



Conference abstract

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1. Cirrhotic Patients Developed Chronic Kidney Disease in Non-Alcoholic Steatohepatitis

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Background and aim. Non-alcoholic fatty liver disease (NAFLD) prevalence is constantly increasing, associated with the close relationship with the metabolic syndrome and its components. The association between NAFLD and chronic kidney disease (CKD) has been described. More evidence suggests that NAFLD and CKD share common pathophysiological mechanisms. Renal function was evaluated in patients with NAFLD during follow-up to identify the development of CKD.

Methods. A longitudinal retrospective observational study which included 117 patients with NAFLD was carried out. Any other cause of chronic liver disease were ruled out. Clinical, biochemical, imaging studies and histopathology data were recorded. Diagnosis of NAFLD was made with liver biopsy in 60%, FibroMax in 35.5% and US in 4.5%. All patients had a follow-up of at least 12 months (mean 56 months, range 12–240 months). Glomerular filtration rate was estimated (eGFR) with CKD-EPI equation. The eGFR was compared between admission and last visit with t-Student test. Kaplan Meier curve (KM) calculated the development of CKD in NAFLD patients (defined with an eGFR < 60 ml/min/1.73 m²).

Results. The mean age at admission was 46.8 and 51.5 at last visit. Hepatic cirrhosis was present since admission in 41 (35%) patients. The mean eTFG was 92.4 (88.6–96.2) at admission and at last visit 89.8 (85.6–94.1) without significant difference ($p = 0.3750$) (Figure 1), KM curve analysis demonstrated that patients with cirrhosis had higher probability to develop CKD ($p = 0.03$) (Figure 2).

Conclusions. Cirrhotic-NAFLD patients were more likely to develop CKD during follow-up. No complications associated with CKD were observed.

2. Prognostic Value of the Nutritional Control Index (CONUT) and IPN (Prognostic Nutrition Index) in Complications of Hepatic Abscess

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Background. Malnutrition is an independent risk factor for the development of complications in patients with abdominal

septic process. There are different tools to evaluate the nutritional status in hospitalized patients from anthropometric parameters to scales of analytical parameters. The CONUT scale (nutritional control index) and IPN (nutritional prognostic index) are simple, automatic methods based on three parameters (albumin, cholesterol, lymphocytes) that allow determining the risk of malnutrition.

Objective. To determine if CONUT and IPN predict the development of complications in patients with hepatic abscess.

Methods. A cross-sectional study was conducted that included patients with hepatic abscess to compare low risk and high risk groups for CONUT and IPN, with complications, abscess size and microbiological isolation. Student t was used to compare groups with parametric distribution and Mann Whitney U to compare groups with non-parametric distribution. For parametric and non-parametric correlation analysis we used Pearson and Spearman respectively. The SPSS v.25 software was used for the statistical analysis.

Results. Forty-one patients, 30 men (72.3%) and 11 women (26.8%) were included. The CONUT index was distributed: no risk 2 patients (4.9%) with a slight risk 21 patients (51.2%), high risk 33 patients (43.9%). In 26.8% of patients there was some type of complication, the main complication presented was kidney injury. The microbiological isolation reported *Klebsella pneumoniae* followed by *E. coli* and two cases were reported with *E. coli* multi-resistant. The degree of prediction of CONUT and IPN did not find association with development of complications with ($p = 0.953$) and ($p = 0.239$) respectively. However, there is a weak positive correlation between both scales to predict malnutrition risk with correlation index 0.321 ($p = 0.41$).

Conclusions. The majority of patients with liver abscess are at high risk of malnutrition; however, this factor is not associated with the development of complications, abscess size or microbiological isolation. Both the CONUT and IPN scales correlate to perform early detection of risk of malnutrition in patients with hepatic abscess.

The authors indicate no conflict of interest.

3. Impact of rs37972 and rs37973 GLCCI1 Genetic Polymorphisms in Mortality of Mexican Patients with Alcoholic Hepatitis
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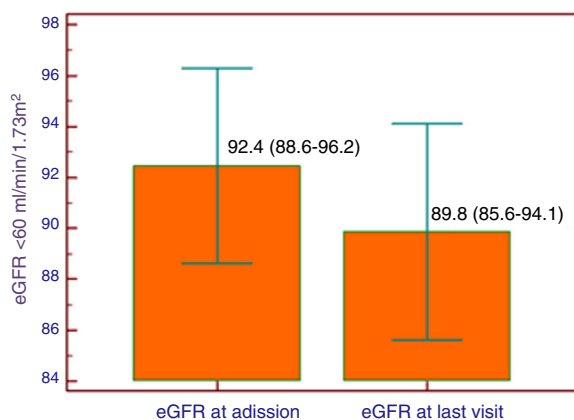


Figure 1.

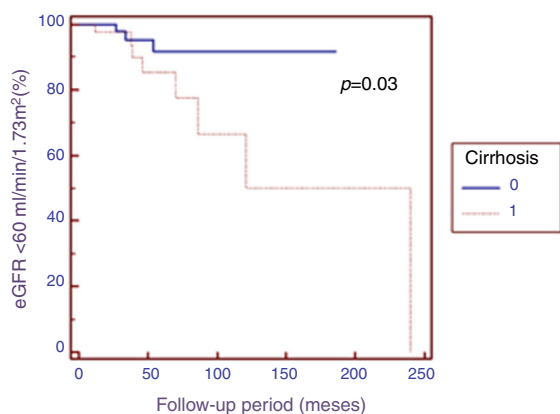


Figure 2.

Background. Alcoholic hepatitis (AH) has a mortality of 25-50%, but in some Mexican studies it reaches around 60%. Only steroid treatment impacts in AH mortality. Genetic polymorphisms (SNPs) rs37972 and rs37973 of GLCCI1 gene have shown influence in steroids treatment response in various inflammatory pathologies.

Aim. To determine if SNPs rs37972 and rs37973 of GLCCI1 gene confers lack of response to steroid treatment and higher mortality in patients with severe AH.

Methods. A case-control study was conducted in 71 Mexican mestizo patients with severe AH. The SNPs rs37972 and rs37973 of GLCCI1 gene were determined from genomic DNA by endpoint PCR. The demographic and clinical features of AH patients were collected and the response to steroid treatment was evaluated using the Lille model and its mortality. The data was analyzed with the statistical package SPSS V25.

Results. Of patients included: 62 were men (87.3%) treated with steroids. 46.5% of the patients presented response to treatment with steroids. Mortality at 24 weeks was 49.3%. The C allele of SNP rs37972 ($p=0.01$ [OR 0.41 (95%CI 0.21-0.81)], TT genotype of SNP rs370972 ($p=0.001$ [OR 0.02 (95%CI 0.00-0.40)] and AA of SNP rs37973 ($p=0.035$ [OR 0.48 (95%CI 0.24-0.95)], were shown as protective factors for early mortality (28 days). In evaluating mortality at 24 weeks we observed that the AG genotype of SNP rs370973 ($p \leq 0.001$ [OR = 13.22 (95%CI 4.72-36.78)]) and CT of SNP rs370972 ($p \leq 0.001$ [OR 12.0 (95%CI 4.46-32.28)]) conferred higher mortality in AH patients. No association was found between the response to steroids treatment and SNPs rs370973 and rs370972 of GLCCI1 gene ($p=1.00$ [95%CI 0.52-1.95]) in patients with AH.

Conclusions. Genetic polymorphisms of GLCCI1 gene impact in mortality of Mestizo-Mexican patients with AH. For our knowledge,

this is the first study worldwide that associates the of the GLCCI1 genetic polymorphisms in patients with AH.

The authors do not report any conflict of interest.

4. Inflammation Rates and Bioquimic Parameters as Predictors of Complications Hepatic Abscess

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Background. Hepatic abscess is an infectious condition with multiple complications: kidney injury, pleural effusion and empyema. There are factors associated with poor prognosis: bilirubin levels > 3.5, albumin < 2.0, encephalopathy and abscess volume. Various indices of inflammation; lymphocytes/neutrophils (ILN), albumin/procalcitonin (IAPC), platelet/neutrophil index (ILP) are related to prognosis and complications in abdominal sepsis.

Aim. To know the utility of inflammation indices (ILN, IAPC, ILN) total bilirubin and absolute neutrophil count as predictors of hepatic abscess complication.

Methods. A cross-sectional study was performed to compare two groups of patients with hepatic abscess (5 cm cut-off point) to associate ILN, IAPC, ILN, total bilirubin and neutrophil count to predict complications (kidney injury, pleural effusion, empyema, subphrenic abscess). Chi square test and Student's t test were used to compare groups with parametric distribution and Mann Whitney U to compare groups with non-parametric distribution. For parametric and non-parametric correlation analysis we used Pearson and Spearman respectively. The analysis of SPSS v.25.

Results. We included 41 patients, 30 men (72.3%) and 11 women (26.8%) aged 36 ± 12 years. The serologies for HBV, HCV and HIV were not reactive in all patients. The size of the lesion was < 5 cm in 19 patients and 22 patients with lesion > 5 cm. The complication rate was 26.8%, with a higher incidence of kidney injury, followed by pleural effusion and empyema. A correlation was found between the total bilirubin level (BT) ($r=0.31$, $p=0.04$) and the absolute neutrophil count (NT) ($r=0.42$, $p=0.006$) with the development of complications. Using a ROC curve, the cut-off point for NT was determined for the prediction of complications. The cut-off point for NT was 8.9 (AUC 0.77, $p=0.007$, S80%, Sp70%) and the cut-off point for BT was 1.3 (AUC 0.70, $p=0.045$, S63%, Sp80) and the Index of LN ($p=0.24$), IAPC ($p=0.79$) and IN (0.15), were not associated with the development of complications.

Conclusions. Absolute neutrophil count levels can predict early complications in patients with hepatic abscess.

The authors indicate no conflict of interest.

7. Complications Associated with the Use of Steroids in Patients with Severe Alcoholic Hepatitis

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Background. Alcoholic hepatitis (HA) is an entity with a high mortality rate reported with a rate of up to 50%. Currently, the only treatment that influences the impact on mortality is the use of steroids. The contraindications for its use are known; but not the incidence of complications reported after treatment.

Aim. To know the rate of complications associated with steroid treatment in patients with severe AH.

Methods. A prospective study was performed, nested in a cohort of patients hospitalized in the Gastroenterology Service of the General Hospital of Mexico with HA (Alcoholic Hepatitis Consortium of the National Institute of Alcohol Abuse and Alcoholism) from April 2017 to March 2019 with follow-up of development of

intra-hospital complications (renal injury, infection, gastrointestinal hemorrhage). For the statistical analysis, the SPSS v. Software was used. 25. Student's t test for comparison of groups with parametric distribution and Mann Whitney U to compare the groups with non-parametric distribution.

Results. We included 87 patients with Maddrey > 32 points who received steroids, 12 patients did not receive steroids for contraindication to its use. There are no statistically significant differences when comparing the group of patients who received therapy with steroids vs. non-steroids and the presence of gastrointestinal hemorrhage (7 vs. 6 patients, $p = 0.084$). Acute kidney injury was documented in 33 patients treated with steroids (28.4%) and in 14 patients who did not have treatment with steroids, there being no differences in these two groups for kidney injury ($p = 0.44$). The main sources of infection documented in this series of patients were urinary tract infection, spontaneous bacterial peritonitis and nosocomial pneumonia. When we bought the group of patients with steroid vs. non-steroid therapy with the presence of infections, we did not find differences between groups (17 vs. 12 patients, $p = 0.94$).

Conclusions. Steroid therapy in patients with HA is not related to the increased complications (including infections) during their hospitalization.

The authors indicate no conflict of interest.

8. Clinical and Demographic Features in Patients with Acute Alcoholic Hepatitis in a Third Level Reference Center

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Background. Alcoholic hepatitis (AH) is a cause of acute liver failure over chronic. The current incidence in Mexico is unknown. The majority of patients with AH have a poor prognosis with mortality rates between 30% to 50%.

Aims. Describe and know the clinical and demographic features of AH in a third level reference center.

Methods. A prospective cohort was performed in 116 patients were included with the diagnosis of AH (according to criteria established by the Alcoholic Hepatitis Consortium of the National Institute of Alcohol Abuse and Alcoholism), hospitalized in the Gastroenterology Service of the General Hospital of Mexico in the period from April 2017 to March 2019. The analysis of the data was done with the statistical package SPSS V.25

Results. Of patients included 106 were men and 10 women, all with non-reactive serologies for HCV, HBV, HIV. The degrees of liver failure reported: Child Pugh A 6 patients (5.2%), Child Pugh B 18 (15.5%) and Child Pugh C in 91 (71.4%). The distribution in the severity scales were: 99 (50.3%) patients with Maddrey > 32 points ($M > 32$), ABIC > 9 points were 29 (14.9%) patients and Glasgow > 9 points 52 (26.4%) patients. Of the 99 patients with $M > 32$, 87 patients received steroids, the others patients did not receive steroids for having more than one contraindication: 6 (50%) for renal failure, 9 (75%) for gastrointestinal hemorrhage, 3 (25%) for active infection, etc. Of the patients who received a steroid, 39 patients (33.6%) responded to treatment according to the Lille index (< 0.45) and 77 (66.4%) had no response. The overall mortality rate was 47.11% at 24 weeks of follow-up. In the 24-week follow-up, 17 patients (43.5%) with response treatment to steroids and 6 patients of unresponsive treatment to steroids group lived.

Conclusions. Mortality due to AH in our center is higher than reported in other populations, it is important to identify factors that may be associated with a lack of response to treatment in Mexican patients.

The authors do not have any conflict of interest.

11. Assessment of Connective Tissue Growth Factor (CTGF) in a Murine Model of Hepatic Fibrosis Induced by Thioacetamide (TAA) Bautista-Ubaldo MG¹, Campos-Espinosa A¹, Ramírez-Mendoza A¹, Kershenovich D², Gutiérrez-Reyes G¹, Guzmán C¹

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Background and aim. Connective Tissue Growth Factor (CTGF) participates in cellular proliferation, apoptosis and differentiation; CTGF is produced by the liver and secreted to the bloodstream. This peptide has been reported to induce the production of Extracellular Matrix (ECM) via activating profibrogenic pathways after liver damage. Our previous study showed an increase of CTGF in serum and in the liver of a murine model of cholestasis induced by Bile Duct Ligation (BDL). Here we aimed to assay CTGF in bloodstream and liver in a murine model of liver damage induced by TAA.

Methods. Female 12 weeks old C57BL/6 mice weighing 22 ± 3 g were administered with increasing doses of TAA (50-400 mg/kg, $n = 6-7$ per group) thrice a week for 4, 6, 8 and 24 weeks. Mice receiving the same number of doses of saline solution (control, $n = 6$ per group) were included. Serum and liver tissue were obtained; CTGF was assayed by ELISA. Histological analysis was performed by Hematoxylin-Eosin and Masson's Trichrome, the stage of fibrosis was classified according to Ishak score. Data is shown as Mean \pm SD and was analyzed by one way ANOVA followed by the Tukey post hoc test. $p < 0.05$ was considered significant.

