the Baveno VII criteria presented a better diagnostic performance [sensitivity of 98.4% (95% CI 79.2 – 99.2%) and negative predictive value of 90.9% (95% CI 79.2 – 99.2%)]. Additionally, the Baveno VII criteria would allow sparing 14% of upper gastrointestinal endoscopies with a risk of 9% of missed esophageal varices.

**Conclusions:** : The Baveno VII correctly identified esophageal varices in cirrhotic patients without MAFLD of our cohort, allowing us to avoid up to 14% of upper endoscopies with a low risk of missed esophageal varices.

**Figure:** Performance of the Baveno VII criteria to spare endoscopies and to identify esophageal varices (EV) in all etiologies (A) and without MAFLD (B)




https://doi.org/10.1016/j.aohep.2023.101038

## O-32 FULMINANT AUTOIMMUNE HEPATITIS: CLINICAL PRESENTATION, OUTCOME AND PROGNOSTIC FACTORS.

Alejandra Villamil[1,2], Marlene Padilla[1,2], Eduardo Mullen[2], Juan Carlos Bandi[3], Gabriel Carballo[4], Natalia Sobenko[1,2], Sebastian Marciano[2]

[1] *Liver Autoimmunity Unit, Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[2] *Liver Section, Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[3] *Department of Anatomic Pathology, Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[4] *Molecular Immunobiology Laboratory, Buenos Aires Italian Hospital, Buenos Aires, Argentina*

**Introduction and Objectives:** Early identification of fulminant autoimmune hepatitis could be lifesaving or prevent liver transplantation, but rapid diagnostic and prognostic criteria are lacking. This study aimed to assess the clinical features and outcomes of fulminant AIH. –To analyze prognostic factors related to poor outcomes (requirement of transplantation or death).

**Materials and Methods:** We retrospectively reviewed 307 consecutive patients evaluated for fulminant hepatic failure (1994-June 2020) in our Unit. Patient work-up consisted of viral serologies, autoantibodies, gammaglobulin, drug screening and ceruloplasmin. Since 2003, selected hemodynamically and neurologically stable patients have received a transjugular liver biopsy.

**Results:** 86 patients (28,01%) fulfilled the criteria for fulminant AIH (AIH simplified criteria). Seven were excluded from analysis due to cirrhosis Oral meprednisone 60 mg or via nasogastric tube was started at diagnosis in 67 patients until death, transplantation, recovery or futility. Biochemical and clinical variables were analyzed. One patient developed hyperacute encephalopathy, 33 within 7/28 days post jaundice (41.7 %) and 45 (55.9 %) subacute encephalopathy (>28 days). 63/79 patients died or required liver transplantation (median time 7.8 days,1-34 days). 48 (60 %) patients underwent LT, 16 (20%) patients survived, and 16 (20 %) died without LT. Seven transplanted patients died early post OLT (infectious n=5, neurological complications n=2). Variables associated with bad prognosis were: prothrombin time < 20% or grade IV encephalopathy at steroid initiation, LC+ or LKM-1 +, massive necrosis, no >20% improvement of prothrombin time by day three post-steroids ($p<0.05$). Patients diagnosed before 2003 had the worst prognosis (87 vs. 71%), probably related to the shorter time to diagnosis since the introduction of biopsy (2.1± 1.7 days vs. 4.6±2.1 days, $p<0.05$). Among patients who recovered, 5/16 were weaned from immunosuppression at a median of 4.5 years of treatment without relapse.

**Conclusions:** The disease course is aggressive, with death or requirement of liver transplantation in 80 % of patients. Early diagnosis and treatment may improve survival.

https://doi.org/10.1016/j.aohep.2023.101039

## O-33 PREVALENCE OF HIGH-RISK NON-ALCOHOLIC STEATOHEPATITIS ACCORDING TO THE FAST® INDEX IN A GROUP OF DIABETIC PATIENTS

Andrés Burak-Leipuner[1], Fatima Higuera-de la Tijera[1], Alfredo Servín-Caamaño[2], Javier Romero-Bermúdez[2], Laura Ceceña-Martínez[2], Felix García-Gorrosquieta[1], Kevin Vázquez-Hernández[2], Nidia Uribe-Rivera[1], Pablo Alagón-Fernández del Campo[1], Farid Vargas-Duran[1], Christian Hinojosa-Segura[1], Diana Montemira-Orozco[1], José Luis Pérez-Hernández[1]

[1] *Gastroenterology Department, Mexican General Hospital "Dr. Eduardo Liceaga", Mexico City, Mexico*
[2] *Internal Medicine Department. Mexican General Hospital "Dr. Eduardo Liceaga", Mexico City, Mexico*

**Introduction and Objectives:** Diabetes is a high-risk condition for the progression of metabolic fatty liver disease (MAFLD). The FAST® index combines the result of transition elastography (Fibroscan®) and AST levels and is used to predict the risk of suffering from non-alcoholic steatohepatitis (NASH) with a high risk of progression (NAS >4, F>2). This study aimed to know what proportion of diabetic patients is at risk of suffering from high-risk NASH according to the FAST® index.

**Materials and Methods:** Observational, transversal study to estimate prevalence. Diabetic patients who agreed to perform Fibroscan® and liver biochemical profile were included, and the FAST® index was

calculated (<0.35 without risk; ≤ 0.35 to <0.67 indeterminate; ≥ 0.67 high-risk NASH). Descriptive statistics were used.

**Results:** 150 diabetic patients were included; 106 (70.7%) women; mean age 56.5±10.5 years. According to the steatosis degree by controlled attenuation parameter (CAP): S0=71(47.3%), S1=14(9.3%), S2=29(19.3%), S3=36(24%). According to the fibrosis degree (KPa): F0=82(54.7%), F1=4(2.7%), F2=8(5.3%), F3=9(6.0%), F4=47(31.3%). According to the FAST® index: without risk= 96 (64%), indeterminate= 24 (16.0%), and with high risk= 30 (20%). There was no correlation between the HbA1c levels, diabetes evolution, obesity degree or the presence of dyslipidemia.

**Conclusions:** The NASH high-risk progression prevalence is high in diabetic patients. The factors that determine this risk in this population are still not clear, but timely detection strategies are required to efficiently identify this subgroup of patients. The FAST® index is a relatively accessible tool that, due to its non-invasive nature, could be an alternative to liver biopsy for decision-making when starting specific therapy with action at histological liver changes in NASH.

https://doi.org/10.1016/j.aohep.2023.101040

## O-34 PATIENT AND GRAFT SURVIVAL IN RECIPIENTS OF DE NOVO SIMULTANEOUS LIVER-KIDNEY TRANSPLANTATION

Agustina Martínez Garmendia[1], Marlene Padilla[1], Tomas Fescina[2], María Cora Giordani[2], Gustavo Greloni[2], Rosana Groppa[2], Nora Imperialii[2], Paola Casciato[1], Sebastián Marciano[1,3]

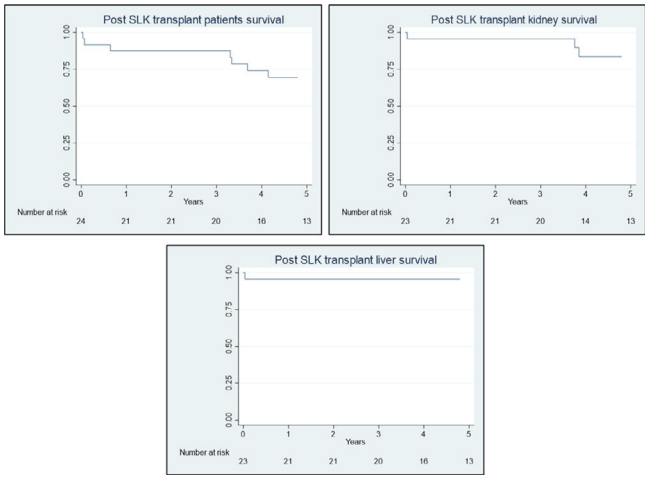
[1] *Liver Unit, Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[2] *Division of Nephrology, Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[3] *Department of Research, Buenos Aires Italian Hospital, Buenos Aires, Argentina*

**Introduction and Objectives:** Simultaneous liver-kidney transplant (SLKT) outcomes should be reported in single centers and regions to determine the applicability of such a complex intervention, particularly in areas with organ shortage. However, reports on this matter are scant in Latin America. This study aimed to estimate the patient and graft survival of individuals undergoing de-novo SLKT.

**Materials and Methods:** A retrospective cohort study of adult patients undergoing de-novo SLKT (prior history of the transplant was an exclusion criterion) at the Italian Hospital of Buenos Aires, Argentina. Overall survival and individual graft survival were estimated using the Kaplan Meier method. Five-year survivals are reported with their corresponding 95% confidence interval (CI).