Results. Increasing degree of liver fibrosis was observed according to the number of TAA doses. CTGF significantly decreased in TAA livers at the advanced treatment times compared to controls ($C = 624.0 \pm 179.8$, $Ishak2 = 411.3 \pm 142.3$, $Ishak3 = 264.0 \pm 81.03$, $Ishak4 = 301.3 \pm 75.82$, $Ishak6 = 328.5 \pm 230.9$ ng/mL; $p < 0.05$). On the other hand, CTGF did not change in serum from TAA groups compared to controls ($C = 624.0 \pm 179.8$, $Ishak2 = 411.3 \pm 142.3$, $Ishak3 = 264.0 \pm 81.03$, $Ishak4 = 301.3 \pm 75.82$, $Ishak6 = 328.5 \pm 230.9$ ng/mL).

Conclusions. CTGF is decreased in the liver during the advanced stages of progression of liver damage whereas in the serum it did not show significant changes. This findings suggests that CTGF participation in fibrogenesis is dependent on the etiology, since our previous studies showed it increased in a murine model of cholestasis as well as in patients with Primary Biliary Cholangitis (PBC).

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13. CCR2 Expression on Circulating Monocyte Subpopulations in children with obesity and NAFLD

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Background. Nonalcoholic fatty liver disease (NAFLD) is the most common chronic liver disease in children. It includes different spectrum of the disease from simple steatosis (SS) to steatohepatitis (NASH). NASH is characterized with hepatocyte injury, inflammation and fibrosis in some cases. During the liver damage, Kupffer cells become activated and start an inflammatory response, secreting CCL2 to recruit circulating monocytes. These monocytes need to express CCR2 to join the chemokine CCL2 and migrate to the damaged liver.

Aim. Evaluate CCR2 expression on circulating monocytes of children with obesity and NAFLD.

Methods. Observational and analytical study. Children were recruited from the childhood obesity clinic at Hospital General de México “Dr. Eduardo Liceaga”. Fibroscan was used to detect steatosis and fibrosis. Flow cytometry was used to evaluate number and cell expression. Children were divided into 4 groups: control, obesity without hepatic disease, obesity with SS, and obesity with fibrosis.

Results. Circulating classic and intermediate monocytes from children with NAFLD express more CCR2 than children without hepatic damage. CCR2 expression from classic monocytes correlates with fatness ($r=0.477$, $p=0.010$), and steatosis ($r=0.378$, $p=0.047$). CCR2 expression from intermediate monocytes correlates with preperitoneal fat tissue ($r=0.400$, $p=0.043$), metabolic syndrome ($r=0.454$, $p=0.023$), hepatic enzymes (ALT $r=0.459$, $p=0.014$; GGT $r=0.591$, $p=0.001$; ALT/AST Ratio $r=0.549$, $p=0.003$) and steatosis ($r=0.439$, $p=0.019$).

Conclusions. Classical monocytes express more CCR2 on children with obesity and NAFLD and they associate with fat accumulation. Intermediate monocytes have an increase CCR2 expression on children with liver damage, they correlate with the severity of NAFLD, metabolic syndrome and fat tissue.

14.Elevation of CXCL-10 in the Inflammatory Response in Different Alcohol Consumption Patterns and IL-1RA in Individuals with Alcohol Consumption WITHOUT Hepatic Damage

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Background. The alcoholic liver disease (ALD) caused by chronic and excessive alcohol consumption, in its pathophysiology is liver inflammation, it is important to evaluate proinflammatory cytokines and chemokines during their evolution.

Aim. To study the production of IL-1beta (β), IL-1RA and CXCL-10 in subjects with different patterns of alcohol consumption and liver damage.

Methods. Case-control, cross-sectional, observational, prospective study, according to their alcohol consumption, patients were classified as: Group 1: Alcoholics by criteria of alcoholism of WHO, alcohol dependence and/or Binge drinking without clinical or biochemical stigmas of liver disease; Group 2: Cirrhosis for alcohol, with clinical criteria and cabinet; Group 3: Alcoholic hepatitis, with clinical criteria and cabinet and Group 4: shows control, subjects without problems related to alcohol consumption and without known previous pathologies. To those who determined serum values of IL-1beta (β), IL-1RA and CXCL-10. Whose data were expressed as mean \pm standard deviation. Chi square and U of Mann Whitney were performed.

Results. We included 20 individuals with alcohol consumption without liver damage, 20 alcoholic cirrhosis, 18 alcoholic hepatitis and 46 controls. Patients with alcoholic hepatitis, younger, with mean age 39 ± 8 years, higher elevation of ALT 57.15 ± 5.43 IU/L, AST 142 ± 17.88 IU/L, GGT 254 ± 74.79 . Differences in IL-1RA were found in alcoholic patients without liver damage with elevation of 188 ± 190 ($p=0.006$) and elevation of CXCL-10 in the three groups of alcoholic patients of 797 ± 423 , $1,058 \pm 969$ and 764 ± 438 , respectively, with $p < 0.001$.

Conclusions. Inflammatory mediators, important factors in the evolution of the development of EHA, being in this study a predominance of elevated IL-1RA in patients with alcohol consumption without liver damage. CXCL10, showed high values for the 3 subgroups of alcohol consumption, chemokine secreted by multiple

cells, dependent on IFN- γ , whose determination of high values in peripheral liquids is a marker of host immunity especially in sites of chronic inflammation. It is concluded that a constant production of this is observed throughout the process of alcohol-dependent liver inflammation. There was no significance regarding the results of IL-1 β .

This work has not been subsidized either totally or partially by third parties.

15.Long-Term Effect of Rifaximin use in Cirrhotic Patients
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Background. Some studies suggest that Rifaximin (RFX) is effective as a secondary prophylaxis in hepatic encephalopathy (HE). The impact on other complications is unknown.

Aim. To evaluate the effects on the frequency of complications that the long-term use of RFX can have in cirrhotic patients and adverse effects.

Methods. Study of cases and controls nested in a cohort. Cirrhotic patients were included in follow-up consultations, adherence to treatment, history of HE, cases continued to take RFX without interruption, and controls suspended it. They were matched for age, sex, status for Child-Pugh, episodes of variceal hemorrhage (VH), infections, HE, ascites, use of beta-blockers, and diuretics. The cut-off point for follow-up was the start of RFX for cases and the last year’s record for controls. It was defined as long-term RFX consumption that patients had at least 6 uninterrupted months of consuming it. The categorical variables were compared using χ^2 or Fisher’s exact test, odds ratios and 95% confidence intervals were calculated. The quantitative variables were compared using Student’s t test. It was considered significant $p < 0.05$.

Results. We included 81 controls without RFX (58.3%) and 58 cases with RFX (41.7%). The median time taking RFX was 8.5 (range = 6–18) months, the dose used was 400 mg administered 2 to 3 times a day. The baseline characteristics of the patients were similar between cases and controls. In the univariate analysis over 6 to 18 months, variceal bleeding occurred in 24 (29.6%) and 5 (8.6%) with $p < 0.003$ and Encephalopathy in 35 (43.2%) and 8 (13.8%) with $p < 0.0001$, in controls and cases, respectively. There were no side effects attributed to the long-term use of RFX.

Conclusions. RFX reduced the frequency of complications such as VH and HE in cirrhotic patients who received it in the long term. Clinical trials are required to validate our findings. The decrease of bacterial translocation, reduction of the systemic inflammatory process and the regulation of portal pressure could be mechanisms that explain these findings, for which additional studies are required to evaluate these possibilities.

This work has not been totally or partially subsidized by third parties.

17.Frequency of Symptoms from Disease Gastroesophageal Reflux in Patients with Hepatic Cirrhosis

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Background and aim. In Mexico it is estimated that 12.1% of the general population reports symptoms of gastroesophageal reflux disease at least once a week. The frequency of GERD symptoms in patients with liver cirrhosis is unknown, therefore the objective of our work was to evaluate the frequency of GERD symptoms in this population through the GerdQ symptom questionnaire.

Methods. Patients diagnosed with hepatic cirrhosis treated at the gastroenterology clinic were studied by applying the GerdQ reflux symptoms questionnaire (positive > 8 points). The anthropometric measures, etiology of liver cirrhosis, time of diagnosis,

severity by means of Child Pugh scale, comorbidities, tobacco consumption, presence and severity of ascites, medications, use of PPI and endoscopic findings were evaluated.

Results. We studied 83 patients diagnosed with liver cirrhosis, 47 (56.6%) of the female gender and 36 (43.4%) of the male, mean age 57.5 ± 11.6 years. The etiologies were: 42 patients (50.6%) alcohol, 21 (25.3%) NASH, 11 (13.3%) autoimmune and 9 (10.8%) HCV. The severity of the disease by Child Pugh was A in 43 (51.8%), B 32 (38.6%) and C 4 (4.8%), the evolution time of the cirrhosis was 24 ± 21.2 months. GerdQ positive was reported in 6 patients (7.2%), of which 1 patient (16.7%) had grade 3 ascites. Of the asymptomatic patients 11 (14.5%) had ascites ($p = 0.696$). A history of smoking was reported in 8 patients (10.5%), all with negative GerdQ. The endoscopic findings of the symptomatic patients reported 2 patients (33.3%) with large esophageal varices, 2 (33.3%) hypertensive gastropathy and 1 (16.7%) follicular gastropathy, note that Esophagitis Grade B of the Angels was reported in 1 patient (1.3%) without reflux symptoms and 1 (1.3%) patient with PPI use. Regarding the intake of medications, no significant differences were found in the use and doses of propranolol ($p = 0.367$), spironolactone ($p = 0.630$) and furosemide (0.471).

Conclusions. Our results report that the prevalence of symptoms of gastroesophageal reflux disease in patients with liver cirrhosis is low (7.2%) compared to that demonstrated in the open population of our country.

The authors do not have any conflicts of interest.

18.Clinical Findings, Epidemiology and Evolution of Cirrhotic Patients with Liver Hydrothorax: Retrospective Cohort Study

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Background. About 6% of cirrhotic patients with ascites develop hepatic hydrothorax (HH). It represents the second most frequent cause of pleural transudate. Publications on specific aspects of this entity contain a small number of patients.

Aim. To describe the clinical, epidemiological and evolution of cirrhotic patients with hepatic hydrothorax.

Methods. A descriptive and retrospective study in cirrhotic patients with HH who underwent a diagnostic thoracocentesis, having ruled out primary causes of pleural effusion (PE). We evaluated the biochemical and radiological characteristics of PE, treatment and the factors of HH development in patients admitted to the Gastroenterology service of Hospital Juárez de México from December 1, 2015 to December 31, 2018. The data was obtained from the clinical file and processed for the obtaining of means, medians and percentages. Chi square test was used for variable analysis, establishing a $p \leq 0.05$ as significant in electronic basis Epi info 7.

Results. In total 30 patients, median age 52 years (28-79), male 17 (56.7%), diagnosis of cirrhosis 1.5 years (0.5-11) before the development of HH. The etiology: alcohol 17 (46.7%) followed by Hepatitis C virus and non-alcoholic steatohepatitis. The right PE 21 (70%), the majority being transudated by Light criteria and 8 (26.7%) developed spontaneous bacterial empyema. Child Pugh C in 16 (53.3%), median MELD-Na (Model for End Stage Liver Disease sodium) 21.2 (11-33) and serum albumin 2.19 (1.5-3.5). Diuretics 28 (93.3%) were used, 15 being refractory, of which 9 (30%) were Child Pugh C and 8 (26.6%) MELD-Na ≥ 21.8 , ($p = 0.715$). Therapeutic thoracocentesis was performed in 21 patients, 11 evacuation paracentesis, 7 pleurodesis and 2 chronic tunnelled intrapleural catheter. No case was performed liver transplant. 19 (63.3%) died. The median survival from detection of HH was 10.5 months (6-24). None of the clinical and epidemiological

characteristics influenced the development and evolution of HH. ($p = 0.14$).

Conclusions. HH is a manifestation of advanced cirrhosis that is difficult to treat. None of the factors analyzed in this study influenced the development and evolution of it.

The authors indicate no conflict of interest.

19.CCC-16 Cell Line as *In Vitro* Model for Intrahepatic Cholangiocarcinoma Study

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Background. Cholangiocarcinoma (CCA) is an aggressive tumor entity arising from the biliary tree, which molecular pathogenesis remains largely unclear. But, in the last 15 years its incidence has increment worldwide; nowadays it represents the second most common type of primary malignancy in the liver after hepatocellular carcinoma. Thereby, this project aims characterize to the primary cell line as a model for the study molecular mechanism into the cholangiocarcinoma.

Methods. Two cell lines was used, CCC-16 obtained from a human intrahepatic cholangiocarcinoma and Huh-7 obtained from a human hepatocellular carcinoma and was used as reference. Proliferation assay, FASN, Epcam gene expression through qRT PCR, quantification of neutral lipids (oil red O), immunofluorescence and spheroids formation assays were performed.

Results. We found that lipid content in CCC-16 cell line was lower in comparison with Huh-7 cell line; this was corroborated through gene expression of FASN, which was similarly, its expression in CCC-16 showed a decrease. A significant increment in the expression of Epcam was observed in CCC-16 cell line compared with Huh-7 cell line, this result was corroborated by immunofluorescence against Epcam. A possible "biliary duct" structure was observed in the spheroid formation assay of CCC-16 line compared with Huh-7 cell line.

Conclusions. Having a good cell model that maintains the classic characteristics, as was observed in CCC-16 cell line, gives us the possibility of performing several studies on the mechanisms involved in this cancer type.

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20.Determination of the Effect of a Steatogenic Diet on the Aggressiveness of Cancer

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Background. While the hepatitis B and C viruses remain the most important risk factors, virus-related HCC is expected to decrease in the near future due the new treatments. However, the prevalence of non-alcoholic fatty liver disease (NAFLD) is increasing. Strong evidence has emerged that NAFLD is major risk factor for HCC. Dietary cholesterol has been shown to play a role in the development of steatohepatitis. However, the mechanisms by which cholesterol promotes HCC development is unclear.

Methods. The RNA-seq of 16 patients with HCC with no history of primary risk factor, and 12 samples of NHCC (NAFLD-HCC),

were retrieved from The Cancer Genome Atlas (TCGA) database. 64 14-days old male mice (C57/BL6) were randomly separated: i.) Fed with a high cholesterol diet (HC); ii.) HC diet and single intraperitoneal (ip) injection of 10 µg/kg body weight of N-Nitrosodimethylamide (DEN) (HCD); iii.) Fed with Western (W) diet; iv.) W diet and DEN (WD); Chow diet (CW) with v or without vi. DEN. After 8 months mice were euthanized. Data are reported as the average ± standard error (SEM). For the comparison of means of different groups, an analysis of variance (ANOVA) was used, followed by multiple comparisons by the Tukey test. The level of significance was $p \leq 0.05$.