**Results:** 1,036 liver transplants (LT) and 1,200 kidney transplants (KT) were performed in adults at the moment of this report in our center since both programs were started. Between January 1997 and May 2022, 34 SLTK were performed, of which nine were excluded because they had previous transplants: five previous LT and four previous KT. The median age at the time of the SLKT was 54 (IQR 49-60) years; 14 were women. The most frequent indications were polycystic liver-kidney disease (n=10), followed by hepatitis C-related cirrhosis (n=5) associated with end-stage renal disease (glomerulosclerosis or tubulointerstitial nephropathy). Five-year survival of the liver graft was 96% (95% CI: 74%-99%) and that of the renal graft was 84% (95% CI: 57%-95%). Five-year patient survival was 69% (95% CI: 46%-84%). A total of 6 patients had at least 1 episode of liver rejection and a total of 14 patients had at least 1 episode of kidney rejection.

**Conclusions:** In our experience, de-novo SLKT presents adequate five-year survival according to international standards, which favors its application. It would be of interest to conduct a multicenter study in Latin America where a significant shortage of donors exists, aiming at identifying the best candidates for this strategy.




https://doi.org/10.1016/j.aohep.2023.101041

## O-35 EPIDEMIOLOGY, CLINICAL AND TISSUE CHARACTERISTICS OF A LARGE COHORT OF NAFLD/NASH FROM SOUTH AMERICA

Jhon Prieto Ortiz[1], Joseph Akambase[2], Angelo Mattos[3], Enrique Carrera Estupinan[4], Javier Diaz Ferrer[5], Andre Curia[6], Patricia Gallardo[7], Esteban Gonzalez Ballerga[6], Domingo Balderramo[8], Jose Debes[9]

[1] *Department of Gastroenterology, Center for Liver and Digestive Diseases (CEHYD), Bogota, Colombia*
[2] *Division of Epidemiology, School of Public Health, University of Minnesota, Minneapolis, MN, USA*
[3] *Department of Gastroenterology, Federal University of Health Sciences of Porto Alegre, Porto Alegre, Brazil*
[4] *Department of Gastroenterology, Eugenio Espejo Hospital, Quito, Ecuador*
[5] *Department of Gastroenterology, Edgardo Rebagliati Martins National Hospital, Lima, Peru*
[6] *Department of Gastroenterology, Clinic Hospital José de San Martín, Buenos Aires, Argentina*
[7] *Department of Gastroenterology, Sayani Foundation, Jujuy, Argentina*
[8] *Department of Gastroenterology, Universitary Private Hospital of Córdoba. University Institute of Biomedical Sciences de Córdoba, Córdoba, Argentina*
[9] *Department of Medicine, University of Minnesota, Minneapolis, MN, USA*

**Introduction and Objectives:** Some of the highest rates of non-alcoholic fatty liver disease (NAFLD) in the world are present in the South American continent. Indeed, recent reports suggest that NAFLD is becoming a common cause of hepatocellular carcinoma in the continent. Nonetheless, little is known about the epidemiology and tissue finings of NAFLD in the region. We provide an extensive assessment of the inter-relation of NAFLD with metabolic variables as well as medication intake and biopsy findings in South America.

**Materials and Methods:** A retrospective chart review of patients with NAFLD from 5 countries in Latin America (Argentina, Brazil, Peru, Ecuador and Colombia) via the South American Liver Research

Network (SALRN). Diagnosis of NAFLD was obtained via imaging reports and biopsies. Logistic regression models were used to examine associations between clinical and tissue characteristics with individual patient features. Each center was responsible for its own ethics approval.

**Results:** 2722 patients from five different centers (and five different countries) were included in the analysis with proportions being the following: Argentina 556 (20%), Brazil 596 (22%), Colombia 1490 (55%), Ecuador 50 (2%) and Peru 30 (1%). The median age was 53 years (IQR 21-41) and median BMI 29 kg/m$^2$ (IQR 26-36). 63% were female. Biopsy reports were available for 35% (n=947) with 25% (n=232) of those showing significant fibrosis, 27% (n=254) severe steatosis, and 65% (n=616) inflammation. Only 17% of subjects had diabetes mellitus, 34% dyslipidemia, and 31% Hypertension. Median ALT for the entire cohort was 38 IU (IQR 25-65) and AST 28 IU (IQR 21-41). Of 1407 subjects with medication information, 29% were on lipid lowering agents, 12% on aspirin, 28% on metformin and 5% on vitamin E. Independent predictors of significant fibrosis (≥ F2) on biopsy were: Diabetes mellitus (OR =2.97, 95% CI, 2.12 − 4.15, $p < 0.0001$), hypertension (OR =1.59, 95% CI, 1.17 − 2.17, $p = 0.003$), and metformin (OR =2.71, 95% CI, 1.82 − 4.02, $p < 0.0001$). There was no statistically significant association between F≥ 2 fibrosis and obesity or overweight. Diabetes and Hypertension were both independently associated with severe steatosis (OR =1.93, $p = 0.0001$ and OR =2.13, $p < 0.0001$, respectively).

**Conclusions:** This study provides critical information defining the epidemiology of NAFLD in South America, showing important correlations between hypertension and diabetes mellitus with clinically significant biopsy findings.

https://doi.org/10.1016/j.aohep.2023.101042

## O-36 UTILITY OF DRIED BLOOD SAMPLES FOR HEPATITIS C VIRUS GENOTYPING AMONG HCV/ HIV-COINFECTED INDIVIDUALS

Geane Lopes Flores[1], Barbara Vieira Do Lago[1], Amanda Rodrigues Caetano[1], Vanessa Alves Marques[1], Daniela Rodrigues Pontes Pires[1], Carlos Eduardo Brandão-Mello[2], Cristiane Villela-Nogueira[3], Lia-Laura Lewis Ximenes[1], AndLivia Melo Villar[1]

[1] *Laboratory of Viral Hepatitis. Instituto Oswaldo Cruz. FIOCRUZ. Rio de Janeiro, Brazil.*
[2] *Gaffreé and Guinle University Hospital. Federal University of the State of Rio de Janeiro. UNIRIO Rio de Janeiro, Brazil*
[3] *Clementino Fraga Filho University Hospital. Federal University of Rio de Janeiro. UFRJ. Rio de Janeiro, Brazil*

**Introduction and Objectives:** The detection of HCV genotypes and mutations are important issues in studying the molecular epidemiology of hepatitis C and investigate possible antiviral resistance. Individuals in poverty conditions could be more exposed to viral infections, such as hepatitis C or HIV. In these situations, there is a lack of infrastructure to obtain blood samples obtained by venopuncture. So, alternative samples such as dried blood spot (DBS) could increase access to HCV diagnosis and help these individuals to reach the treatment. This study aimed to evaluate the utility of DBS samples for HCV genotyping in HIV/HCV individuals to increase access to diagnosis in this population.

**Materials and Methods:** A total of 17 HIV/HCV individuals were recruited from Ambulatories of hepatology in Rio Janeiro. Those individuals donated serum and DBS samples that were submitted to RNA extraction using commercial kits based on silica column. RNA was used to reverse transcription followed by qualitative PCR that amplified NS5B and CORE regions. Positive samples were submitted to Sanger sequencing and sequences obtained were used to constructed phylogenetic tree using the MEGA X software.

**Results:** In this study, 58% were men and the mean age was 52 years. Serum HCV mean viral load was 4.61 log (± 1.52) IU/mL. The 17 paired serum and DBS samples had concordant results in the CORE region. Among these, six concordant in the NS5B region between serum and DBS, all of genotype 1, and two discordant samples between genotypes 1a and 1b. Regarding the HCV region, five modified L91M, two of them also changed R70Q.

**Conclusions:** At this first moment, the result is that DBS can be used to determine the first HCV also in HIV-HCV. Which would be very important in regions with low infrastructure for molecular epidemiology estimates.

**Funding:** FAPERJ

https://doi.org/10.1016/j.aohep.2023.101043

## O-37 AMOXICILLIN-CLAVULANATE INDUCED LIVER INJURY: TEN YEARS EXPERIENCE FROM LATINDILI REGISTRY.

Nelia Hernandez[1], Fernando Bessone[2], Daniela Chiodi[1], Manuel Mendizabal[3], A Sanchez[1], Ezequiel Ridruejo[4], Carla Bianchi[5], Carmen Pollio[6], Marco Arrese[7], María Isabel Schinoni[8], Vinicius Nunes[9], Raymundo Paraná[9], Edgardo Mengual[10], Maribel Lizárzabal[11], Inmaculada Medina-Caliz[11], Mercedes Robles-Díaz[11], Aida Ortega-Alonso[11], Raúl Andrade[11], María Isabel Lucena[12]

[1] *Gastroenterology Clinic, Hospital de Clínicas, Republic University, Montevideo, Uruguay*
[2] *Gastroenterology Service, Centenary Hospital, National University of Rosario, Rosario, Argentina*
[3] *Liver and Liver Transplant Unit, Austral, Austral University Hospital, Pilar, Argentina*
[4] *Hepatology Section, Department of Medicine, Center for Medical Education and Clinical Research Norberto Quirno "CEMIC", Buenos Aires, Argentina*
[5] *Mautone Sanatorium, Maldonado, Uruguay*
[6] *Department of Gastroenterology, Maciel Hospital, Montevideo, Uruguay*
[7] *Department of Gastroenterology, School of Medicine. Pontifical Catholic University of Chile, Santiago, Chile*
[8] *Institute of Health Science and University Hospital, Federal University of Bahia, Bahia, Brazil*
[9] *Department of Clinical Medicine and Gastroenterology, Federal University of Bahia, Bahia, Brazil*
[10] *Gastrointestinal Research Laboratory, Institute of Biological Research. School of Medicine. University of Zulia. Maracaibo, Venezuela*
[11] *Department of Gastroenterology, School of Medicine, Zulia University. Maracaibo, Venezuela*
[12] *Digestive System CMU, Clinical Pharmacology Service, Institute of Biomedical Research Institute of Malaga and Nanomedicine Platform-IBIMA. BIONAND Platform, Virgen de la Victoria University Hospital, University of Malaga, CIBERehd. Malaga, Spain*

**Introduction and Objectives:** Although amoxicillin-clavulanate combination (ACC) is a well-established cause of liver injury,

clinicians are unaware of some aspects that explain why its diagnosis may be initially missed, making the patient susceptible to unnecessary exploration or treatment. This study aimed to describe DILI characteristics linked to ACC in the LATINDILI registry.

**Materials and Methods:** We revised data concerning DILI-ACC in the LATINDILI registry during the last decade, looking for information on latency, pattern, severity, and evolution. Baseline characteristics were described using mean, median, and percentages; Student's t-test or a chi-squared test was used to determine the difference between mean and frequencies. A P-value of less than 0.05 was considered statistical significance.

**Results:** We identified 61 DILI-ACC episodes in 60 patients from the LATINDILI registry. The mean age was 58 years (19-90 y), and 54% were male. Median latency was 21 days, with median ALT and ALP at DILI onset of 282 U/L (range 34-2130) and 585 U/L (range 96-1626), respectively; a cholestatic/mixed pattern predominated in 43 cases. In 53 cases, the liver injury appeared with a mean of 13 days (range 2-39 d) after treatment ended. Twenty patients (33%) had allergic immune features, 79% were jaundiced, and 61% required hospitalization. The mean total bilirubin values increased by 7.5 mg/dl (1.5-16) from the onset in 24 of 42 evaluable patients after ten days (range 2-30). Table 1 shows the comparison between groups. Resolution of liver injury occurred on average 64 (14-270) days, one patient did not normalize after 365 days, and no death was consigned.

**Conclusions:** Jaundice linked to a cholestatic/mixed pattern appearing after stopping therapy was a frequent presentation of ACC in our analysis. This clinical presentation may be missed when using ACC and explaining the delayed diagnosis. Worsening bilirubin value is frequent and may be related to longer treatment duration and prolonged latency.

**Table 1.** Comparison between groups with and without bilirubin increment after the initial evaluation. (*delay in the reduction of more than 50% of maximum bilirubin value).

| | Total population (n 61) | Bilirubin increment after onset (n 24) | No bilirubin increment after onset (n 18) | P value |
|---|---|---|---|---|
| Male (%) | 33 (54) | 13 (54) | 11 (61) | 0.65 |
| Mean age (years) | 58 | 59 | 59.7 | 0.89 |
| Cholestatic/Mixed Pattern (%) | 43 (71) | 18 (75) | 12 (67) | 0.55 |
| Duration of treatment (days) | 9.2 | 11.1 | 6.9 | **0.01** |
| Latency (days) | 21 (1-46) | 25 (6-46) | 16 (1-38) | **0.004** |
| Dechallenge (days)* | 21 (4-51) | 22 (6-51) | 17 (4-40) | 0.1 |
| Bilirubin at DILI recognition | 5.7 (0.4-15.7) | 7.5 (1-15.7) | 5.0 (0.4-15) | 0.055 |
| Mean peak bilirubin (mg/dL) | 8.7 (0.4-22) | 14.4 (2.8-22) | 5.0 (0.4-15) | |
| Mean time to peak bilirubin (days) | 10 (2-30) | 10 (2-30) | - | |

https://doi.org/10.1016/j.aohep.2023.101044

## O-38 FULMINANT WILSON: A WELL-DEFINED ENTITY. HOW TO DIAGNOSE IT QUICKLY TO PREVENT MORTALITY

Francisco Hevia, Mónica Penón, Stephanie Lotz, Alfredo Mora, Gabriela Jiménez, Ramsés Badilla, Mildred Jiménez, Manuel Saborío, Karina Hidalgo, Adrián González, Francisco Vargas, Wagner Ramirez, Esteban Cob, Aldo Carvajal, Ana Lorena Madrigal, José Pablo Cortes, Jorge Vargas, Danny Alvarado

*University of Costa Rica, Costa Rican Social Security Fund, San José, Costa Rica*

**Introduction and Objectives:** Mccullough published in 1983 a series of 3 cases from the Mayo Clinic and nine from the rest of the world, proposing a specific clinical entity of Wilson's disease (WD) with a fatal outcome if not transplanted. Costa Rica has the highest incidence of Wilson's disease in the world (5.2/100.000 inhabit); we found in a total population of patients, 5.8% of fulminant Wilson (FW) (7/120 patients), and in a pediatric population, 14.7% (5/34 children). This study aimed to define FW as an entity by its clinical, biochemical, histological and genetic characteristics to diagnose earlier because of its high mortality.

**Materials and Methods:** We analyze the publications and cases of WF from Costa Rica up to 2020 and also review the literature around the world.

**Results:** WF is diagnosed principally in patients without the previous diagnosis of WD, principally in female patients (90%), with an onset between 10 and 21 years of age. Manifestations usually start with encephalopathy in the first eight weeks of symptoms, associated with fever peaks higher than 38°C, rapidly progressing jaundice, significant leukocytosis, sudden coombs negative hemolytic anemia, with total hyperbilirubinemia greater than 35 mg/dl, mild elevation of transaminases and alkaline phosphatase, prothrombin less than 20%, acute renal failure, ceruloplasminemia less than 10mg/dl, urinary cooper greater than 1000$\mu$g and elevated serum cooper. Micro vesicular steatosis, submassive necrosis, regenerative nodules, canalicular cholelithiasis, levels greater than 600ug/g dry weight in the liver, and hemoglobinuric necrosis in the kidney are also seen. Genetically all with a homozygous Pn1270 S mutation. With a fatal clinical course if not transplanted.

**Conclusions:** Patients with fulminant liver failure with coombs negative hemolytic anemia and clinical, biochemical, histological and genetic characteristics define FW, therefore, requesting priority one liver transplantation in identified patients it's a necessity.

https://doi.org/10.1016/j.aohep.2023.101045

## O-39 CLINICAL CHARACTERISTICS AND OUTCOME OF DRUG-INDUCED LIVER INJURY DUE TO ANTINEOPLASTIC AND BIOLOGICAL AGENTS

Fernando Bessone[1], Nelia Hernandez[2], Raymundo Parana[3], Maria Isabel Schinoni[3], Manuel Mendizabal[4], Adriana Sanchez[2], Vinicius Nunes[3], Ezequiel Ridruejo[5], Daniela Schiodi[2], Eduardo Fassio[6], Hugo Tanno[1], Norberto Tamagnone[1], Martin Tagle[7], Pedro Montes[8], I Medina-Caliz[9], Mercedes Robles-Díaz[9], Aida Ortega-Alonso[9], Miren García-Cortes[9], Hao Niu[9], Ismael Alvarez-Alvarez[9], Rocío Romero-Flores[9], M Isabel Lucena[9], Raul J Andrade[9]

[1] *Provincial Hospital of Centenario, University of Rosario School of Medicine, Rosario, Argentina*
[2] *Gastroenterology Clinic, Clinic Hospital, University of Republic, Montevideo, Uruguay*
[3] *Universitary Prof. Edgard Santos-UFBA, Salvador, Brazil*
[4] *Austral University Hospital, Pilar, Argentina*
[5] *Center for Medical Education and Clinical Research, Buenos Aires, Argentina*
[6] *Alejandro Posadas Hospital, Buenos Aires, Argentina*
[7] *Anglo American Clinic, Lima, Perú*
[8] *Daniel Alcides Carrión National Hospital, Callao, Perú*
[9] *UGC Digestive System and Clinical Pharmacology, Virgen de la Victoria University Hospital, Biomedical Research Institute de Málaga-IBIMA, Málaga University, Málaga; CIBERehd, Madrid, Spain*

**Introduction and Objectives:** Idiosyncratic drug-induced liver injury (DILI) caused by antineoplastic and biological agents is an emerging clinical burden in oncologic patients. However, clinical characteristics of DILI due to these drugs remain poorly understood. This study aimed to assess the clinical presentation and outcome of

DILI caused by antineoplastic and biological agents in patients enrolled in the prospective Spanish and Latin American DILI registries.

**Materials and Methods:** Information from well-vetted DILI cases caused by antineoplastic and biological agents enrolled in the Spanish DILI Registry (n=38) and the LATINDILI Network (n=33) since their establishment in 2022 was retrieved. Demographics, clinical characteristics, laboratory findings and outcome were analyzed through descriptive statistics.