Results. In order to identify the gene expression profile related to NAFLD/NASH-related HCC, we proceeded to the analysis NAFLD-HCC samples, and HCC samples with no history of primary risk factors. Interestingly, the analysis of HCC samples versus NAFLD-HCC samples, exhibited 325 differentially expressed. In order to validate the findings in human samples, we established a mice model. Histological studies revealed high lipid accumulation under experimental diets, the Western diet exhibited both micro and macrovascular lipid accumulation. This preliminary data suggest a differential expression profile between different diets.

Conclusions. Increasing evidence supports that in cancer, lipids overload is overacting to support the tumor growth. Suggesting that cholesterol could be positioned as a key element in HCC progression. Dietary lipids play a significant role, because they provide the ultimate resources for growth and survival.

Conacyt: Fronteras de la Ciencia 1320.

21. Fructose Effect on the Functionality of Cells Derived from a Human Hepatocarcinoma

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Background and aim. Hepatocellular carcinoma (HCC) comprises between 75% - 85% of reported cases of primary liver cancer and is the fourth cause of cancer-related death in men mostly. The consumption of hypercaloric diets mainly rich in carbohydrates such as fructose has increased in recent years. High fructose diet is related to the development of Non-Alcoholic Fatty Liver Disease (NAFLD) and the progression of HCC since it potentiates the lipogenic pathway and the accumulation of lipids. The aim of the study is to determine the effect of fructose on the main tumorigenic properties in cells derived from a human hepatocellular carcinoma in order to characterize the role of fructose in the HCC.

Methods. We used Huh7 HCC cell line and applied three treatments, Fructose or Glucose alone at different concentrations (0.65 mM, 0.68 mM and 0.72 mM) and the combination of both (Fructose: Glucose) (0.58 mM: 0.14 mM, 0.61 mM: 0.11 mM and 0.67 mM: 0.05 mM) to carry out tests of viability, proliferation, and cellular functionality. Tumorigenic parameters such as spheroid formation, colony formation and cell migration with phalloidin staining were also evaluated.

Results. No significant changes were found with sugar concentrations, so 0.68 mM fructose was continued for 24 h. Following this experimental model, a greater number of spheroids and colonies were obtained in the cells treated with fructose compared to the control. Regarding migration, wound closure was faster in the presence of fructose.

Conclusions. The data show that fructose increases the proliferation of Huh7 cancer cell line without affecting its viability and functionality and enhances its tumorigenic properties.

This work has been partially founded by Conacyt: Fronteras de la Ciencia 1320 and by the UAM.

23. Follow-Up of Patients with Hepatocellular Carcinoma on an Oncology Center vs. Hepatology Center

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Background. Liver cancer is the second and third cause of cancer-related mortality worldwide and in Mexico, respectively. Liver transplant (LT) is the best treatment for early stage HCC. Recently, an alpha-fetoprotein (AFP) model was introduced as a better predictor of HCC recurrence and survival after LT.

Methods. We studied 126 patients, with HCC and cholangiocarcinoma diagnosis confirmed by biopsy, image study or elevated AFP(HCC), between 2012-2018. 62 (49%) patients from the Hepatology Center (HC), and 64 (51%) from the University Center Against Cancer (UCAC) from “Dr. José Eleuterio González” University Hospital. 31(25%) were cholangiocarcinoma. We present only HCC (n=95). 64 (67%) males (65.09 ± 9.69). 100% cirrhotic; NASH 33(39%), ASH 29 (34%), HCV 18 (21%), PBC/AIH 1(1%) and Non-determined 4 (5%). Okuda's and BCLC classifications to stage the patients (A-early, B-intermediate, C-advanced, D-end stage). Milan criteria and University of California, San Francisco expanded criteria (UCSF) to identify candidates for LT. Population was divided in low (≤ 2) and high (> 2) recurrence risk according to AFP model.

Results. Cirrhotic patients undergo screening (US+AFP) every 6 months in the HC for early diagnosis. Average size of the biggest tumor was 73 mm (16-167). 20 (21%) patients had extrahepatic metastasis at diagnosis. Patients with Okuda I-II and BCLC A-B were more prevalent in HC, whereas, more advanced HCC was diagnosed in UCAC by the same classifications. There were more patients within MC and UCSF in the HC. A larger number of patients had major recurrence risk in the UCAC. 15 (27%) patients from HC were evaluated for LT, only 6 received it (4 HCC progression, 2 economic issues, 2 still on evaluation, 1 denied LT).

HC (n=56)	OKUDA	BCLC	MC	UCSF	AFP Model
	I-II*	A+B**	Yes 17/49	Yes 26/49	> 2 26/43
	44/48 (92%)	34/49 (69%)	(35%)***	(53%)****	(60%)*****
UCAC (n=39)	II-III*	C+D**	Yes 3/26	Yes 6/26	> 2 19/22
	24/29 (83%)	22/36 (61%)	(12%)***	(23%)****	(86%)*****

*p=0.013; **p=NS; ***p=NS; ****p=0.024; *****p=0.024.

Conclusions. Patients whom received regular screening for HCC, showed early disease. 40% had low risk of HCC recurrence after LT. 35-53% of the patients could have received LT, which reflects the national problem of lack of access to transplants.

24. Intra-Hospital Tests Overestimates Outpatients Physical Activity in Liver Cirrhosis Patients Evaluated for Liver Transplantation

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Background and aim. Frailty syndrome translate bad prognosis in patients with cirrhosis; sedentary lifestyle leads to muscle mass and strength reduction. In-hospital tests can evaluate functional capacity, but this tests reflect physical activity on an outpatient basis? The aim was to compare results of an intra-hospital functionality test with the activity performed extra-hospitalary in decompensated cirrhosis patients (DCP).

Methods. Retrospective cohort study. Clinical and laboratory data from DCP evaluated for liver transplantation were analysed.

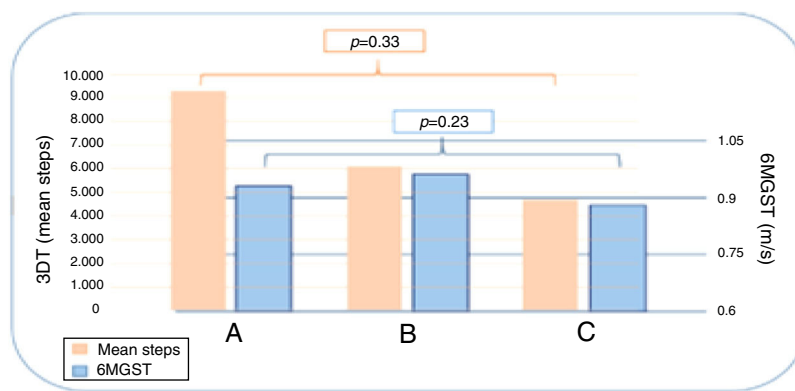


Figure 3. Relation of 3DT and 6MGST with severity of hepatopathy by Child-Pugh.

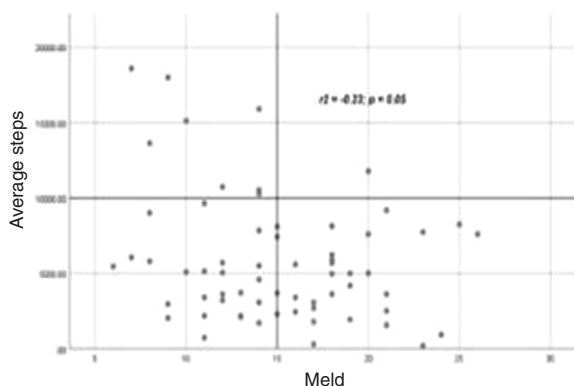


Figure 4. Correlation of steps in relation to MELD score.

Functional tests: Gait speed on 6 meters (meter/second [m/s]) and quantification of the mean of steps of 3 day test (3DT) using a step counting bracelet (Garmin VivoFit®). Normal 6 meters gait speed test (6MGST) was defined by as ≥ 0.9 m/s and an active person, according to the WHO criteria. Statistical analysis by SPSS 23.0.

Results. 66 patients included, mean age 51.9 ± 11 years, 56.1% female. Most frequent etiology: autoimmune liver disease (30.3%) and HCV (22.7%). Child-Pugh (CP) was A 6 (9.1%), B 32 (48.5%) and C 28 (42.4%) and mean MELD score: 15.0 ± 4.7 . Mean of 3DT: $5,786.2 \pm 114.2$ steps and mean 6MGST value: 1.11 ± 0.2 m/s. 54% presented normal 6MGST. Patients with normal 6MGST presented more steps in 3DT (7,107.2 [2,116.3–17,992.6] vs. 5,079.7 [205.3–18,600.3], $p=0.015$) and higher speed (0.89 [0.7–0.99] vs. 1.23 [1.01–1.84], $p=0.0001$). No difference in 3DT and 6MGST in relation to hepatopathy severity (CHILD). Evident diminution of steps in more advanced hepatopathy in 3DT, without great changes in speed 6MGST (Figure 3). Correlation of fewer steps to a higher MELD score ($r^2 = -0.23$, $p = 0.05$) (Figure 4), 86.4% were classified as non-active (WHO). 19.4% of normal patients in 6MGST group classify as active, this indicate that these patients could make an extra effort in the in-hospital test to achieve better 6MGST results, but they do not perform physical activity at home.

Conclusions. Patients with a normal 6MGST had greater steps in the 3DT in an outpatient basis, but 80% of patients were classified as non-active by the WHO physical activity standards.

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27. Evaluation of Peripheral Blood Monocytes of Subjects with Alcoholic Liver Disease

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Background. Monocytes/macrophages are cells of the immune system, which have the capacity of recognize lipopolysaccharide (LPS), which is a component of Gram-negative bacteria. In alcoholics, intestinal permeability is increased by chronic alcohol intake promotes LPS translocation to portal vein activating the TLR-4 signaling pathway in Kupffer cells, which results in the increment of pro-inflammatory cytokines.

Aim. To evaluate peripheral blood monocytes, as well as the TLR-4 receptor in alcoholic patients, cirrhotic patients for alcohol and alcoholic hepatitis.

Methods. Subsequent alcoholic patients were included in the Liver Clinic of the General Hospital of Mexico with alcoholism criteria according to WHO (> 70 grams of alcohol (gOH)/day in men, > 50 gOH/day in women in the last 5 years). They were classified according to the absence (OH) or presence (CiOH) of liver damage by alcohol, as well as patients with an active alcoholic hepatitis (HOH) without treatment. A detailed clinical history of each patient was prepared. The control group (CT) included subjects with AUDIT < 8 with a consumption < 10 gOH/day. Blood samples were taken on a single occasion (10 ml) to obtain mononuclear cells by density gradient. To which cell marking was done by flow cytometry. For the statistical analysis, a Mann-Whitney U test was performed.

Results. Were included 24 CT subjects, AUDIT < 3 , average age of 28 ± 9 years, and 1.8 g OH/day, 12 OH, 10 CiOH and 10 HOH. The average age was 35 ± 13 , 55 ± 15 and 38 ± 7 years old, respectively. Average grams of alcohol per day was 133 ± 26 for OH, 254 ± 74 for CiOH and 370 ± 73 for HOH. The cell labeling of the Monocytes for: CT = 10%, OH = 13%, CiOH = 16% and HOH = 39% (HOH vs. CT $p < 0.001$). While for TLR4 it was: CT = 7.4%, OH = 63%, CiOH = 65% and HOH = 69% (OH vs. CT $p < 0.001$, CiOH vs. CT $p < 0.001$, HOH vs. CT $p < 0.001$).

Conclusions. The number of monocytes and the TLR-4 expression in peripheral blood was high in patients with alcoholic hepatitis, these findings support the fact that alcohol is affected at systemic level. It is possible that this phenotype maintains a state of constant inflammation and participates in the susceptibility of respiratory and gastrointestinal infections.

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28. Genetic Polymorphisms of Metabolizing Enzymes as a Possible Risk Factor for the Development of Alcoholism in the Mexican Population

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Background. There are several polymorphisms in the genes that code for the metabolizing enzymes of alcohol: ADH, ALDH, CYP2E1. Several studies have reported its association with alcoholism and liver damage by alcohol in different ethnic groups.

Aim. To evaluate the polymorphisms of alcohol metabolizing enzymes in Mexican mestizo population and its association with liver damage by alcohol.

Methods. Polymorphic length restriction fragments (RFLPs) of ADH1B, ALDH2, and 3 variants of CYP2E1 were performed in non-alcoholic, alcoholic and cirrhotic subjects by alcohol.

Results. The study subjects were mestizos from the center of the country and from three generations. We included 226 non-alcoholic subjects with an AUDIT < 5, average age of 37 ± 13 years, and a BMI of 27 ± 4 Kg/m². The patients were classified as alcoholics (47) and cirrhotic patients (143). The average age was 46 ± 13 and 49 ± 11 years respectively. The average of alcohol per day for nonalcoholic was 3 ± 3 g, while for alcoholics it was 307 ± 198 g and the cirrhotic was 315 ± 235 g. RFLPs. In the allelic frequencies a significant difference was obtained in the ADH1B * 2 allele (alcoholics 0% vs. nonalcoholic 5% $p=0.001$) with an OR of 1.048 (1.019-1.075 95%CI, $p=0.003$). For CYP2E1, the promoter region; c1, 16% alcoholics vs. 79% non-alcoholic $p=0.001$, with an OR of 0.013 (0.005-0.034 95%CI, $p < 0.001$) for CYP2E1 intron 6 the most frequent allele C with 82% alcoholic and 18% nonalcoholic with a $p=0.001$, with an OR of 18,824 (10.51-33.58 95%CI, $p < 0.001$) and for CYP2E1 intron 7; A2, with 18% alcoholic vs. 13% non-alcoholic $p=0.51$, but showed differences between alcoholics and cirrhotics ($p=0.015$), with an OR of 1453 (0.632-3.343 95%CI, $p=0.78$).

Conclusions. The polymorphism ADH1B*1 confers risk to develop alcoholism. While for the CYP2E1*c1 polymorphism can be considered a protective allele for alcoholism, CYP2E1*C in alcoholic mestizos confers great susceptibility to develop alcoholism. This is the first study where the SNPs of CYP2E1 are related to susceptibility to develop alcoholism and cirrhosis.

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29.DIFFERENTIAL Production of Chemokyne 8 and 10 During Chronic Liver Diseases

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Background. During chronic alcohol consumption it has been observed that CXCL-8 participates in the recruitment of neutrophils, in contrast CXCL-10 has been associated with the attraction of T cells during virus hepatic infections. Until now the production and regulation of these mediators in alcohol liver cirrhosis (ALC), chronic hepatitis C (CHC) and non-alcoholic fatty liver disease (NAFLD) is not fully explored.

Aim. To evaluate and correlate the serum concentration of CXCL-8 and CXCL-10 in patients with ALC, CHC and NAFLD.