**Results:** Overall, DILI patients were aged 61±17 years, with Latin American patients slightly younger than Spanish cases (64 vs. 56; p=0.053) and were predominantly men (66%). Novel therapies such as Protein Kinase Inhibitors represented 14% of cases, while Immune Checkpoint Inhibitors caused 6% of DILI cases. Hepatocellular damage predominated (79%), while 12% had a cholestatic injury. Nearly 70% of patients developed jaundice, and 49% were hospitalized. Alanine and aspartate aminotransferase were highly increased (median values 13 and 11 times above the upper limit of normal (ULN), respectively), while alkaline phosphatase showed modest elevations (1.3 times ULN). Total bilirubin was elevated by a median of 3.7-fold ULN. Most of the patients coursed with a moderate injury (46%), and 15% developed severe liver damage. Four Spanish cases, and one from Latin America, had liver-related death (p=0.018). There were no chronic DILI cases, and 71% of patients resolved spontaneously.

**Conclusions:** DILI, due to antineoplastic and biological agents, was more common in men, caused a hepatocellular injury, and usually coursed as a moderate-to-severe liver injury. Latin American cases were slightly younger, while the mortality rate was higher among Spanish DILI patients.

https://doi.org/10.1016/j.aohep.2023.101046

## O-40 PROGNOSTIC ROLE OF MAGNETIC RESONANCE OF THE ABDOMEN WITH INTRAVENOUS CONTRAST AND CHOLANGIORESONANCE IN PRIMARY SCLEROSING CHOLANGITIS: OUR EXPERIENCE

Roy López Grove[1], Florencia Vespa[1], Martina Aineseder[1], Alejandra Villamil[2], Juan Carlos Spina[1]

[1] *Department of Radiology, Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[2] *Hepatology Section, Department of Medicine, Buenos Aires Italian Hospital, Buenos Aires, Argentina*

**Introduction and Objectives:** Primary sclerosing cholangitis (PSC) is a progressive cholestatic liver disease leading to infectious complications, biliary cirrhosis, portal hypertension and the development of cholangiocarcinoma. Imaging is essential for diagnosis. MRI risk scoring systems, called Anali without/with gadolinium, are suggested to predict disease progression. This study aimed to evaluate the usefulness of Anali scores determined by MRI of the abdomen and cholangioMR to predict the prognosis of patients with PSC.

- Analyze interobserver variability of Anali scores.

**Materials and Methods:** Cohort retrospective study of patients diagnosed with PSC, with baseline and follow-up MRIs (2009 to 2020). The study was approved by the institution's Ethics Committee.

MRIs were reviewed by two radiologists and Anali scores were calculated: without gadolinium= (0-2 x intrahepatic bile duct dilatation) + (2 x hepatic dysmorphism) + (1 x portal hypertension) with a possible score of 0 to 5; with gadolinium = (1 x hepatic dysmorphism) + (1 x heterogeneity of hepatic parenchymal enhancement) with a possible score of 0 to 2.

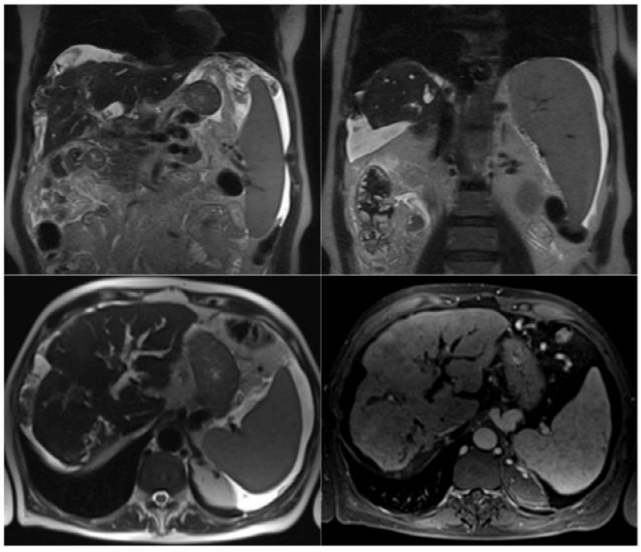
Clinical endpoints included liver transplantation, cirrhotic decompensation, or death.

**Results:** Twenty-nine patients were included, of whom 12 presented a clinical event on follow-up. We recorded seven liver transplants and five cirrhotic decompensations. The median time between the clinical event and MRI was 30.5 months.

Patients with a clinical event had a median Anali score without gadolinium 4 and with gadolinium 2, while in those without clinical events, the Anali score was 1 in both modalities.

The Kappa index for interobserver agreement with respect to the Anali score was 0.87 (95% CI). Kaplan-Meier survival analysis comparing event-free time according to the Anali scale was 59 months for scales 0-2 and 32 months for scales 3-5.

**Conclusions:** MRI Anali scores correlate with the occurrence of clinical events in PSC, with a high degree of interobserver agreement. They should be considered a useful prognostic tool in evaluating these patients.



https://doi.org/10.1016/j.aohep.2023.101047

## O-41 CIRRHOSIS IN PATIENTS WITH ALFA 1 ANTITRYPSIN DEFICIENCY; WHAT ARE WE MISSING?

Francisco Hevia, Daniela Hernández, Alfredo Mora, Ramsés Badilla, Natassia Camacho, Mildred Jiménez, Manuel Saborío, Karina Hidalgo, Adrián González, Francisco Vargas, Wagner Ramírez, Esteban Cob, Aldo Carvajal, Ana Lorena Madrigal, José Pablo Cortes, Jorge Vargas, Danny Alvarado

*University of Costa Rica, Costa Rican Social Security Fund, San José, Costa Rica*

**Introduction and Objectives:** It's common to include alfa 1 antitrypsin deficiency (AATD) in the diagnostic workup of children with cirrhosis, unlike in adults, where we seldom test for it. Some of its characteristics are unusual and we can miss them as it tends to have a silent clinical course, showing advanced indirect signs due to portal hypertension. This study aimed to establishing the biochemical, clinical, molecular, and genetic characteristics that can lead to the diagnosis of cirrhosis due to ATTD.

**Materials and Methods:** We analyzed 26 cases of adults with AATD related disease in Costa Rica. We establish presentation based on age, gender, AAT levels, phenotype genetic characteristics and clinical, biochemical and histological features.

**Results:** 26 patients had either hepatic or pulmonary chronic diseases in relation to AAT enzyme alterations, The proportion by sex was 1:1 and the mean age of diagnosis was 42. Of 21 patients with phenotyping, 9 were homozygous PI*ZZ (7) or PI: NullNull (2). Only this last group had the pulmonary disease. The ones homozygous for the PI*ZZ mutation all developed hepatic disease. Nonetheless, we also found that seven were heterozygous for PI*MNull, 4 for PI*MZ and 1 was PI*SZ. ATT levels were measured in 20 patients, 20% of them had normal levels and 15% were nondetectable. When a biopsy was obtained, the PAS staining was positive in 100% of cases. Several patients had liver steatosis instead of cirrhosis which was handled as NASH due to the similarity in clinical characteristics.

**Conclusions:** AATD can't only be screened through AAT levels as they can be normal in up to 20% of patients. We should establish the phenotype and keep in mind that heterozygous can develop clinical disease. The association with other forms of liver disease, especially such as MAFLD, is high and so we should screen for AATD in search of possible decompensation.

https://doi.org/10.1016/j.aohep.2023.101048

## O-42 COSTA RICA NATIONAL NEWBORN SCREENING LABORATORYS EXPERIENCE IN DIAGNOSING ALPHA-1 ANTITRYPSIN DEFICIENCY

Mariela Solano-Vargas[1,2],
Juan Diego Gutiérrez-Ávila[1,2],
Jessica Arroyo-Hernández[1,3],
Danny Alvarado-Romero[1,2],
Natassia Camacho-Matamoros[1,2],
Mildred Jiménez-Hernández[1,2]

[1] *Costa Rica National Newborn Screening Laboratory, San José, Costa Rica*
[2] *Costa Rican Social Security Fund, San José, Costa Rica*
[3] *Costa Rican Association for the Screening and Prevention of Childhood Disabilities, San José, Costa Rica*

**Introduction and Objectives:** Alpha-1 antitrypsin (AAT) is an acute-phase glycoprotein encoded by the *SERPINA1* gene. This allele has a codominant expression and Alpha-1 antitrypsin deficiency (AATD) is caused by the inheritance of two affected alleles. The spectrum of the disease depends on the variants and environmental and biological factors. This study aimed to divulge Costa Rica's experience in diagnosing AATD using biochemical and molecular approaches in patients referred to this center between 2014 and 2021.

**Materials and Methods: :** Forty-three patients (20 males and 23 females) were analyzed.

**Biochemical parameters:** Serum AAT concentrations were quantified by turbidometry (SPIN200E, ®SPINREACT). Protein electrophoresis and phenotyping isoelectric electrophoresis were performed on the HYDRASYS 2 SCAN FOCUSING (SEBIA).

**Genetic characterization:** Sanger sequencing of the *SERPINA1* coding regions (NM_000295.5) was performed in 16 patients with rare electrophoretic patterns or MM phenotype with low AAT concentration.

**Results:** In 43 probands, we found an AAT mean value of 60.7mg/dl and eight different electrophoretic patterns. Most of our affected patients had an MZ or ZZ phenotype. Table 1 shows the main phenotypes and genotypes of our patients (N=25 patients); how some of them share the same electrophoretic pattern; and finally, the correlation between clinical severity and the biochemical phenotype. Our lab found two variants, one related to null phenotype and the other with uncertain clinical significance (VUS).