Methods. Prospective, cross-sectional and observational study. A total of 20 ALC patients, CHC n=22 and NAFLD n=20 were

included. Alcoholism was defined as OMS criteria (70 g/day for men and 50 g/day for woman, in the last 5 years), ALC was supported by clinical evidence and laboratory analysis. In addition, a total of 46 healthy individuals with negative serology to hepatitis viruses and non-risk alcohol consumption (AUDIT < 8) were considered as control group (CT). A total of 10 ml venous blood was collected, and the serum CXCL-8 and CXCL-10 levels were measured using Milliplex technology (Millipore). SPSS 22.0 software was applied to process the data. Kruskal-Wallis and Mann-Whitney U test were used, and $p < 0.05$ was considered for significant differences.

Results. Both, CHC and NAFLD was prevalent in women (< 60%) and low percentages of this gender were observed in ALC and CT (~20%). Moreover, the mean of age in patients with CHC and NAFLD was close to 60 years, meanwhile in ALC was 46 years. Regarding chemokines was observed an upregulation of CXCL-10 in the three hepatic etiologies analyzed in comparison with CT individuals (ALC-CT, $p < 0.001$; CHC-CT, $p < 0.001$; and NAFLD-CT, $p=0.007$), however, was not observed differences between each chronic liver damage. In contrast, CXCL-8 production showed a significant upregulation in ALC compared with CT ($p < 0.001$) and chronic liver diseases (ALC-CCH, $p=0.004$ and ALC-NAFLD, $p < 0.001$).

Conclusions. The CXCL-8 and CXCL-10 have an important role regulating leukocyte trafficking in chronic hepatic diseases, we showed that in ALC the chemokine CXCL-8 plays a key role in the recruitment of neutrophils perpetuating the inflammation process in the liver. Thus, the determination of chemokines in serum could be used as a biochemical indicator for the diagnosis of liver cirrhosis and possible target in ALC.

This work was financed by CONACyT SALUD-2016-272579 (GRG), PAPIIT- UNAM TA200515 (GRG) and DGAPA-UNAM (MCM).

30.Oxido-Reduction Balance in a Murine Chronic Ethanol, High-Fat Diet Consumption

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Background. Intake of high energy food, sedentarism and/or high consumption of alcohol leads to increase triglycerides in the liver. Reactive oxygen species (ROS) are potential mediators that promote the development of liver diseases generating an imbalance in the antioxidant system such as glutathione.

Aim. To evaluate of the endogenous antioxidant system (GSH, GSSG and GSH/GSSG) in a murine model of chronic consumption of ethanol and high-fat diet.

Methods. Male mice (C57BL6), 8 weeks old, which were divided into 6 groups. Group 1: diet chow + water *ad libitum* (CT), Group 2: diet chow + ethanol 20% (OH), Group 3: diet high fat + water *ad libitum* (HF), Group 4: Ethanol 20% + diet high fat (OH + HF) for 4 months Group 5: diet chow + ethanol 20% for 4 months and then diet high fat + water *ad libitum* (OH/HF) and Group 6: Diet high fat + water *libitum* for 4 months and then ethanol 20% + diet chow (HF/OH). The levels of reduced glutathione (GSH) and oxidized glutathione (GSSG) were determined in peripheral blood (Calbiochem, USA) and the GSH/GSSG ratio was calculated. For the statistical analysis, ANOVA and Tukey's post-hoc were performed, with a $p < 0.05$ as significant.

Results. Four animals were included per group.

	1 (CT)	2 (OH)	3 (HF)	4 (OH + HF)	5 (OH/HF)	6 (HF/OH)	p
GSH (mMol)	1,215 ± 34	1,045 ± 130	1214 ± 50	950 ± 185	1,342 ± 159	1,275 ± 302	NS
GSSG (mMol)	184 ± 3	602 ± 50	277 ± 3	416 ± 12	419 ± 38	724 ± 51	a**, b**, c**, d**, f**, g**, h**, i**, j**, l**, n**, o**
Cociente	4.6 ± 0.14	-0.19 ± 0.3	2.3 ± 0.2	0.30 ± 0.5	1.25 ± 0.48	-0.28 ± 0.35	a**, b**, c**, d**, f**, j**, l**, n**, o*

Data expressed as mean ± standard error, a=OH vs. CT, b=HF vs. CT, OH + HF vs. CT, d=OH/HF vs. CT, e=HF/OH vs. CT, f=OH vs. HF, g=OH vs. OH + HF, h=OH vs. OH/HF, i=OH vs. HF/OH, j=HF vs. OH + HF, k=HF vs. OH/HF, l=HF vs. HF/OH, m=OH + HF vs. OH/HF, n=OH + HF vs. HF/OH, o=OH/HF vs. HF/OH. *p < 0.05, **p < 0.005.

Conclusions. Animal model shows that the ratio levels in the different treatment groups decrease compared with the control and that the ethanol group is evident the oxidative damage compared with other insults, which shows that after 4 months of treatment it favors the production of ROS and inducing liver damage.

This work was partially financed by CONACyT: SALUD-2016-272579.

31. Production of Metalloproteinases 2,7 and 9 in Serum and its Association with the Degrees of Fibrosis in the Chronic Hepatitis C

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Background. In chronic liver damage the incorrect balance between the deposition of collagen and its degradation causing fibrosis. Some proteins involved in degradation and remodeling include metalloproteinases (MMPs). The production and activity of these proteins in the different stages of fibrosis during chronic hepatitis C (CHC) have not been evaluated.

Aim. To determine MMP-2, MMP-7, MMP-9 concentration and its activity, as well as its correlation with the degree of fibrosis in patients with CHC.

Methods. Prospective, cross-sectional study. CHC patients without treatment and with evaluation of the degree of fibrosis (FibroTest and/or Fibroscan) were included. The data were compared with subjects without risk alcohol consumption (AUDIT < 8) and negative serology to hepatitis A, B and C viruses. Prior consent, 10 mL of blood was obtained. MMPs were determined by western blot (WB) and its concentration were evaluated by Milliplex multiple suspension arrangement (Millipore). Proteolytic activity was determined by zymograms and Azocoll. For statistical analysis were used Kruskal-Wallis, Mann-Whitney U test, and Spearman correlation.

Results. Were included 118 patients with compensated CHC and 114 controls (CT). According to the classification of fibrosis stages, were obtained: F0 = 35, F1 = 11, F2 = 14, F3 = 20 and F4 = 38. MMPs was confirmed and quantified showing high values in patients vs. CT (p < 0.05). In fibrosis stages were observed differences in MMP-7 between F0 vs. F3, F0 vs. F4, F1 vs. F4, F1 vs. F3, F2 vs. F3 and F2 vs. F4, the higher concentrations were observed in advanced stages (F3 and F4; p < 0.05), r = 0.322; p < 0.001. Moreover, any MMPs did not showed proteolytic activity.

Conclusions. The high concentration of inactive MMPs in serum could be due to modulation of intracellular vesicular traffic by HCV. In the case of MMP-7 its differential production can be used to differentiate the fibrosis stages, thus may be use as candidate for the diagnosis of hepatic fibrosis caused by CHC.

This work was financed by CONACyT SALUD-2016-272579 (GRG), PAPIIT- UNAM TA200515 (GRG) and DGAPA-UNAM (MCM)

32. Evaluation of the Inflammatory Process in Hepatic Fibrosis Due to Chronic Hepatitis C

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Background. In fibrosis IL-6 has been associated with the progression of the damage in chronic hepatitis C (CHC), also it's related with the protection of hepatic ischemia. On the other hand, in viral infections the CD8 + T cells respond positively to CXCL8/IL-8 by the expression of CXCR1/CXCR2 in hepatocytes, whereby contribute to acute inflammation and survival/function of hepatocytes. Likewise, these immune mediators can participate in the activation, differentiation and localization of lymphocytes, monocytes and neutrophils.

Aim. To evaluate the secretion of IL-6 and CXCL8/IL-8 in patients with chronic hepatitis C and its association with the liver fibrosis stages.

Methods. A cross-sectional and multicenter study was performed. The fibrosis stages were diagnosed by Fibroscan/Fibrotest. The evaluation of IL-6 and CXCL8/IL-8 was determined by the technique of multiple suspension arrangement (Milliplex[®], MERCK[®]). Statistical analysis was performed by SPSS version 22 using the Mann-Whitney U test, with p < 0.05 as significant.

Results. 84 patients were included, of which 42 were CHC patients and 42 were Controls (CT); the concentration of CXCL8/IL-8 (pg/mL) in CHC was 31.4 ± 10.6, for CT it was 1.6 ± 0.4, p < 0.001. Additionally, the patient's group were subdivided in mild fibrosis (F0-F2, n = 15) and severe fibrosis (F3-F4, n = 27), the mean age for F0-F2 was 52.2 ± 3.4 years, F3-F4 was 55.5 ± 2.4 years, while for CT it was 40.9 ± 1.4 years. The concentration of IL-6 (pg/mL) for F0-F2 was 0.2 ± 0.1, F3-F4 was 2.7 ± 1.0 and CT was 1.2 ± 0.8; obtaining significant differences between F3-F4 vs. CT, p < 0.05 and between F0-F2 vs. F3-F4, p < 0.005; while the concentration of CXCL8/IL-8 for F0-F2 was 57.2 ± 26.0, F3-F4 was 17.1 ± 7.2 and CT was 1.6 ± 0.4, obtaining significant differences between F0-F2 vs. CT, p < 0.005 and between F3-F4 vs. CT, p < 0.005.

Conclusions. The overproduction of IL-6 in severe fibrosis could be activate survival and regeneration pathways related, whereas CXCL8/IL-8 in mild fibrosis could participate in the control of CD8 + T lymphocytes via CXCR1/CXCR2 expressed in hepatocytes contributing to liver damage in CHC. Moreover, the dysregulation of these mediators may be influence in systemic lymphocytes and neutrophils affecting the immune system.

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33. Oxido-Reduction Balance in Obese Pediatric Patients with Non-Alcoholic Fatty liver Disease (NAFLD)

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Background. Non-alcoholic fatty liver disease (NAFLD) has become one of the most frequent in children and adolescents, due to the growing prevalence of childhood obesity and overweight. The oxidative stress generated at lipids, proteins and endogenous antioxidant level is a mechanism involved in NAFLD generating damage to lipids and proteins leading to damage in the liver.

Aim. To determine the concentrations of molecules generated by oxidative stress in obese pediatric patients with and without diagnosis of NAFLD.

Methods. A cross-sectional study was performed. Including pediatric patients with a body mass index percentile above the 95 according to the WHO criteria. The diagnosis of NAFLD was made by Hepatic Ultrasonography. The serum concentration of Malondialdehyde (MDA) was by thiobarbituric acid. Protein carbonyls (PC) were measured by reaction with 2,4-dinitrophenylhydrazine. Glutathione (GSH), oxidized glutathione (GSSG) levels were determined in peripheral blood (Calbiochem, USA) and the GSH/GSSG ratio was calculated. For the statistical analysis, Mann Whitney U was performed, with $p < 0.05$ as significant.

Results. We included 86 pediatric patients with obesity. The mean age was 10.8 ± 3.1 years; of which 66 patients were diagnosed with NAFLD. The MDA levels (nmol/mg of protein) were with HGNA: 0.023 ± 0.002 and without HGNA 0.021 ± 0.001 , $p = 0.732$. The concentrations of PC (nmol/mg of protein) for HGNA was 1.71 ± 0.13 and without HGNA it was 0.83 ± 0.04 , $p = 0.011$. In the case of GSH (mM) for HGNA was 584 ± 44 and without HGNA of 427 ± 16 , $p < 0.001$; for GSSG (mM) with HGNA was 260 ± 27 and without HGNA 273 ± 64 , $p = 0.523$, and for GSH/GSSG (mM) for HGNA was 1.1 ± 0.3 and without HGNA 3.7 ± 0.9 , $p = 0.009$.

Conclusions. Patients with NAFLD have a higher PC concentration, which indicates a possible oxidative damage at the protein level due to hepatic steatosis, as well as a low GSH/GSSG ratio suggests a decrease in antioxidant capacity. This reflects an oxidation-reduction imbalance, favoring inflammation in patients with NAFLD.

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34. Functional Capacity in Patients with Liver Cirrhosis and its Relationship with Acute Decompensation

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Background. Recent studies have shown that exercise in cirrhotic patients can improve portal pressure, sarcopenia and quality of life. However, there are no specific methods to measure physical activity in them, applying scales of other chronic diseases such as DUKE scale for heart failure, which through a questionnaire of 12 questions measures the functional capacity. This scale has been validated against VO₂peak and a conversion to METs can be done, which facilitates its interpretation.

Aim. To determine the functional capacity of cirrhotic patients using the Duke scale and its relationship with acute hepatic decompensation.

Methods. Longitudinal, prospective, comparative, observational study. Carried out in patients hospitalized in the Gastroenterology Service from the months of January to March 2019 with a diagnosis of cirrhosis regardless of its cause. The DUKE scale was applied by means of the 12-question questionnaire to assess the functional capacity of the patients 2 weeks prior to admission, thus giving a score that translates into METs with interpretation ranges as follows: excellent (> 10 METs), good (7-10 METs), moderate (4-6 METs), and bad (< 4 METs). For protocol purposes it was defined as

poor and moderate capacity with scores < 7 and good to excellent with scores > 7 . Decompensation was considered: varicella HTDA, ascites, sepsis, SBP, ACLF, encephalopathy. The analysis of variables was carried out using χ^2 , using the SPSS v.22 software.

Results. Forty-three patients were included, 55.8% (24) of the male sex, with an average age of 56 years. The most frequent cause of decompensation was HTDA 58%, followed by ACLF 11% and encephalopathy 9.3%. The most frequent etiology of cirrhosis was alcohol 46.5%, NASH 14% and HCV 11.6%. Regarding functional status, 88.4% had a moderate to bad level and 11.6% from good to excellent. Patients with METs < 7 had more adverse events ($p = 0.008$).

Conclusions. Patients with liver cirrhosis who have METs less than 7 have more adverse events, especially variceal HTDA.

This investigation has no conflicts of interest.

35. CXCL-10 and IFN- γ in Serum of Patients with Chronic Hepatitis C and their Correlation with the Severity of hepatic Damage
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Background. During chronic Hepatitis C (CHC) is generates persistent inflammation as response to Hepatitis C Virus infection, which can progress to fibrosis and even to carcinoma hepatocellular. This process is modulated by diverse cytokines such as IFN- γ and their inducible protein inducible CXCL-10/IP-10; several studies has associated the activity of CXCL-10 with the severity of the disease, but until now the production of CXCL-10 and IFN- γ at different stages of liver fibrosis has not been studied.

Aim. To evaluate the serum levels CXCL-10 and IFN- γ in patients with CHC and its association with liver fibrosis.