**Conclusions: :**

- This laboratory has developed an efficient and comprehensive algorithm diagnosis for AATD that involves biochemical and molecular tools.
- Genetic analysis has allowed the identification of null variants (Q0Cork and Q0Lisbon).
- AATD affects children and adults, with a broad severity spectrum and different clinical presentations.
- Patients with one affected allele (e.g., PI*MZ, Pi*MS) might show some clinical manifestations.
- Accurate diagnosis is essential for optimal clinical attention and to reduce the diagnostic odyssey.

**Table 1.** Description of main probands phenotypes and genotypes in 25 of our patients

| | AAT concentration (mg/dl) | Electrophoretic Pattern (by SEBIA) | Phenotype | * Genotype | |
|---|---|---|---|---|---|
| | | | | Allele 1 | Allele 2 |
| Severe | 0 | Null | PI*Q0Q0 | c.611_612delCA | c.611_612delCA |
| | 27<br>42<br>23<br>18<br>25<br>30<br>24<br>20<br>8 | ZZ | PI*ZZ | N/A | |
| | 43 | MZ | PI*M3Z | c.1096G>A p.(Glu366Lys) on M1A | WT |
| | 62 | | PI*M3Z | c.1096G>A p.(Glu366Lys) on M1A | WT |
| | 48 | | PI*M4Z | c.1096G>A p.(Glu366Lys) on M1A | WT |
| | 69 | | PI*M1Z | c.1096G>A p.(Glu366Lys) on M1A | WT |
| | 58 | | PI*M1Z | c.1096G>A p.(Glu366Lys) on M1A | WT |
| | 88 | | PI*M1Z Augsburg | c.1096G>A p.(Glu366Lys) on M2 | WT |
| | 64 | M/Rare | N/A | VUS: c.38C>A , p.(Ala13Glu) | WT |
| | 65 | SS | PI*SS | c.863A>T , p.(Glu288Val) on M1V | c.863A>T , p.(Glu288Val) on M1V |
| | 70 | M/Null | PI*M3Q0Lisbon | c.275C>T p.(Thr92Ile) on M1 | WT |
| | 81 | MS | PI*M3T | c.863A>T , p.(Glu288Val) on M3 | WT |
| | 84 | N/A | PI*M3S | c.863A>T , p.(Glu288Val) on M1V | WT |
| Normal | 77<br>166<br>55<br>49 | MM | PI*M2M3<br>PI*M1M2<br>Pi*M1M1<br>Pi*M1M1 | WT | WT |

* Only in 16 patients genotype was analyzed
N/A: not analyzed.
**WT: Wild type.**

https://doi.org/10.1016/j.aohep.2023.101049

## O-43 RISK FACTORS FOR CANCER DEVELOPMENT IN PATIENTS WITH PRIMARY BILIARY CHOLANGITIS

Michelle Harriz Braga[1],
Guilherme Grossi Lopes Cançado[2,3],
Paulo Lisboa Bittencourt[4,5], Cláudia Alves Couto[2],
Laura Vilar Guedes[1], André Mourão Costa Lima[2],
Maria Lucia Gomes Ferraz[6],
Cristiane Alves Villela-Nogueira[7],
Jorge Nardelli Mateus[2], Luciana Costa Faria[2],
Nathalia Mota De Faria Gomes[6],
Maria Gomes Oliveira Elze[8], Vivian Rotman[7],
Maria Beatriz Oliveira[9],
Simone Muniz Carvalho Fernandes Cunha[10],
Marlone Cunha-Silva[11],
Liliana Sampaio Costa Mendes[12],
Claudia Alexandra Pontes Ivantes[13], Liana Codes[5],

Valéria Ferreira De Almeida Borges[14,15], Fabio Heleno De Lima Pace[16], Mario Guimarães Pessoa[1], Izabelle Venturini Signorelli[17], Gabriela Perdomo Coral[18], João Galizzi Filho[2], Aline Lopes Chagas[1], Debora Raquel Benedita Terrabuio[1], Eduardo Luiz Rachid Cançado[1]

[1] *Gastroenterology Department, Medical Faculty of São Paulo University, São Paulo, Brazil*
[2] *Gastroenterology Alfa Institute, Clinic Hospital of Federal University of Minas Gerais, Belo Horizonte, Brazil*
[3] *Military Police Hospital of Minas Gerais, Belo Horizonte, Brazil*
[4] *Bahian School of Medicine and Public Health, Salvador, Brazil*
[5] *Portuguese Hospital, Salvador, Brazil*
[6] *Discipline of Gastroenterology, Federal University of São Paulo, São Paulo, Brazil*
[7] *Clementino Fraga Filho Univesitary Hospital and, e Department of Internal Medicine, Faculty of Medicine, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil*
[8] *Lusíada Universitary Center- Unilus, Santos, Brazil*
[9] *Municipal Viral Hepatitis Outpatient Clinic of São José Dos Campos, São José Dos Campos, Brazil*
[10] *Professor Edgard Santos Universitary Hospital, Federal University of Bahia, Salvador, Brazil*
[11] *Gastroenterology Division (Gastrocentro), Faculty Of Medical Sciences, State University of Campinas, Campinas, Brazil*
[12] *Base Hospital of the Federal District, Brasília, Brazil*
[13] *Gastroenterology, Hepatology and Liver Transplantation Service, Nossa Senhora das Graças Hospital, Curitiba, Brazil*
[14] *Institute of Gastroenterology, Endoscopy and Proctology, Uberlândia, Brazil*
[15] *Federal University of Uberlândia, Uberlândia, Brazil*
[16] *Gastroenterology and Hepatology Service, FederalUniversity of Juiz de Fora, Juiz de Fora, Brazil*
[17] *Universitary Hospital; São Paulo, Brazil*
[18] *Brotherhood of Santa Casa de Misericórdia de Porto Alegre, Porto Alegre, Brazil*

**Introduction and Objectives:** Primary biliary cholangitis (PBC) and autoimmune hepatitis (AIH) and PBC overlap syndrome (AIH/PBC) have been associated with a higher risk of hepatocellular carcinoma (HCC) and extra-hepatic malignancy (EHM). This study aimed to assess potential risk factors associated with cancer development in PBC and AIH/PBC patients.

**Materials and Methods:** The Brazilian Cholestasis Study Group database was reviewed and analyzed.

**Results:** Among the 752 PBC patients enrolled, 64 of them with AIH/PBC, and 87 cancers were identified in 79 patients, including 20 cases of HCC and 67 of EHM. Patients with HCC had a higher prevalence of cirrhosis (95% vs. 32.5%, p= <0.001), smoking (55% vs. 12.3%, p= <0.001, CREST syndrome (30% vs. 7.6%, p= 0.003) and prior azathioprine (30% vs. 8%, p= 0.005) and prednisone (35% vs. 14%, p= 0.018) previous use, compared with their counterparts. Patients with EHM had a higher prevalence of smoking (42.3% vs. 12.3%, p= <0.001), AMA positivity (96.6% vs 80.6%, p = <0.001), azathioprine use (21% vs 8%, p= 0.01) and concurrent other autoimmune diseases. In multivariate analysis, cirrhosis, obesity and prior azathioprine therapy were independent risk factors for HCC, while Sjogren syndrome and psoriasis were associated with EHM. Fibrates reduced EHM risk.

**Conclusions:** The prevalence of EHM is higher when compared to HCC in PBC patients. Cirrhosis, obesity, prior azathioprine use, and concurrent autoimmune diseases were significantly associated with cancer in PBC, while fibrate use was apparently protective against EHM.

https://doi.org/10.1016/j.aohep.2023.101050

## OP-2 PREVALENCE OF NON-ALCOHOLIC FATTY LIVER DISEASE AND ITS ASSOCIATION WITH PHYSICAL ACTIVITY LEVELS AMONG ADULTS IN CHILE

Paulina Pettinelli[1], Tiziana Fernández[2], Carolina Aguirre[1], Francisco Barrera[3], Arnoldo Riquelme[3], Rodrigo Fernández-Verdejo[4]

[1] *Department of Health Sciences, Department of Nutrition and Dietetics, School of Medicine, Pontifical Catholic University of Chile, Santiago, Chile*
[2] *Department of Health Sciences, Kinesiology Career School of Medicine, Pontifical Catholic University of Chile, Santiago, Chile*
[3] *Department of Gastroenterology, School of Medicine, Pontifical Catholic University of Chile, Santiago, Chile*
[4] *Exercise Physiology and Metabolism Laboratory (LABFEM), School of Kinesiology, School of Medicine, Finis Terrae University, Santiago, Chile*

**Introduction and Objectives:** Non-alcoholic fatty liver disease (NAFLD) diagnosis requires a liver biopsy, which is inapplicable to large populations. Alternatively, NAFLD can be detected indirectly by non-invasive methods such as Fatty Liver Index (FLI) and Lipid Accumulation Product (LAP). Thus, the prevalence of NAFLD and its association with lifestyle habits (e.g., physical activity) can be studied within populations. This study aimed to (i) estimate the prevalence of NAFLD by FLI and LAP in the adult Chilean population and (ii) determine the association between the presence of NAFLD and physical activity levels.