Methods. A cross-sectional and multicentric study was carried out. Patients with CHC without comorbidities and with fibrosis evaluation (Fibroscan/Fibrotest) were include. They were compared with subjects with negative viral panel and without signs of liver disease (CT). For the quantification of CXCL-10 and IFN- γ molecules in serum the multiple suspension method (Milliplex[®], MERCK[®]) was used. Statistical analysis was performed using SPSS software version 22 using Mann-Whitney U test. It was considered statistically significant $p < 0.05$; values expressed in mean \pm standard error.

Results. A total of 67 subjects were include, CHC (21) and CT (46), the mean of age (years) was 52 ± 12 and 37 ± 10 , respectively ($p < 0.001$). The BMI was 27 ± 0.3 kg/m² for both groups. The concentration of IFN- γ (pg/mL) was 16 ± 11 for CHC and 24 ± 22 for CT ($p < 0.001$). Furthermore, CXCL-10 (pg/mL) was CHC 899 ± 30 and for the CT it was 346 ± 23 ($p < 0.001$). In accordance with fibrosis stage, IFN- γ in mild fibrosis (F0-F2), 32 ± 32 compared with severe fibrosis (F3-F4), 10 ± 9 ($p < 0.001$). Whereas, CXCL-10 showed 477 ± 189 values in mild fibrosis and 969 ± 143 for severe stages ($p < 0.001$).

Conclusions. CXCL-10 participates in CHC. In mild fibrosis IFN- γ is upregulated; while in severe stages CXCL-10 is upregulated, thus it is possible that CXCL-10 could be activated in an independent via to IFN- γ promoting the activation of lymphocytes and NK cells both local and systemic level during the fibrosis stages of CHC.

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36. Evaluation of IL-1RA and IL-1 β as Modulators of Fibrosis and Repair in Chronic Hepatitis

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Background. Chronic hepatitis C (CHC) is characterized by a specific inflammatory process which is modulated by several cytokines such as IL-1 β and its modulator IL-1RA. It is known that IL-1 β is a potent inducer of immune response; moreover, its constant expression triggers chronic inflammation before to development of hepatic fibrosis. IL-1RA modulates negatively the activity induced by IL-1 β , nevertheless this mediator participates in liver regeneration process.

Aim. To evaluate serum levels of IL-1RA and IL-1 β in patients with chronic Hepatitis C and its association with liver fibrosis.

Methods. A transversal, analytical, ambilective and multicentre study was conducted. Patients with CHC without comorbidities were included. Subjects with negative panel viral and without signs of liver disease were use as control group (CT). The concentration of IL-1 β and IL-1RA in serum was evaluated by multiple suspension method (Milliplex[®], Merck[®]). The statistical analysis was performed using SPSS software V.22, Mann-Whitney U test was made, and values were expressed in mean \pm standard error. It was considered statistically significant $p < 0.05$.

Results. A total of 67 subjects were include, 21 with HCH and 46 subjects' control, the age mean was (years) 52 ± 12 and 37 ± 10 , respectively ($p < 0.001$). The BMI was 27 ± 0.3 kg/m² for both groups. The concentration of IL-1 β (pg/mL) was 2.9 ± 0.6 for CHC and 3 ± 0.4 in CT ($p = 0.52$); in the case of IL-1RA (pg/mL) was 217 ± 99 for CHC, and 63 ± 17 for CT ($p = 0.001$). In mild stages (F0-F2) and severe fibrosis (F3-F4), the IL-1 β did not showed statistical differences; F0-F2 = 6.9 ± 3.7 and F3-F4 = 7.8 ± 3.4 ($p = 0.426$). Whereas, in severe fibrosis IL-1RA was higher (253 ± 114) than mild fibrosis (18 ± 15); $p = 0.042$.

Conclusions. IL-1 β is an early inflammatory inducer that is not overexpressed in CHC, whiles the concentrations of IL-1RA were elevated in patients with severe fibrosis, thus IL-1RA seems not modulate IL- β in advanced stages, supporting its role in process of tissue regeneration.

This work was partially financed by CONACyT SALUD-2016-272579 (GRG) and PAPIIT- UNAM TA200515 (GRG).

39.Hepatitis C Prevalence in Patients Consulting for Vasculitis and other Rheumatic Diseases

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Background. The estimated prevalence of hepatitis C virus (HCV) in Mexico is around 0.3-0.5%. However, there are high risk groups in which the prevalence is higher. Although it is classically considered that chronic HCV infection is usually asymptomatic, it has been documented that up to two thirds of patients may present some type of extrahepatic manifestation. The most frequent extrahepatic manifestation associated to HCV is vasculitis, explained by the presence of cryoglobulinemias, this is why chronic HCV infection seems to be the great simulator of primary vasculitis. Aims. To estimate the prevalence of HCV determined by quantitative viral

load in patients with vasculitis and to describe the clinical characteristics of this group of patients. To determine the accuracy of the rapid serological test in patients with cutaneous vasculitis in comparison to the gold standard for confirmation of hepatitis C which is viral load.

Methods. Prospective, observational study, case series, descriptive and analytical. Population: all first-time and/or subsequent patients with palpable purpura skin lesions or under the diagnosis of vasculitis or with histopathological result of vasculitis.

Results. Rapid HCV test was performed on 91 patients with vasculitis, 2 of 91 were positive and in both cases HCV was confirmed with quantitative viral load, a prevalence of 2.2% was calculated in this group. 78/91 (85%) were women, 61/91 (67%) did not have any risk factor for HCV, 69/91 (75%) were under the diagnosis of unclassifiable vasculitis, 69/91 (75%) presented localized vasculitis and 22/91 (24%) systemic vasculitis, 81/91 (89%) presented cutaneous manifestations, 17/91 (18%) renal manifestations, 6/91 (6.5%) pulmonary manifestations, 8/91 (8.7%) neurological manifestations.

Conclusions. The prevalence of HCV in this group is higher than that reported in the general population, since patients with rheumatological manifestations are part of the extrahepatic manifestations of HCV, they should be considered as a very high risk population to suffer from HCV and therefore screening with rapid serological test is recommended at the time of the first rheumatological consultation in all of them, if it is positive it must immediately be confirmed with viral load to be included in a micro-elimination program of HCV.

40.Factors Associated with the Presence of Advanced Fibrosis in Non-Alcoholic Fatty Liver Disease

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Background and aim. The primary step in the evaluation of patients with non-alcoholic fatty liver disease (NAFLD) is to determine the degree of liver fibrosis; therefore, it is necessary to identify factors associated with advanced fibrosis. The aim of the study was to determine the factors associated with the presence of advanced fibrosis in the initial evaluation of patients with NAFLD.

Methods. Retrospective, observational and analytical study. All patients who came to the fatty liver clinic for the first time in 2017 and 2018 were included. Demographic, clinical and biochemical data were obtained upon admission to determine the factors associated with the presence of advanced fibrosis (F3 or F4 on the Metavir scale). For the statistical analysis we used descriptive statistics, Mann-Whitney U test to compare nonparametric quantitative variables and chi square test to compare qualitative variables. A p value less than 0.05 was considered for statistical significance.

Results. 133 patients with NAFLD were included, they underwent noninvasive markers of fibrosis and were categorized into two groups, those with and without advanced fibrosis. Demographic, clinical and biochemical variables were compared between both groups and it was determined that the group with advanced fibrosis had greater age, body mass index (BMI), aspartate aminotransferase (AST) levels and prevalence of diabetes mellitus (DM), as well as lower levels of platelets. The table shows the significant differences between both groups.

Characteristics of patients with NAFLD			
Characteristics	Advanced fibrosis (n = 32)	Without advanced fibrosis (n = 101)	Value of p
Age (years)	56 (49-65)	48 (36-58)	0.03
BMI (Kg/m ²)	31.4 (29.6-36.3)	30.4 (27.2-33.7)	0.042
AST (U/L)	44 (31-50)	30 (21-44)	0.03
Platelets (10 ⁹ /L)	140 (74-176)	216 (182-267)	< 0.01
Diabetes mellitus	22 (68.7%)	22 (21.7%)	0.001

Conclusions. It is important to consider in the initial evaluation of patients with NAFLD that age, BMI, AST and platelet levels, as well as the presence of DM are associated with a greater presence of advanced fibrosis.

This work has no financing and no conflict of interest.

41. Clinical and Biochemical Characteristics of Acute Kidney Injury in Decompensated Cirrhotic Patients of the Hospital Juárez de México

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Background and aim. Acute kidney injury (AKI), based on the current definitions of the International Club of Ascites and AKIN, is a frequent complication in cirrhotic patients. Hyperbilirubinemia, hyponatremia and infections have been identified as risk factors, both identifying the causes of AKI and characterizing them is important for its prevention and treatment since it has been identified as an independent factor of mortality. To identify the clinical and biochemical characteristics of acute kidney injury in decompensated cirrhotic patients.

Methods. Retrospective cohort study, descriptive of September 2018–March 2019, in which records of Gastroenterology Service patients with hepatic cirrhosis of any etiology were reviewed, with AKI and decompensation or exacerbation events (digestive hemorrhage, hepatic encephalopathy, spontaneous bacterial peritonitis, alcoholic hepatitis). To evaluate the association, chi square or fisher exact test was used, percentages and averages were used for the descriptive data.

Results. Fifty patients with decompensated liver cirrhosis were included. Men 62% (31), average age 54 years (25–86). The most frequent etiologies were alcohol 72% (36) and NASH 12% (6) The causes of hospitalization: Hepatic encephalopathy 38% (19), HTDA 24% (12), SBP 22% (11), alcoholic hepatitis 12% (6), hydrothorax 4% (2). The exacerbation occurred in 46% (23): ACLF G1 6% (3), G2 30% (15), G3 10% (5), without exacerbation 54% (27). The average creatinine was 2.6 mg/dl (1.6–6.38), Urea 119 mg/dl (31–255), TFG 22.02 ml/min (7–43) was classified LRA as AKIN 1 32% (16), AKIN 2 52% (26), AKIN 3 16% (8). Child Pugh: B 32 (16), C 68% (34). In the univariate analysis, no relationship was found between cause of hospitalization, Child Pugh and LRA ($p \geq 0.05$).

Conclusions. In our population the male sex predominated in the sixth decade of life, the most frequent etiology was alcohol, the most common cause of decompensation was hepatic encephalopathy and the exacerbation occurred in half of the patients, predominantly the ACLF G2, AKIN 2 was the most frequent renal lesion, the causes of hospitalization were not related to the severity of the kidney injury.

42. Correlation Between Microscopic Urinary Sediment Score (PMSU) and Severity of Acute Renal Injury in Decompensated Cirrhotic Patients of the Hospital Juárez de México

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Background and aim. Acute kidney injury (AKI), based on the criteria of the International Club of Ascites and AKIN, is a frequent and potentially lethal complication in cirrhotic patients. The microscopy of urinary sediment is a tool used for diagnosis. The PMSU evaluates the presence of epithelial cells and cylinders to

determine the severity of the kidney injury. To determine the association between PMSU and severity of acute renal injury in decompensated cirrhotic patients.

Methods. Retrospective cohort study, descriptive of September 2018–March 2019. Records of Gastroenterology Service patients with hepatic cirrhosis of any etiology with AKI and decompensation or exacerbation events (digestive hemorrhage, spontaneous bacterial peritonitis, hepatic encephalopathy, infections, alcoholic hepatitis), Statistical analysis: Pearson and Spearman correlation coefficient was used as appropriate.

Results. Of 50 patients with decompensated liver cirrhosis it was found that 62% (31) were male. Average age was 54 years (25–86). The average creatinine was 2.6 (1.6–6.38) The kidney injury was classified as: AKIN 1 32% (16), AKIN 2 52% (26), AKIN 3 16% (8). The presentation according to PMSU was the following 1: 34%, 2: 28%, 3: 12%, 4: 20%, 5: 6%. Pearson correlation coefficient (r) between PMSU and TFG was found, finding a negative correlation ($r = -0.485$), ($p \leq 0.05$), PMSU and acute kidney injury ($r = 0.503$) ($p \leq 0.05$), PMSU and creatinine level ($r = 0.542$) ($p \leq 0.05$) with positive correlation and p statistically meaningful.

Conclusions. In our study we found that patients with high PMSU scores had lower glomerular filtration rates and higher creatinine levels with greater severity of renal injury according to AKIN criteria. We conclude that the use of PMSU is a useful tool and easily accessible to assess the severity of the LRA.

44. Current State of Hepatocellular Carcinoma in a third level Hospital of Northeastern Mexico

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Background. Hepatocellular carcinoma (HCC) is the 5th most common cancer, the 2nd most frequent cause of related death and 7% of all cancers. In Mexico, the complications of cirrhosis are the 3rd cause of death in adult men.

Aim. To determine the clinical, etiological and epidemiological characteristics of hepatocellular carcinoma in a tertiary level hospital.

Methods. Patients with HCC attended at the IMSS UMAE No. 25 January, 2017 to June 2018. Observational, descriptive, retrospective study, variables analyzed were age, gender, BMI, risk factors, liver function and stage of agreement to the BCLC Classification. For the statistical analysis we use the characteristics of the categorical variables, their description by frequencies and percentages, performing inferential statistics in the corresponding case.

Results. We analyzed 88 cases. 56% were men, with a mean age of 66 years (SD: ± 9.2). 80% of patients have overweight or obesity. We documented DM2 in 55% and HBP in 20%. 89% presented cirrhosis, with Child-Pugh A being 59%, B 28% and C 13%, being alcohol the most prevalent etiology (32%), non-alcoholic fatty liver disease (28%) and infection by HCV (16%). By means of the BCLC classification we find in a stage A at 22%, B at 35%, C at 27% and D at 16%.

Conclusions. In our study, the predominance of the masculine gender continues. The majority of patients are in the seventh decade of life. The main etiology continues to be the alcoholic origin with an increase in non-alcoholic fat liver disease as a determining cause. Metabolic risk factors are established as a categorical factor. The majority of the patients were in a stage of advanced disease. It is necessary to implement strategies for diagnosis and provide comprehensive and timely management to improve the prognosis of patients.

No financial aid was received.

45. Alcohol, Drug, and Herb Consumption in Patients with Liver Cirrhosis Secondary to Hepatitis C Virus

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Background and aim. Patients with Hepatitis C Virus (HCV) infection have a high risk of developing liver cirrhosis (LC). There are some scenarios in which patients are exposed to other hepatic aggressors, such as alcohol, illicit drugs, and consumption of herbal products. The aim of this study was to identify the frequency of alcohol, drugs and herbal products consumption in patients with LC secondary to HCV infection.

Methods. Descriptive study that included outpatients from the gastroenterology department older than 18 years diagnosed with LC secondary to HCV infection (HCV antibodies by ELISA) from September 1st, 2018 to February 1st, 2019. We obtained a clinical history to determine the self-reported consumption of alcohol, drugs and herbal products. Results are reported in frequencies and percentages.

Results. We included 31 patients, 15 (48.3%) males with an average age of 54.4 ± 12.6 years. Twelve patients (38.7%) reported alcohol consumption (11 M/1 W); 7 (22.6%) used drugs (6M/1 W); and 10 (32.3%) reported herbal products consumption (4M/6W). The average alcohol consumption was 414g per week. The most frequently used drug was cannabis followed by cocaine. The most reported herbal product was *Chamaemelum nobile* (chamomile). Concomitant use of alcohol and drugs was present in 5 patients, while alcohol and herbal product consumption was present in 3 patients.

Conclusions. Morbidity in patients with LC secondary to HCV infection may be modified with the presence of other liver aggressors. Identifying these circumstances and modifying them must be a part of the management of the patient.

No financial aid was received.

46. Comorbidities and Extrahepatic Manifestations in Patients with Liver Cirrhosis Secondary to Hepatitis C Virus cInfection

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Background and aim. Patients with chronic Hepatitis C Virus (HCV) infection are at high risk of developing liver cirrhosis (LC) and hepatocellular carcinoma, also accelerating the progression of the former. Morbidity and mortality in these patients may be underestimated due to the prevalence of comorbidities and extrahepatic manifestations (EHM) of the disease which may be present in as many as 74% of patients. The aim of this study was to identify the most frequent comorbidities and EHM in patients diagnosed with LC secondary to HCV infection.

Methods. Descriptive study that included outpatients older than 18 years diagnosed with LC secondary to HCV infection (HCV antibodies by ELISA) from the Gastroenterology department from September 1st, 2018 to February 1st, 2019. Using the medical records, we obtained the clinical history to determine coexistent diseases and the presence of EHM. Results are reported in frequencies and percentages.

Results. We included 31 patients, 15 (48.3%) males with an average age of 54.4 ± 12.6 years. Eighteen patients did not have any comorbidity. Among the comorbidities observed were overweight/obesity in 45.1%; high blood pressure in 8 patients; type 2 diabetes mellitus in 3 patients; chronic heart and kidney disease in 1 patient, respectively. The most frequently found EHM were

arthritis in 4 patients, followed by thrombocytopenic purpura in 3 patients; Sjögren syndrome and acral necrolytic erythema was found in 2 patients, respectively. Lichen planus, cryoglobulinemia and membranoproliferative glomerulonephritis were also found.

Conclusions. Morbid burden in patients with LC secondary to HCV infection is increased by other organic comorbidities and EHM of the infection. Identifying these entities allows clinicians to provide a better and multidisciplinary management.

No financial aid was received.

47. Nonalcoholic Fatty Liver Disease in Patients with Acute Pancreatitis

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Background and aim. Acute pancreatitis (AP) is an inflammatory condition of the pancreas that can cause local complications, systemic inflammatory response syndrome (SIRS) and organ failure (OF). Most cases of AP have a mild course, but those who progress to moderately severe and severe forms have a higher rate of morbidity and mortality. The presence of metabolic syndrome (MetS) has been identified as a predictor of severity in patients with AP. But very few have evaluated nonalcoholic fatty liver disease (NAFLD) and its association with clinical outcomes in AP. The aim of this study is to determine the prevalence of fatty liver in patients with AP, and to establish if there is an association between fatty liver and the severity of AP.

Methods. All patients hospitalized for AP from January 2017 to June 2018 were included. Clinical data, laboratory tests and imaging findings were collected from previous discharge letters and from the database of our institution. Fatty liver was assessed with abdominal ultrasound.

Results. There were 199 patients with AP, 62.8% of them were female, the mean age was 41 years, biliary etiology was present in 70% of cases, 26% of patients met criteria for MetS and 36.5% had hepatic steatosis. Of the patients with MetS 11% had fatty liver. Past medical history of diabetes mellitus and arterial hypertension were present in 14.6% and 14%, respectively. Obesity was reported in 39% of the patients. In patients with fatty liver, 25% had severe AP according to APACHE II score, and 7% had persistent OF. No difference between both groups were found regarding SIRS (transient or persistent). Severe AP was not associated with fatty liver, the hospital mortality was 1.5%.

Conclusions. We found a higher rate of fatty liver in our population compared with that reported in previous studies, more studies are needed to determine associated risk factors. No statistically significant difference was found between the presence of fatty liver, pancreatic necrosis, nor severity, nor severity of AP.

No financial aid was received.

49. Prevalence of Non Alcoholic Fatty Liver Disease in Patients with Overweight of Morbid Obesity that are Subjected to Surgery
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Background. Nonalcoholic fatty liver disease (NAFLD) is a condition with morphological cell alterations caused by the abnormal

accumulation of lipids in the liver. This entity usually known as a simple steatosis, which evolves into a phenotype that is accompanied by an active inflammatory process, known as steatohepatitis which increases the risk of activation of the fibrogenic process that may degenerate into cirrhosis. NAFLD is associated with overweight, obesity, insulin resistance, and metabolic syndrome and some of these factors are associated with the development of cholelithiasis. We set out to evaluate the clinical alterations in patients with morbid obesity that underwent bariatric surgery and overweight patients with cholelithiasis that underwent laparoscopic cholecystectomy, carriers of NAFLD diagnosed by liver biopsy to assess the prevalence and the correlation between transitional elastography and liver biopsy.

Methods. Observational, cross-sectional, multicenter, non-randomized study to explore hepatic alterations in patients with morbid obesity or overweight and cholelithiasis that underwent bariatric surgery or laparoscopic cholecystectomy. All patients underwent hepatic biopsy for the diagnosis of NAFLD, serum liver function markers were measured and transitional elastography (CAP) was performed to find the diagnostic correlation.

Results. 71 patients were included, 57 (80.3%) were identified with NAFLD of which 27 (38%) were diagnosed with non-alcoholic steatohepatitis by liver biopsy, while using hepatic elastography 59 (83%) were categorized with NAFLD. Only 15 (21%) of the 71 patients presented alterations in levels of liver markers (ALT, GGT). The correlation between the diagnosis of hepatic steatosis by biopsy and by elastography was $r = 0.838$, $p = 0.0001$. The apparent prevalence in the population is between 71.03 and 89.54%, while given the sensitivity and specificity of the diagnosis used, the real prevalence would be 80.25%.

Conclusions. NAFLD is an entity of high prevalence in the population with overweight/obesity, elastography being a non-invasive diagnostic tool with high potential for the evaluation of hepatic lipid overload.

50. Integration to the Association of Anonymous Alcoholics of Patients with Hepatic Disease Associated with Harmful Alcohol Consumption

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Background. Harmful alcohol consumption is a global problem causing approximately 3.3 million deaths each year, equivalent to 6% of all deaths globally; This is why various pharmacological and behavioral therapies have been tried to achieve abstinence from their use, however not all have demonstrated long-term efficacy; The Association of Alcoholics Anonymous (AA) has demonstrated long-term effectiveness worldwide, one of its objectives being to transmit its experience, strength and hope to solve the common problem and help others to recover from alcoholism as long as they want to stop drinking; for the fulfillment of this objective, in particular hospital wards represent an optimal context.

Aim. To report the frequency of integration to the AA association of patients hospitalized for liver disease associated with the harmful consumption of alcohol.

Methods. A descriptive and prospective study was carried out with six-month follow-up of patients with a diagnosis of liver disease associated with the harmful consumption of alcohol, which were visited during their internment by members of the AA. Descriptive statistics was used for the analysis of all the variables with the statistical software SPSS version 25.0.

Results. A total of 39 patients hospitalized for decompensation of chronic liver disease due to alcohol and alcoholic hepatitis were included, 35 men (89.7%) and 4 women (10.3%), with an average age of 39 ± 9.2 years, 23 patients (60%) they integrated the AA association achieving abstinence in the 6 months of follow-up, 4 patients (11%) lost follow-up due to change of address and 12 patients (29%)

refused to attend AA, both gender and age were not factors determinants to integrate to AA.

Conclusions. Integration into the AA association is effective in achieving abstinence in alcohol consumption.

51. Anxiety and Depression and its Impact on Quality of Life in Patients with Liver Cirrhosis

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Background. Patients with liver cirrhosis develop multiple complications; psychiatric disorders such as anxiety and depression that affect the quality life.

Aim. To evaluate anxiety and depression in patients with liver cirrhosis and how it impacts on their quality of life.

Methods. Observational, prolective, transversal and analytical cohort analysis. Patients at Mexico's General Hospital under the diagnosis of liver cirrhosis. The Hospital Anxiety and Depression Scale (HAD scale) was used to evaluate anxiety and depression screening and the SF-36 questionnaire was used to evaluate quality of life by its 8 domains. Statistical analyzes was performed using the SPSS v.25 program, with chi square test for categorical variables and Student's T-test for quantitative variables. For correlations analysis we used Pearson's chi-squared test and Mann-Whitney U Test.

Results. Sixty-two patients with mean age of 52.1 years (± 10.8) were evaluated, 30 men (48.5%) and 32 women (51.6). The etiologies of cirrhosis were: alcohol 31 (50%), NASH 15 (24.2%), autoimmune 7 (11.3%), viral 6 (9.7%), other 3 (4.8%). The functional class was 40.3% (25) Child A stage, 41.3% (26) Child B and 11 (17.7%) patients were Child C. The 25.8% (16) had depression and 32.3% (20) had anxiety. Among the depressed patients 8 (25%) were men and 8 were women (25%). The etiology did not influence on the presence of depression. The relationship between functional class and depression showed statistical significance ($p = 0.003$) for patients in the last stage of Child. Regarding the quality of life, patients with depression presented alterations in 4 of the 8 domains: physical functioning ($p = 0.000$), role limitations due to emotional problems ($p = 0.000$), general health ($p = 0.000$) and health change ($p = 0.001$). As for the evaluation of anxiety 6 were men and 14 women. Only one domain presented statistical significance ($p = 0.052$) in its perception of body pain.

Conclusions. Patients with cirrhosis present more frequently anxiety, however this does not seem to have an important impact on their quality of life. Patients with depression have a greater impact on their quality of life.

This work has been totally subsidized by the General Hospital of Mexico.

52. Relevance of Pro and Anti-Inflammatory Cytokines: IL6, IL 8, IL 10 AND TNF α in the Process of Liver Damage

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Background. Chronic liver damage includes steatosis, steatohepatitis, fibrosis, cirrhosis and hepatocellular carcinoma. Chronic inflammation is a key event for developing liver damage regardless the etiology of cirrhosis.

Aim. To evaluate the production of Interleukin IL-6, IL-8, IL-10 and tumor necrosis factor alpha (TNF α) in different etiologies of liver damage.

Methods. We performed a transversal study. Among the etiologies of liver disease were hepatitis C virus (HCV), alcoholic patients without proven liver damage (Alc) according to WHO criteria (70 g/day for men and 50 g/day for women in the last 5 years) and

another group of alcohol related cirrhosis (Cirr). This groups were compared with the control group (CT) defined as those patients without HCV and with Alcohol Use Disorders Identification Test - AUDIT below 8 score. The levels of IL-6, IL-8, IL 10 and TNF α were evaluated. For the statistical analysis, multiple comparisons were made using ANOVA test and orthogonal analysis, considering p significant < 0.05 .

Results. 190 patients were evaluated, 108/190 (56.8%) infected with HCV, 20/190 (10.5%) patients with Alc, and 62/190 (32.6%) with Cirr; 100 healthy subjects were the CT. We found significant differences among demographic characteristics such as age, gender, liver function tests, hemoglobin and platelets. ($p < 0.0001$) by etiology. When evaluating TNF α , patients with Cirr had higher concentrations than patients with HCV. There were different concentrations regarding IL-6 concentration between Alc and Cirr and between HCV and Cirr being higher in both cases in the Cirr group. As for IL-8, it was significantly higher in alcoholic patients and even more so when compared to the HCV and CT group. IL-10 had a higher concentration in alcoholics with and without liver damage when compared with the other groups.

Conclusions. There are high concentrations of proinflammatory cytokines related to the etiology of liver damage and the stage of liver disease. Alcoholic liver damage is perpetuated by IL-8 that recruits neutrophils and promotes inflammation, on the other hand IL-10 is an anti-inflammatory cytokine that regulates the damage while IL-6 activates survival mechanisms. The alteration between the balance of inflammatory and anti-inflammatory cytokines contributes to perpetuate liver damage.

This work has been totally subsidized by the General Hospital of Mexico.

53. Prevalence of Fibrosis and Steatosis in Diabetes Mellitus Type 2 (DM2) Patients at the Mexico General Hospital

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Background. Patients with DM2 are at risk of Non-Alcoholic Fatty Liver Disease (NAFLD), but there is no report about the incidence through transient ultrasound elastography (TUE, Fibroscan[®]) in Mexico.

Aim. Determine the prevalence of NAFLD in DM2 patients referred to TUE.

Methods. Retrospectively analyzed 66 reports of DM2 patients [11.2%, 54.62 \pm 11.91 years, 83.33% females] of 587 TUEs performed from February 2017 to April 2018. All patients' TUEs were realized accordingly to standardized methods. Fibrosis was evaluated by kPa (F0: 0-5.9, F1: 6.0-7.0, F2: 7.1-8.0, F2-F3: 8.0-8.7, F3: 8.8-10.2, F3-F4: 10.3-11.7, F4: > 11.7) and steatosis by Db/m [S0: < 100, S1: 100-200, S2: 201-300, S3: 301-400]. As well, body mass index, laboratories, time of diagnosis of DM2, glycosylated hemoglobin, fasting blood glucose (FBG) and NAFLD score. Data express mean \pm SD, 95% confidence interval and percentages. Student t test, 2 tails with alpha = 0.05.

Results. All patients had steatosis (S1 = 27.27%, S2 = 43.94%, S3 = 28.79%). Forty-nine (74.24%) had fibrosis (F1 = 6.06%, F2 = 4.55%, F2-3 = 3.03%, F3 = 3.03%, F3-F4 = 4.55%, F4 = 53.03%). Indications for TUE were: NAFLD (65%), obesity (11%), alterations in liver function test (6%), thrombocytopenia (6%), cirrhosis (5%), gastrointestinal bleeding (3%) and others (6%). There were differences on HbA1c, gamma-glutamyl transpeptidase, bilirubin, platelets and lipid profile, and NAFLD score. ($p \leq 0.05$).

Conclusions. First time the evaluation of Mexican patients with DM2 undergoing TUE. All patients had some degree of steatosis, 75% had fibrosis. NAFLD suspicion was the main indications for TUE

Table 1
Baseline characteristics.

Variable	Mean (SD)
BMI	27.74 (\pm 4.36)
Platelets	129 361 (\pm 69)
Albumin	3.86 (\pm 1.6)
PT	15.72 (\pm 1.8)
TB	2.1 (\pm 0.9)
Age	57.29 (\pm 10)
KPa	14.54 (\pm 9)

in more than a half of patients. Patients showed impaired hepatic function evidenced by lower values of HbA1c, selected laboratories and NAFLD score. These findings alert to the need to screening of DM2 patients to submit for an early diagnosis of NAFLD.