**Materials and Methods:** We analyzed the National Health Survey of Chile 2016-2017. Individuals meeting these criteria were included: 21-75 years old; absence of hepatitis B/C, HIV, acquired immunodeficiency syndrome, syphilis, chancre, and gonorrhea; alcohol consumption <20 g/day for women, or <30 g/day for men. NAFLD was detected by FLI (considers circulating triglycerides, circulating gamma-glutamyl-transferase, body mass index, and waist circumference) and LAP (considers circulating triglycerides, and waist circumference). The Global Physical Activity Questionnaire was used to estimate physical activity levels. Logistic regression was used to determine the association between NAFLD presence and physical activity, adjusted by age, sex, body mass index, and education.

**Results:** We included 2,774 participants, representative of 10,599,094 [9,831,644−11,366,544] adults. NAFLD prevalence [95%CI] was 39.4% [36.2−42.8] by FLI, and 27.2% [24.2−30.4] by LAP. Prevalence progressively increased with higher body mass indexes. Compared to participants in the 1st-quartile of physical activity, those in the 3rd-quartile or 4th-quartile had lower odds of having NAFLD by FLI or LAP, respectively.

**Conclusions:** The prevalence of NAFLD in Chile surpasses global estimates. The excess body weight among adults in Chile may explain this phenomenon. Notably, physical activity seems relevant to prevent NAFLD, independently of excess body weight. Focused public health interventions are urgently required in Chile.

**Funding:** FONDECYT 1191183 to F.B. and 11180361 to R.F.-V.

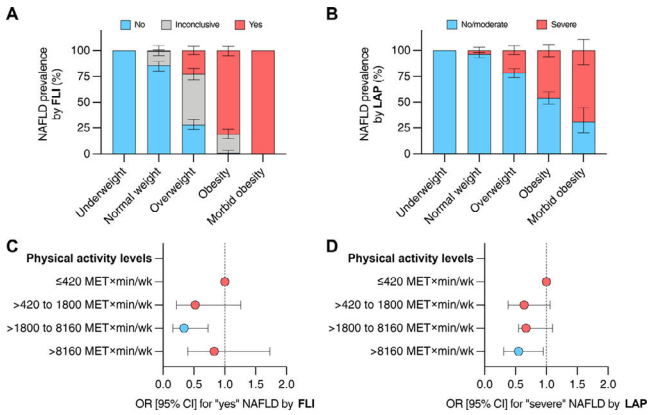



**Figure.** [A, B] Prevalence of non-alcoholic fatty liver disease (NAFLD) determined by [A] the Fatty Liver Index (FLI) or [B] the Lipid Accumulation Product (LAP). Categories of nutritional status were defined according to the body mass index as: <18.5 kg/m$^2$ underweight, 18.5-24.9 kg/m$^2$ normal weight, 25.0-29.9 kg/m$^2$ overweight, 30.0-39.9 kg/m$^2$ obesity, and >39.9 kg/m$^2$ morbid obesity. [C, D] Association between physical activity levels and the presence of NAFLD by [C] FLI, or [D] LAP. OR [95% CI], odds ratio [95% confidence intervals].
https://doi.org/10.1016/j.aohep.2023.101051

## OP-3 CLINICAL PRESENTATION AND CAUSATIVE AGENTS OF IDIOSYNCRATIC DRUG-INDUCED LIVER INJURY IN URUGUAY: FIRST DECADE OF EXPERIENCE.

Nelia Hernandez[1], Daniela Chiodi[1], Adriana Sanchez[1], Laura Reyes[2], Ximena Pazos[1], María di Pace[3], Carla Bianchi[4], Yessica Pontet[1], Silvia Lissman[5], Carmen Pollio[6], Lucía Secondo[1], Natalie Nabon[7], Ana Britos[8], Rossana Gaibisso[9], Martín Oricchio[1], Esteban Delgue[10], Fernando Bessone[11], Raúl Andrade[12], María Isabel Lucena[12]

[1] *Gastroenterology Clinic, Clinicas Hospital, University of the Republic, Montevideo, Uruguay*
[2] *Salto Medical Center, Salto, Uruguay*
[3] *Catholic Circle of Workers of Uruguay, Montevideo, Uruguay*
[4] *Mautone Sanatory, Maldonado, Uruguay*
[5] *Personalized Medicine, Montevideo, Uruguay*
[6] *Gastroenterology Department, Hospital Maciel, Montevideo, Uruguay*
[7] *Evangelical Hospital, Montevideo, Uruguay*
[8] *Tacuarembó Medical Corporation, Tacuarembó, Uruguay*
[9] *Uruguayan Medical Doctor, Montevideo, Uruguay*
[10] *Salto Regional Hospital, Salto, Uruguay*
[11] *Gastroenterology Service, Centenary Hospital, National University of Rosario, Rosario, Argentina*
[12] *Digestive System CMU, Clinical Pharmacology Service, Institute of Biomedical Research Institute of Malaga and Nanomedicine Platform-IBIMA. BIONAND Platform, Virgen de la Victoria University Hospital, University of Malaga, CIBERehd. Malaga, Spain*

**Introduction and Objectives:** Drug-induced liver injury (DILI), usually considered rare, represents a unique challenge. The creation of DILI registries has improved epidemiological understanding and enhanced awareness, which in the absence of specific biomarkers, is essential for a more accurate diagnosis. This study aimed to present a complete analysis of 147 Uruguayan cases with DILI enrolled in the LATINDILI Registry over ten years.

**Materials and Methods:** Uruguayan patients enrolled in the LATINDILI registry during the last decade were analyzed regarding latency, pattern, severity, evolution, and type of drugs incriminated. Baseline characteristics were described using mean, median, and percentages.

**Results:** Out of 158 episodes presenting suspected DILI, eleven were excluded for alternative diagnoses or insufficient data, and 147 were finally enrolled into the registry from 2011 to 2021. The mean age was 53 years and 60% were females. Jaundice was present in 55% of the cases; the mean latency was 75 days (1-720). Total bilirubin ranged from 0.19 to 33 mg/dl (mean 4.7), ALT from 32 to 6000 UI/L (mean 630), and AP was between 60 and 3327 UI/L with a median of 520. The hepatocellular injury was the most frequent pattern (58%), and anti-infectives were the most common causative drug class (28%), followed by antineoplastic agents (16%). Amoxicillin clavulanate was the most frequent drug across all patterns of injury. Hospital admission was seen in 51% and complete recovery before one year of follow-up in 73% (10% lost of follow-up). Table 1 describes the demographics, clinical and laboratory parameters according to the type of damage.

**Conclusions:** This prospective series is the first approximation of the epidemiology of DILI in Uruguay. Beyond its contribution to the LATINDILI registry, it is a priceless tool to identify/highlight local risk factors, causative drugs, and clinical signatures and can impact fostering DILI recognition.

**Table 1:** Demographics, clinical and laboratory parameters of the 147 cases of idiosyncratic liver injury according to the type of damage.

| variable | Type of liver damage Hepatocellular (N=86) | Cholestatic (N= 41) | Mixed (N=20) |
|---|---|---|---|
| Mean age (range), y | 47 (17-89) | 65,2 (27-86) | 51,5 (18-88) |
| Female, n (%) | 52 (60) | 26 (64,2) | 10 (50%) |
| Jaundice, n (%) | 41 (47,6) | 22 (53,6) | 12 (60%) |
| Hospital admission, n (%) | 40 (46,5) | 22 (53,6) | 13 (65%) |
| Mean duration of treatment days (95% CI) | 81,4 (53,2-109,7) | 77,7 (42,8-112,6) | 42,8 (41,1-44,5) |
| Mean latency, days (95% CI) | 82,1 (53,9-108,5) | 77,2 (45,2-109,1) | 45,8 (44,1-47,5) |
| Total bilirrubin (mg/dl), mean value (range) | 4,4 (0,19-33) | 5 (0,22-15,7) | 5,4 (0,26-29) |
| ALT (xULN), mean value (range) | 24 (3,2-200,0) | 4,37 (0,9-12,9) | 9,6 (2,8-23,5) |
| AP (ULN), mean value (range) | 1,45 (0,4-4,1) | 4,6 (1,3-13,6) | 2,7 (1-5,8) |
| Recovery, days (95% CI) | 76,9 (68,9-103,2) | 198,7 (103-294,5) | 93,9 (92,2-95,7) |
| Positive rechallenge, n (%) | 9 (10,4) | 2 (4,7) | 2 (10%) |
| Severe, n(%) | 12 (13,9) | 0 | 0 |
| Death | 1 (1,17)* | 0 | 0 |
| Drug with ≥5 cases | amoxicillin clavulanate (8), diclofenac (6) | amoxicillin clavulanate (13) ibuprofeno (5), metildopa (5) | amoxicillin clavulanate (5) |

Total bilirubin (N<1.0 mg/dl); ALT, alanine transaminase; AP, alkaline phosphatase; ULN, upper limit of normal. Death occurred after positive rechallenge. Laboratory values are those at presentation.
https://doi.org/10.1016/j.aohep.2023.101052

## OP-4 IMPLEMENTATION OF A RE-LINKAGE TO CARE STRATEGY IN PATIENTS WITH CHRONIC HEPATITIS C WHO WERE LOST TO FOLLOW-UP IN LATIN AMERICA