This work has been totally subsidized by the General Hospital of Mexico.

54. Improvement of Hepatic Function in Patients with Decompensated Cirrhosis after Eradication of Hepatitis C Virus

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Background. Treatment with direct-acting antivirals (DAAs) has changed significantly the prognosis of hepatitis C virus (HCV) infected patients; however, the clinical impact of DAAs in patients with decompensated cirrhosis is currently unknown.

Aim. Describing the rate of sustained virological response 12 weeks after treatment with DAAs (SVR12) and the changes in liver function after HCV elimination.

Methods. A single center, retrospective study was carried out. Patients with decompensated cirrhosis were included, (defined as Child Pugh score ≥ 7 points) who received DAA treatment from October 2016 to September 2018. Demographic and clinical data related to basal liver function and at time of SVR12 was collected. For data analysis, non parametric descriptive statistical tests were performed. Quantitative variables were expressed as medians and interquartile ranges, and qualitative variables as frequencies. For comparison between quantitative variables, Wilcoxon signed-rank test for related samples was used.

Results. 38 patients with decompensated cirrhosis received DAA treatment. SVR was achieved in 37 (97.4%). The main regime used was Sofosbuvir/Ledipasvir in 22 (57.9%). DAAs were used in combination with Ribavirin in 28 (73.3%). Among those who achieved SVR12, reduction in Child Pugh class was observed in 18 patients (48.6%, 13 changing from B to A and 5 from C to B). The [Table 1](#) depicts basal characteristics and changes with SVR12.

Characteristics	Characteristics of the patients		
	Pre treatment	3 months post treatment	p Value
Child-Pugh (points)	7 (7-11)	7 (5-10)	< 0.01
MELD (points)	12 (7-17)	11 (7-18)	0.23
Total bilirubin (mg/dL)	1.89 (0.45-3.76)	1.61 (0.38-3.48)	0.06
Albumin (g/dL)	3.15 (1.32-4.46)	3.42 (2.00-4.80)	< 0.01
INR	1.2 (1.0-1.9)	1.2 (1.0-1.9)	0.09

Conclusions. DAAs are effective in decompensated cirrhosis. After SVR12, improvement in liver function evaluated with Child Pugh score was observed in half of the patients.

55. Unusual Presentation of Hepatocarcinoma Invading Stomach: Report of Case

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Background. Hepatocellular carcinoma is the most frequent malignant liver tumor, the 5th most prevalent in the world and the third cause of cancer mortality. In more than 90% of cases it is associated with cirrhosis, given that it was diagnosed in very advanced stages, it has presented a 0–10% survival at 5 years, a rare complication is gastric invasion causing high digestive hemorrhage.

Aim. To report a case of a hepatocarcinoma invading the stomach as an unusual presentation.

Case report. Female 80 years old, diabetic and hypertensive with 6 years of evolution in adequate control, with chronic liver disease of 1 year of evolution secondary to infection by Hepatitis C Virus without treatment (Genotype 1b, Viral load: 1,686,310 IU/ml log 6.23) without clinical data of cirrhosis. No surgeries or previous transfusions, alcohol and drug addiction denied. Going to the emergency department due to repetitive symptoms of upper gastrointestinal bleeding characterized by hair and chronic anemia (requiring transfusion due to a decrease of up to 5g/dl of hemoglobin) is accompanied by nonspecific abdominal discomfort and unquantified weight loss during the last year. palpa indurated mass in right hypochondrium. The endoscopy reports: Borrmann III gastric tumoration in less curvature and towards an atrophic and ulcerated-infiltrating polypoid antrum measuring 5 cm approximately presents necrotic and fibrin-covered areas, contrasting CT Occupational injury centered in liver segment IV (heterogeneous lesion which it measures 10.2 cm by 10.1 cm by 10., with exophytic compromise that exceeds the limits of the liver capsule and that penetrates the stomach, in postcontrast images late enhancement is observed, Cabinet: Hb 8.9g/dl, Pla_q 348, AFP 19.3 UI/ml (0–15), Albumin 2.6g/dl, INR 0.99, is taken to left hepatectomy and distal gastrectomy, well differentiated hepatocellular carcinoma is reported in surgical piece.

Discussion. In cirrhotic patients, adequate scrutiny with liver USG and AFP allows us to detect liver neoplasia at less advanced stages, in cases of infiltrative tumors, endoscopic therapy fails in addition to not having the precise diagnosis, so that the surgical intervention becomes definitive management.

57. Impact of Minimal Hepatic Encephalopathy on the Quality of Life of Patients with Heart Cirrhosis

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Background and aim. Hepatic encephalopathy (HE) is a neurological syndrome present in decompensated liver disease, in its minimal expression (MHE), memory, psychomotor speed and visuospatial capacity. A prevalence of 20–80% is reported impacting the quality of life. The objective of our work was to evaluate the effect of the minimum EHM on the quality of life.

Methods. Observational and transversal study. Including patients diagnosed with liver cirrhosis assessed in an outpatient clinic. Psychometric test for EHM (PHES) and questionnaire of quality of life in chronic liver disease (CLDQ) was applied. We evaluated: age, gender, educational level, etiology of cirrhosis, Child. The analysis was carried out with the SPSS v22 program.

Results. We studied 47 patients with liver cirrhosis, mean age of 59.5 ± 10.73, 29 (61.3%) of the female gender and 18 (38.3%) of the male, average schooling of 6 ± 4.5 years. The following etiologies were found: alcohol 19 (40.4%) patients, NASH 12 (25.5%), autoimmune 9 (19.1%) and HCV 7 (14.8%). Twenty-five (53.1%) patients Child A, 18 (38.2) Child B and 4 (8.5%) Child C. We found 22 (46.8%) patients with MHE with CLDQ score 4.22 and 25 (53.2%) without MHE with CLDQ 5.58 (p < 0.001). The characteristics are described in the table.

Characteristics of patients with liver cirrhosis by groups			
Variable	MHE (n=22)	No MHE (n=25)	p
Age	61.9 (± 12)	57.5 (± 9.1)	0.16
School education	5.2 (± 4.1)	6.6 (± 4.8)	0.27
MELD NA	14.8 (± 2.8)	13.3 (± 2.4)	0.48
CLDQ	4.22	5.58	<0.001
Fatigue	3.6	5.8	<0.001
Worry	4.8	5.6	0.014
Systemic symptoms	4.6	6.1	0.002
Activity	4.2	5.3	0.033
Abdominal symptoms	4.5	5.4	0.002

Conclusions. Our study shows the frequency of MHE similar to that reported in the world literature. We did not find a significant difference in age and educational level. The MHE is associated with a significant effect on the quality of life that predominates in the area of fatigue.

No conflict of interest.

60. Evaluation of Fibrotic Markers by QPCR (A-SMA and Collagen-A1) in LX-2 Cells Exposed to TGF-β, Ethanol and to the STANDARDIZED Extract of *Turnera Diffusa*

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Background. The activation of hepatic stellate cells is the cellular base for the establishment of hepatic fibrosis. In search of drugs that reverse and/or inhibit the fibrogenic process, plants are important sources of bioactive compounds. The standardized *Turnera diffusa* extract (EETD) has shown “hepatoprotective” activity. **Aim.** To determine the expression of smooth muscle alpha-actin (α-SMA) and collagen-α1 (col1α-1) in hepatic stellate cells (LX-2) exposed to EETD and TGF-β or ethanol.

Methods. The LX-2 cells were exposed to TGF-β (1 ng/mL), ethanol (50 mM) and/or EETD (0.15 mg/mL) for 24, 48 and 72 h. The RNA was extracted, RT-PCR and qPCR were performed, the relative expression of col1α-1 and α-SMA was evaluated using the β-actin endogenous gene. Student's t test was performed (p < 0.1).

Results. LX-2 cells were stimulated with TGF-β1 and showed greater expression of col1α-1 at 24 h (p = 0.003) and 48 h (p = 0.10), and only to 24 h of α-SMA (p = 0.01) versus unstimulated cells. When cells LX-2 was exposed 12 h to EETD and after to TGF-β1 showed decreased col1α-1 (p = 0.02) and α-SMA expression (p = 0.04) at 24 h. When the cells were exposed to TGF-β1 (12 h) and subsequently to EETD decreased col1α-1 expression (p = 0.06) at 48 h, but α-SMA expression (p = 0.002) increase to 24 h. There was no statistically significant difference in the col1α-1 and α-SMA expression at any time in the LX-2 cells exposed to ethanol. When cells were exposed to EETD prior to ethanol, there was an increase in α-SMA expression at 24 h.

Conclusions. TGF-β acts as a pro-fibrogenic cytokine (higher expression of pro-fibrogenic markers), whereas with ethanol it is possible that a greater stimulus is needed. There is a reversal of collagen levels induced by TGF-β1 when hepatic stellate cells are exposed to EETD. This work was partially subsidized by PAICYT SA669-18. Record of ethics committee HI11-003.

The authors do not report conflicts of interest.

61. Epidemiologic profile of patients with cirrhosis admitted in the intensive care unit of a private tertiary hospital

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Background. Decompensation events of liver cirrhosis may lead to the admission of the patients to an intensive care unit. It is not known, what the epidemiologic characteristics of cirrhosis patients have at the admission to the intensive care unit; therefore, the objective of this study is to describe the main characteristics that patients have at the admission to a intensive care unit of a tertiary private hospital.

Methods. Retrospective study, that included patients with cirrhosis admitted to the intensive care unit from January 2017 to February 2019 at Medica Sur Hospital. Procedure included searching through the electronic archives of the hospital, sociodemographic and clinical data was registered. Results were presented as frequency and dispersion methods.

Results. A total of 30 patients were included. Average age was 63 ± 10.7 years. Most of the patients were male (60%, n = 18). The main etiology of cirrhosis was alcohol consumption (30%, n = 9) and C virus infection (26.7% n = 8). The majority of the patients were at the "C" classification of Child Pugh (63% n = 19) with an average MELDNa score of 24.2 ± 10.1 . Patients were mostly admitted at the intensive care unit for gastrointestinal bleeding and hypovolemic shock (31.8%, n = 7), septic shock (22.7%, n = 5) y surgical complications (13.6%, n = 3). The 56.7% (n = 17) of patients required vasoactive drugs, while 30% (n = 9) had invasive ventilatory support. Acute on chronic liver failure was reported in 20% (n = 6) of cases, of which 66.7% (n = 4) was grade 3 and 33.3% (n = 2) was grade 2. The average intrahospital stay days was 6.7 ± 4.6 , while the average intensive care unit stay was 3.6 ± 2.5 days, which represents the 53% of the in-hospital stay of the patient. In hospital mortality was 26.7% (n = 8).

Conclusions. The main cause for admission at the intensive care unit in a private hospital was gastrointestinal bleeding. Patients admitted to this units spend half the stay there. In hospital mortality is lower than in other studies.

The authors do not report conflicts of interest.

62.Prevalence of Nonalcoholic Fatty Liver Disease in Mexican Women with Polycystic Ovary Syndrome, Regardless of Body Mass Index

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Background and aim. Polycystic ovary syndrome (PCOS) is the most common endocrine disorder in women of reproductive age. Women with PCOS have a higher risk of non-alcoholic fatty liver disease (NAFLD), where insulin resistance and hyperandrogenism have a crucial role, but also the race has an important role in this association. Phenotype A refers to the patients with a complete phenotype (hyperandrogenism, oligo-anovulation and polycystic ovary morphology by ultrasound). Prevalence studies are lacking in Latin-American patients. The aim was to determine the prevalence of NAFLD in Mexican patients with PCOS.

Methods. A cross-sectional study enrolled Mexican women with PCOS, diagnosed by the Rotterdam criteria. A total of 32 patients range 18-38 years old without PCOS treatment were included. Hepatic steatosis and liver fibrosis were determined by

transient elastography, after 4-hours fasting by patient, considering the diagnosis of NAFLD in patients with a controlled attenuated parameter (CAP) > 232 dB/m and liver fibrosis with > 7 kPa, using FibroScan[®] 502 Touch by a single experienced operator. Subjects with excessive alcohol consumption (AUDIT > 8), steatogenic drug use or chronic liver diseases were excluded. The statistical package for the social sciences (SPSS) version 25 was used for all statistical analyzes.

Results. The mean age and body mass index (BMI) were 25.94 ± 6.06 , 25.85 ± 4.61 respectively. Phenotype A was the most frequent among PCOS patients (69% n = 22). The prevalence of NAFLD determined by transient elastography in women with PCOS was 59.4% (n = 19), of which 53% (n = 10) had severe hepatic steatosis (CAP > 290 dB/m). The mean of kPa was 4.52 ± 1.05 , none of the patients presented liver fibrosis. There were no significant differences in NAFLD prevalence between lean patients and overweight patients with (BMI > 25) (p = 0.131).

Conclusions. The prevalence of NAFLD in Mexican women with PCOS is 60%. Patients who have PCOS are at high risk of NAFLD, even lean women. Declaration of interests.

This study has been totally subsidized by Medica Sur Clinic & Foundation.

63.Effectiveness of Treatment with Direct-acting Antivirals in Patients with Chronic Hepatitis and Hemophilia

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Background. The prevalence of infection with hepatitis C virus (HCV) in patients with hemophilia has been reported up to 30%. This prevalence decreased with modern treatments of hemophilia. However, the main comorbidities that this group presents, HCV infection and its complications such as liver cirrhosis. Due to the side effects and the low rate of sustained viral response (SVR) with the treatment with interferon + ribavirin, the introduction of direct action antivirals (DDA) represents a major change in the natural history of the disease in this type of patients.

Aim. Evaluate the effectiveness of DDA in patients with HCV and hemophilia.

Methods. 9 patients > 18 years old, with chronic HCV infection, Genotype 1b and 1a, Hemophilia A or B, cirrhotic or non-cirrhotic. Study period: June 2017 to September 2018, treated with: sofosbuvir-ledipasvir and ombitasvir-dasabuvir-paritaprevir-ritonavir. Cross-sectional, descriptive, retrospective and observational study. Variables analyzed: Age, genotype, transitional elastography, cirrhosis. The following variables will be analyzed before and after treatment: APRI, FIB-4, aminotransferases, albumin, INR and platelets. Statistical analysis. Descriptive statistics were obtained, obtaining means and medians according to the type of distribution, interquartile ranges. The analytical statistics to show differences between two groups, was made with Student's t or U Mann-Whitney according to the distribution of the variables.

Results. 66% were genotype 1a; these were treated with sofosbuvir and ledipasvir; 33% were genotype 1 and received ombitasvir, dasabuvir, paritaprevir-ritonavir. 77.8% without cirrhosis and 55% previously received pegylated interferon + ribavirin without response. 88% of patients received 12 weeks of treatment. We obtained 100% sustained viral response week 12 (RVS12). There were no adverse events.

Conclusions. Treatment with direct-acting antivirals is effective in patients with HCV and hemophilia.

No financial aid was received.