Manuel Mendizabal[1], Marcos Thompson[1], Esteban Gonzalez-Ballerga[2], Margarita Anders[3], Graciela E Castro-Narro[4], Mario G Pessoa[5], Hugo Cheinquer[6], Gabriel Mezzano[7], Ana Palazzo[8], Ezequiel Ridruejo[9], Valeria Descalzi[10],

Jose A Velarde-Ruiz Velasco[11], Sebastian Marciano[12], Linda Muñoz[13], Maria I Schinoni[14], Jaime Poniachik[15], Rosalía Perazzo[16], Eira Cerda[17], Francisco Fuster[18], Adriana Varon[19], Sandro Ruiz García[20], Alejandro Soza[21], Cecilia Cabrera[22], Andres J Gomez-Aldana[23], Flor de María Beltrán[24], Solange Gerona[25], Daniel Cocozzella[26], Fernando Bessone[27], Nelia Hernández[28], Cristina Alonso[1], Melina Ferreiro[2], Florencia Antinucci[3], Aldo Torre[4], Bruna D Moutinho[5], Silvia Coelho Borges[29], Fernando Gomez[7], Maria Dolores Murga[8], Federico Piñero[1], Gisela F Sotera[2], Jhonier A Ocampo[3], Valeria A Cortés Mollinedo[4], Marcos Girala[30], Pedro Montes[31], Natalia Ratusnu[32], Claudia A Zuñagua[33], Lida Castillo[34], Mauricio Castillo Barradas[35], Rocío Chávez[36], Cláudia Ivantes[37], Julia Brutti[38], Laura Tenorio[38], Jorge Garavito[39], Katherine Zevallos[40], Fernando Contreras[41], Mirtha Infante[42], Emilia Vera-Pozo[43], Martín Tagle[44], Luis G Toro[45], Carlos A De La Rocha[46], Daniela Simian[15], Marcelo O Silva[1]

[1] *Liver Unit and Liver Transplant Unit, Austral University Hospital, Pilar, Argentina*
[2] *Hepatology Section, Clinic Hospital "José de San Martín", University of Buenos Aires, Argentina*
[3] *Hepatology and Liver Transplant Unit, German Hospital, Argentina*
[4] *Gastroenterology Departmet, National Institute of Medical Sciences and Nutrition "Salvador Zubirán", México*
[5] *Gastroenterology and Hepatology Division, Clinic Hospital of University School of Medicine of São Paulo, São Paulo, Brazil*
[6] *Full Professor of Gastroenterology and Hepatology at the Federal University of Rio Grande do Sul and of Porto Alegre Clinic Hospital, Brazil*
[7] *Gastroenterology Section, El Salvador Hospital, Santiago Chile*
[8] *Gastroenterology Service, Hepatology Section, Padilla Hospital, Tucumán, Argentina*
[9] *Hepatology Section, Department of Medicine. Center for Medical Education and Clinical Research Norberto Quirno "CEMIC". Buenos Aires, Argentina*
[10] *Liver and Hepatic Transplant Unit, Universitary Hospital Favaloro Foundation, Buenos Aires, Argentina*
[11] *Fray Antonio Alcalde Civil Hospital of Guadalajara. Guadalajara, Jalisco, México*
[12] *Hepatology Section. Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[13] *Universitary Hospital "Dr. José E. González,", Monterrey, México*
[14] *Hepatology Core, Prof. Edgard Santos Universitary Hospital, Federal University of Bahia, Salvador, Brazil*
[15] *Gastroenterology Section, Medicine Department, Clinical Hospital of University of Chile, Santiago, Chile*
[16] *Gastroenterology Unit, Miguel Perez Carreño Hospital, Venezuela*
[17] *Hospital Central Militar, Military School of Health Graduates, México*
[18] *Hepatology Unit, Gustavo Fricke Hospital, Viña del Mar, Chile*
[19] *Cardioinfantil Foundation, Cardiology Institute, Bogotá, Colombia*
[20] *Victor Lazarte Echegaray Hospital, Trujillo, Perú*
[21] *Department of Gastroenterology, Pontifical Catholic University of Chile, Santiago, Chile*
[22] *Gastroenterology Unit, Daniel A. Carrión National Hospital, Callao, Perú*
[23] *Gastroenterology and Transplantation Unit Foundation Santa Fe of Bogotá, Bogotá, Colombia*
[24] *Gastroenterology Service, PNP Luis N. Sáenz National Hospital, Perú*
[25] *Liver Unit, Armed Forces Hospital, Montevideo, Uruguay*
[26] *Hepatology, La Plata Italian Hospital, La Plata, Argentina*
[27] *Gastroenterology Department, Medical School, Centenario Provincial Hospital, University of Rosario School of Medicine, Rosario, Chile*
[28] *Gastroenterology Clinic, Clinic Hospital, School of Medicine, UdelaR, Montevideo, Uruguay*
[29] *Moinhos de Vento Hospital of Porto Alegre, Porto Alegre, Brasil*
[30] *Gastroenterology Department. Clinic Hospital. Faculty of Medical Sciences. Asunción National University, San Lorenzo, Paraguay*
[31] *Daniel A. Carrión National Hospital, Lima, Perú*
[32] *Hepatology Unit, Regional Hospital of Ushuaia, Ushuaia Argentina*
[33] *Liver Club, La Paz, Bolivia*
[34] *High Complexity Hospital "Virgen de la Puerta", Lima, Perú*
[35] *Hospital de Especialidades Centro Médico Nacional La Raza of the Mexican Social Security Institute, México City, México*
[36] *Adolfo Guevara Velasco National Hospital- EsSalud, Cusco, México*
[37] *Center for Surgery, Gastroenterology and Hepatology - Nossa Senhora das Graças Hospital, Curitiba, Brazil*
[38] *Liver and Liver Transplant Unit, German Hospital, Buenos Aires, Argentina*
[39] *Gastroenterology Service, Arzobispo Loayza National Hospital, Lima, Perú*
[40] *Carlos Alberto Seguín Escobedo Hospital Essalud, Arequipa, Perú*
[41] *Center for Advanced Gastroenterology, Santo Domingo, República Dominicana*
[42] *Gastroenterology Institute of Cuba*
[43] *Dr. Teodoro Maldonado Carbo Regional Hospital of IESS, Guayaquil, Ecuador*
[44] *Anglo American Clinic, Lima, Perú*
[45] *San Vicente Foundation Hospitals of Medellín and Rionegro, Colombia*
[46] *Responsible for the National Infectious Diseases Program Component: STIs/HIV/AIDS/ Viral Hepatitis, Bolivia*

**Introduction and Objectives:** To achieve WHO's goal of eliminating HCV, innovative strategies must be designed to diagnose and treat more patients. This study aimed to describe an implementation strategy to identify patients with HCV who were lost to follow-up (LTFU) and offer them re-linkage to Figure 1. Analysis of global DNA methylation. A) Representative dot blot using anti-5mC which recognizes global methylated DNA, anti-IgG as negative control and methylene blue staining as total DNA loading control. B) Graphs shows mean ± standard deviation of 5mC densitometry brand intensity of study groups. C) Graph that represents the percentage of global methylation of the DNA analyzed with ELISA.A one-way ANOVA statistical test and a Tukey post hoc test were performed. Group NT: only received vehicle; Group HCC: damage group induced by weekly administration of DEN and 2-AAF for 12 weeks; and Group HCC/PFD:

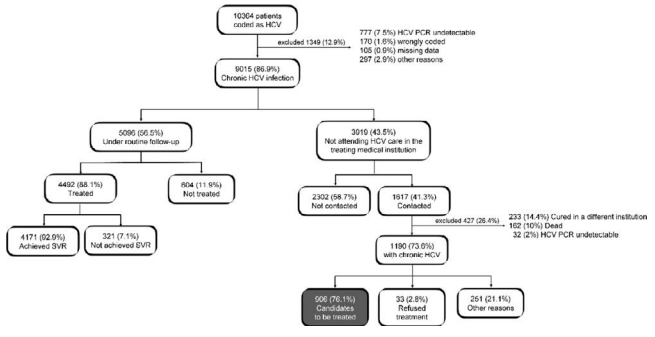
which received the same treatment as Group HCC, plus PFD (300 mg/kg) (**p<0.005)Figure 1. Analysis of global DNA methylation. A) Representative dot blot using anti-5mC which recognizes global methylated DNA, anti-IgG as negative control and methylene blue staining as total DNA loading control. B) Graphs shows mean ± standard deviation of 5mC densitometry brand intensity of study groups. C) Graph that represents the percentage of global methylation of the DNA analyzed with ELISA.A one-way ANOVA statistical test and a Tukey post hoc test were performed. Group NT: only received vehicle; Group HCC: damage group induced by weekly administration of DEN and 2-AAF for 12 weeks; and Group HCC/PFD: which received the same treatment as Group HCC, plus PFD (300 mg/kg) (**p<0.005)Figure 1. Analysis of global DNA methylation. A) Representative dot blot using anti-5mC which recognizes global methylated DNA, anti-IgG as negative control and methylene blue staining as total DNA loading control. B) Graphs shows mean ± standard deviation of 5mC densitometry brand intensity of study groups. C) Graph that represents the percentage of global methylation of the DNA analyzed with ELISA.A one-way ANOVA statistical test and a Tukey post hoc test were performed. Group NT: only received vehicle; Group HCC: damage group induced by weekly administration of DEN and 2-AAF for 12 weeks; and Group HCC/PFD: which received the same treatment as Group HCC, plus PFD (300 mg/kg) (**p<0.005)

**Materials and Methods:** We conducted an implementation study utilizing a strategy to contact patients with HCV who were not under regular follow-up in 45 centers from 13 Latin American countries. Patients with HCV were identified by the international classification of diseases (ICD-9/10) or equivalent. Medical records were then reviewed to confirm the diagnosis of chronic HCV infection defined by anti-HCV+ and detectable HCV-RNA. Identified patients who were not under follow-up by a liver specialist were contacted by telephone or email and offered a medical reevaluation.

**Results:** A total of 10364 patients were classified to have HCV. After reviewing their medical charts, 1349 (13%) had undetectable HCV-RNA or were wrongly coded (figure). Overall, 9015 (86.9%) individuals were identified with chronic HCV infection. A total of 5096 (56.5%) patients were under routine HCV care and 3919 (43.5%) had been LTFU. We were able to contact 1617 (41.3%) of the 3919 patients who were LTFU at the primary medical institution, of which 427 (26.4%) were cured at different institutions or were dead. Of the remaining patients, 906 (76.1%) were candidates for retrieval. Overall, patients who were LTFU were younger (58.7 vs. 61.1 years; p<0.001), were more likely to be men (57.4% vs. 49.5%; p<0.001), and to have a concomitant infection of HIV (13.8% vs. 7.3%; p<0.001) and HBV (3.1% vs. 1.7%; p<0.001).

**Conclusions:** In our cohort, about 1 out of 4 patients with chronic HCV who were LTFU were candidates to receive treatment. This strategy has the potential to be effective and accessible and significantly impacts the HCV care cascade. (NCT04470271)

**Figure**




https://doi.org/10.1016/j.aohep.2023.101053

## OP-5 ALCOHOL-ASSOCIATED HEPATITIS IN LATIN AMERICA: RESULTS FROM THE AH-LATIN STUDY

Luis Antonio Díaz[1], Jorge Arnold[1], Francisco Idalsoaga[1], Gustavo Ayares[1], María Ayala-Valverde[2], Diego Perez[2], Jaime Gomez[2], Rodrigo Escarate[2], Juan Pablo Roblero[3], Blanca Norero[4], José Antonio Velarde[5], Janett Jacobo[6], Jesús Varela[7], Scherezada Mejía Loza[8], Jacqueline Córdova[8], Rita Silva[9], Cristina Melo Rocha[10], Roberta C. Araujo[11], Gustavo Henrique Pereira[12], Claudia Couto[13], Fernando Bessone[14], Mario Tanno[14], Gustavo Romero[15], Manuel Mendizabal[16], Sebastián Marciano[17], Melisa Dirchwolf[18], Pedro Montes[19], Patricia Guerra Salazar[20], Geraldine Ramos[20], Juan Carlos Restrepo[21], Gabriel Díaz[22], Luis Guillermo Toro[23], Enrique Carrera[24], Brahmania Mayur[25], Singal Ashwani[26], Bataller Ramon[27], Shah Vijay[28], Kamath Patrick S.[28], Marco Arrese[1], Juan Pablo Arab[1,25,28,29,30]

[1] *Department of Gastroenterology, Pontifical Catholic University of Chile, Santiago, Chile*
[2] *El Pino Hospital, Santiago, Chile*
[3] *Gastroenterology Section, Clinic Hospital of University of Chile, Medical School of University of Chile, Santiago, Chile*
[4] *Sótero del Río Hospital, Santiago, Chile*
[5] *Civil Hospital of Guadalajara, Guadalajara, México*
[6] *General Manuel Gea González Hospital, Ciudad De México, México*
[7] *Dublán Hospital, Chihuahua, México*
[8] *Juárez Hospital of Mexico, Mexico City, Mexico*
[9] *Liver Transplantation Unit and the Base Hospital of the São Jose of Rio Preto Medical School, Sao Paulo, Brasil*
[10] *Fhaj Foundation Hospital Adriano Jorge, Amazonas, Brasil*
[11] *Clinic Hospital of Medical School of Ribeirão Preto, Ribeirão Preto, Brasil*
[12] *Bonsucesso Federal Hospital, Rio de Janeiro, Brasil*
[13] *Clinic Hospital of Federal University of Minas Gerais, Belo Horizonte, Brasil*
[14] *Centenario Provincial Hospital, Santa Fe, Argentina*
[15] *Gastroenterology Hospital " Dr. Carlos Bonorino Udaondo", Buenos Aires, Argentina*
[16] *Austral University Hospital, Pilar, Argentina*
[17] *Buenos Aires Italian Hospital, Buenos Aires, Argentina*
[18] *Rosario Private Hospital, Rosario, Argentina*
[19] *Daniel Alcides Carrión National Hospital - Callao, Bellavista, Perú*
[20] *Bolivian-Japanese Gastroenterological Institute, Cochabamba, Bolivia*
[21] *Pablo Tobon Uribe Hospital. Antioquia University, Medellín, Colombia*
[22] *Valle De Lili Foundation, Cali, Colombia*
[23] *San Vicente Hospital, Foundation Rionegro, Antioquía, Colombia*
[24] *Eugenio Espejo Specialty Hospital, Quito, Ecuador*
[25] *Department of Medicine, Division of Gastroenterology, Western University, London Health Sciences Center, London, Ontario, Canada*

[26] *Department of Medicine, University of South Dakota Sanford School of Medicine, Division of Transplant Hepatology, Avera Transplant Institute, Sioux Falls, SD, United States*
[27] *University of Pittsburgh Medical Center, PA, USA*
[28] *Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN, USA*
[29] *Alimentiv, London, Ontario, Canada*
[30] *Department Of Epidemiology And Biostatistics, Schulich School Of Medicine, Western University, London, Ontario, Canada*

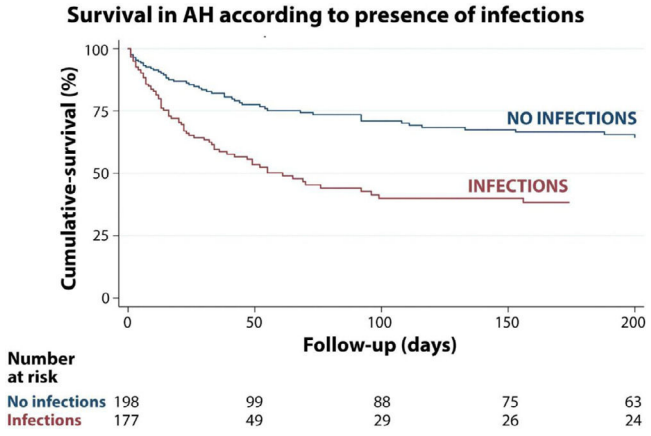
**Introduction and Objectives:** Severe alcohol-associated hepatitis (AH) is an entity with high morbidity and mortality; however, data in Latin America is limited. We aimed to characterize patients hospitalized for AH in a multinational cohort in Latin America.

**Materials and Methods:** Multicenter prospective cohort study. We included patients admitted with severe AH between 2015-2022. Sociodemographic and clinical information was recorded. The analysis included survival analysis using Kaplan-Meier curves. This study was approved by the institutional ethics committee.

**Results:** 470 patients from 24 centers (8 countries: Mexico, Chile, Argentina, Brazil, Peru, Bolivia, Colombia, and Ecuador) were included. Age 49.8 ± 10.6 years, 85.6% of men and 45% had a previous diagnosis of cirrhosis. Median MELD at admission was 26.9 [22-32] points. 26.5% met SIRS criteria and 34.3% had an acute kidney injury (AKI) on admission. Only 36.8% of patients were treated with corticosteroids. Survival at 30 days was 75.0% (95%CI: 70.1-79.3%) and 62.8% (95%CI: 57.1-68.0%) at 90 days. A total of 191 (45.8%) patients presented infections, 31.4% at admission and 24.9% during hospitalization. The most frequent locations of community-acquired infections were respiratory (33.5%), urinary (32.1%), spontaneous bacterial peritonitis (14.9%), and skin (10.5%), while the most frequent pathogens were Escherichia coli (40%), Klebsiella pneumoniae (12%), and Enterococcus (6%). The presence of infection at admission was associated with a decreased survival at 90-days (66.9% versus 48.1%, p=0.0002). AKI at admission was also associated with decreased survival at 90-days (86.8% versus 51.3%, p<0.0001). In the long term, only 3.2% of patients have been transplanted.

**Conclusions:** This multicenter study shows high morbidity and mortality in patients with severe AH, which is comparable to other regions worldwide. The presence of infections and AKI at admission were frequent and were associated with higher mortality. Unfortunately, the access to liver transplantation was extremely low in our cohort.

**Figure.** Cumulative survival of alcohol-associated hepatitis according to the presence of infections at admission.




https://doi.org/10.1016/j.aohep.2023.101054