64.Prolongation of QT Interval in Patients Diagnosed with Liver Cirrhosis and Upper Gastrointestinal Bleeding in the Hospital Juarez de Mexico

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Background and aim. The prolongation of QT represents the electrophysiological “hallmark” of the cirrhotic cardiomyopathy. Hepatic disease and gastrointestinal hemorrhage are related to this electrocardiographic alteration. Regardless of the cause, this prolongation is associated with increased in the mortality. A relationship between QTc prolongation with severity and etiology of advanced liver disease is suggested. The aim was to describe the frequency of QTc prolongation in patients with HC with upper gastrointestinal bleeding and its relation with the etiology.

	BCA	PCA	PDCA	BQDCA	PQDCA	BTBA	PTBA
C (n=27)	18.5 ± 28.5*	30.2 ± 34.2*	5.8 ± 7.3*	17.1 ± 25.2*	28.8 ± 23.9*	39.6 ± 46.5*	64.8 ± 50.3*
NC (n=25)	3.7 ± 9.7	4.6 ± 10.0	2.2 ± 1.4	3.5 ± 5.5	6.3 ± 9.2	8.8 ± 15.1	13.1 ± 19.6
UDCA(n=22)	20.9 ± 31.0	33.5 ± 36.6*	6.3 ± 7.9	19.4 ± 27.4	29.7 ± 22.3*	44.7 ± 50.1*	69.5 ± 50.5*
NoUDCA (n=17)	6.7 ± 12.0	9.9 ± 14.3	3.0 ± 2.4	5.8 ± 6.9	14.4 ± 20.6	14.3 ± 18.6	27.4 ± 34.9

Methods. Retrospective, cross-sectional, descriptive study, from 01/01/18 to 01/03/19. We included files of patients with HC with UGIB, with 12-lead EKG performed prior to treatment. We excluded patients who consumed alcohol in the last six months, electrolyte abnormalities, previous diagnosis of heart disease, mellitus diabetes, hepatocellular-carcinoma, arterial hypertension, with TIPS and liver transplantation. Procedure: The QTc was estimated in three consecutive sinus beats, by a cardiologist who didn't know the diagnosis. Statistical analysis: Quantitative variables were expressed as standard deviation and means. For difference of proportions χ^2 was used. ANOVA was used to compare means.

Results. 51 cases were included, the mean age was 50 years, 34 men and 17 women, etiologies: alcohol (25%), NAFLD (19%), virus-C (7%). 56.86% were Child-B, 29.41% Child-C and 13.73% Child-A. The Meld-Na average was 15.35. The frequency of QTc prolongation estimated by Bazzet was 43.1%, by Fridericia 11.76%. QTc estimated by Bazzet was used. The prolongation of QTc was related to etiology ($p=0.652$), gender ($p=0.97$) and age ($p=0.127$). It was observed prolonged in 53% of patients with Child-C, 41.4% Child-B, 28.6% Child-A ($p=0.52$) and prolonged in 43% of patients with MeldNa > 15 ($p=0.04$).

Conclusions. The frequency of prolonged QTc was low, estimated by Bazzet and Fridericia. This describes that the frequency of this electrocardiographic finding in cirrhotic patients is lower than what has been previously reported. The etiology, gender, age and severity by Child-Pugh did not correlate with prolonged QTc. Meld-Na correlated, indicating that a greater frequency of QTc prolongation was observed in patients with more severe liver disease.

The authors do not report conflicts of interest.

65. Bile Acids Levels in Liver Diseases in Presence or Absence of Cholestasis and/or Ursodeoxycholic Acid Treatment

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Background. Bile acids (BA) in the bile are involved in lipid emulsification. They're classified as primary (colic acid, CA and chenodeoxycholic acid, CDCA), secondary (deoxycholic acid, DCA) and tertiary BA. BA serum concentration reflects liver health; therefore, they're considered biomarkers of liver disease.

Aim. To evaluate BA levels in diverse liver diseases with or without cholestasis (C) and/or ursodeoxycholic acid (UDCA) treatment, as well as to correlate them with other biochemical markers. **Methods.** A study in patients (px) of the Liver Unit of the University

Hospital UANL in which BA were determine in the period JAN-2004/JAN-2019 was conducted. CA, DCA, CDCA, and total BA values were compared in basal (B) and postprandial (P) state previous standard diet in px with and without C, as well as in UDCA treated and untreated px excluding for this last analysis Gilbert syndrome. BA were correlated with liver function tests. Data was analyzed with t test and Pearson's correlatio. ($p < 0.05^*$ was significant). Ethics Committee: HI09-008.

Results. 52 px were included, with age of 42.0 ± 14.5 years. The analysis results are shown in Table, units: μM . There was no difference in BDCA in both comparisons. In cholestatic patients, significant correlation was found between PTBA and ALP high levels; in non-cholestatics a significant correlation was found among BCA, BCDCA, BTBA, PCA, PDCA, PCDCA and PTBA with ALP and GGT with low levels.

Conclusions. In the studied population with liver disease the presence or absence of C affects serum concentration of BA, without affecting BCDA. Px treated with UDCA presented higher levels of BA opposite to the untreated. Conflict of interest. This study has been totally sponsored by own resources.

66. UK-PBC and Globe Forecasts Models in Patients with CBP in the Juárez Hospital of Mexico

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Background. The response to treatment strongly predicts evolution. Prognostic models have been developed, including UK-PBC and GLOBE have shown greater accuracy. UK-PBC estimates risk expressed as a percentage of patients with PBC under treatment with ursodeoxylic acid (UDCA) develop terminal liver disease (EHT). GLOBE estimates transplant-free survival (SLT) comparable to a population of the same age. Objective to determine UK-PBC and GLOBE score in patients diagnosed with PBC under treatment.

Methods. Retrospective descriptive observational cohort of patients diagnosed with PBC according to EASL criteria, records were reviewed, applying UK-PBC and GLOBE prognostic models to diagnosis and 1 year of treatment to determine benefit or response to treatment, the results were analyzed in percentages and averages.

Results. Of 53 patients with PBC, 98.11% women, with an average age of 53 years, 15.09% < 45 years. Model UK-PBC and GLOBE at diagnosis and one year after treatment: results see Table 1. In relation to the benefit of the treatment, prognostic improvement was evaluated, UK-PBC at 5 years 47.17%, 10 years 50.95%, 15 years 54.72%, 18.86% does not modify prognosis. In the GLOBE model, the prognosis improvement at 5 years was 79.25%, 10 years 75.47%, 15 years 71.7%. 5.18% does not change the forecast. At < 45 years, 50% present a risk of developing EHT and 37.5% do not modify prognosis.

Prognostic	Average of scoring of prognostic models			
	UK-PBC (EHT)		GLOBE (SLT)	
	Diagnostic	Control to one year	Diagnostic	Control to one year
Years				
3	NA	NA	72.4%	79%
5	21.5%	20.5%	60.7%	68.7%
10	41.6%	37.8%	37.1%	46.4%
15	53.1%	48.7%	25.4%	32.2%

Conclusions. In our cohort female gender predominance of the sixth decade of life, relationship H: M 1: 9, the risk of development of EHT 5 and 10 years is less than half SLT at 5 years and 10 years > 35%. Treatment with UDCA improves the prognosis of survival at 5 and 15 years.

67. Clinical and Epidemiological Characteristics in Men and Women with Autoimmune Hepatitis: Study of Retrospective Cohort

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Background. Autoimmune hepatitis (AIH) is a chronic liver disease, affecting mainly women and men with a prevalence of 20–30%. In Mexico, cirrhosis predominates as clinical presentation at the time of diagnosis (CPTD). Currently there is a insufficient literature on these characteristics and the comparison between both genders.

Aim. To describe clinical characteristics in men and women diagnosed with AIH in the gastroenterology department of the Hospital Juárez de México.

Methods. Retrospective descriptive, cross-sectional study. Were reviewed Clinical records of patients who complied with ≥ 7 International Autoimmune Hepatitis Group (AIHG) points captured in our service from March 2016 to March 2019. Patients with overlap syndrome were excluded. The clinical and biochemical characteristics of both groups (male-female) were compared with Student's T and chi square to evaluate the difference in proportions. A significant value of $p < 0.05$ was considered. Statistical program SPSS V22 was used.

Results. 57 patients, 49 women (85.6%) and 8 men (14.6%) were included. With average age at the time of diagnosis of 47.5 years for women and 35.8 years for men with a $p 0.008$. The CPTD was classified into 3 groups: Acute Hepatitis, Cirrhosis and Acute Liver Failure. The predominant group was cirrhosis, with 34 women (69.4%) and 2 men (25%) $p 0.01$. Child-Pugh C was documented in 16 women (32.7%) and 0 men $p 0.01$. In the Acute Liver Failure group as CPTD, only one male patient was presented. The ANA antibodies are predominantly positive in the 2 groups, not showing statistical significance. Transaminases (TGO with mean 383 ± 22 and TGP with 201 ± 15.5) with predominant elevation in subgroup of men. Mean serum sodium $121.6 (\pm 11)$, in the group of men was statistically significant $p 0.027$.

Conclusions. In our population, the female gender predominated. The average age at the time of diagnosis in male gender was lower. Cirrhosis as PCMD was predominant in the female gender, in comparison with the male gender in which the form of presentation was acute hepatitis. Within the biochemical parameters, transaminases predominated elevated in the subgroup of men.

The authors do not report conflicts of interest.

68. Hepatoprotective Effect of Ramipril or Nifedipine Against Liver Ischemia-Reperfusion Injury in Wistar Rats

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Background. Ischemia-reperfusion injury (I/R) is a usual complication in liver resection, transplantation and surgery due to trauma. There are pharmacological and surgical strategies to reduce injury by I/R. Ramipril (R) is an angiotensin-converting enzyme inhibitor, while nifedipine (N) is a calcium channel blocker. Both have shown effects against I/R in various tissues, but they haven't been evaluated in liver.

Aim. To evaluate hepatoprotective effect of ramipril or nifedipine against the I/R induced damage in a pilot murine experimental model. Materials and methods. Six groups of Wistar rats ($n=6$) were studied: Sham, I/R, R, R+I/R, N and N+I/R. I/R groups underwent total hepatic ischemia by hepatic hilum occlusion (20 min of

ischemia/60 min of reperfusion). Ramipril (50 $\mu\text{g}/\text{kg}$, q.d. for 7 days, p.o.) or nifedipine (10 mg/kg, b.i.d. for 3 days, p.o.) were administered to R, R+I/R, N and N+I/R before procedure, respectively. Serum activity of ALT and AST was determined, as well as concentration of IL-1 β . Data was analyzed by ANOVA with Tukey's post-hoc, $p < 0.05$ was considered significant. Ethics Committee registration number: HI11-003.

Results. I/R group showed elevation of ALT, AST and IL-1 β . R+I/R and N+I/R groups showed a significant amelioration of ALT and AST compared to I/R; IL-1 β showed a tendency to decrease compared to I/R. No elevation of biomarkers in R and N was observed (Figure 5).

Conclusions. Administration of ramipril or nifedipine prior to the induction of I/R liver damage had a hepatoprotective effect without toxicity.

This work was totally sponsored by own resources.

69. Changes in Bacterial Interaction Networks in the Gut Microbiota in Patients with Liver Cirrhosis vs. Healthy Subjects

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Background. It has been reported that patients with liver cirrhosis (LC) present changes in the composition of the intestinal microbiota (IM), there is an increase in potentially pathogenic bacteria (Enterobacteriaceae, Streptococcaceae), and a decrease in beneficial bacteria (Ruminococcaceae, Lachnospiraceae). These changes have been related to progression of liver damage; however, there is no evidence to show which are the changes in the interaction system of the bacterium-bacterium complex, which would help to elucidate the effect of the link between intestinal bacterial communities and LC.

Aim. To determine the networks of bacterial interaction in IM in patients with LC vs. healthy subjects.

Methods. Type of study: Cross-sectional, observational, descriptive. Patients from the Mexican population with LC ($n=23$) and healthy subjects ($n=21$) were included. The composition of the intestinal microbiota was determined by sequencing of the hypervariable region V3-V4 of the 16S ribosomal RNA gene and the bioinformatic analysis was made with Qiime v1.9.1. The analysis to determine the bacterial interaction networks was made through the Cytoscape software, using the CoNet¹ tool. The data to identify the composition of the microbiota in the population were published recently, however, interaction networks have not been presented previously.

Results. The average age in healthy subjects was 43.48 ± 11.86 ; and 51.87 ± 11.40 for patients with LC. In healthy subjects there are bacterial interactions of mutuality between genders: *Akkermansia-Alistipes*, *Anaerostipes-Clostridium XVIII*, *Capnocytophaga-Clostridium sensu stricto*, but competition interaction between *Enterococcus-Peptococcus* is observed. In patients with LC there are bacterial interactions of mutuality between the genera: *Holdemania-Bilophilla*, *Alistipes-Barnesiella*, *Aggregatibacter-Gemella*, *Parabacteroides-Collinsella*, *Veillonella-Haemophilus*; and competition interaction between *Anaerostipes-Turicibacter*, *Akkermansia-Cardiobacterium-Coprobacillus*, *Intestinimonas-Eikenella-Anaerofilum-Treponema*.

Conclusions. Patients with LC show greater interactions of bacterial competition vs. healthy subjects. In the case of *Akkermansia* presents an interaction of mutuality with *Alistipes* in healthy subjects, both bacteria have been related to good intestinal health; whereas in patients with LC *Akkermansia* changes to a competition interaction with *Cardiobacterium* and *Coprobacillus*, these last two bacteria have been related to endocarditis and chronic fatigue syndrome, respectively. Further studies are necessary to determine the changes in the metabolites affected by alterations of the gut microbiota in patients with LC.

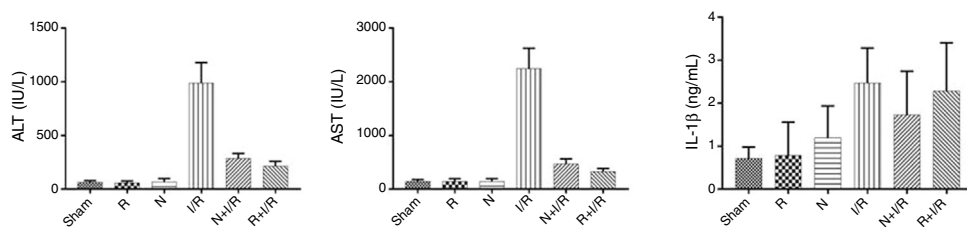


Figure 5.

70. Association Between Metabolic Syndrome and Autoimmune Hepatitis in Mexican Population. Study Carried out at the Military Central Hospital, Mexico City

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Background. The diagnostic criteria of autoimmune liver diseases consider histological and serological characteristics. The suspicion of autoimmune hepatitis per clinic is somewhat little described because the diversity of the phenotypes, apparently precipitated multifactorial variables associated with the metabolic syndrome.

Aim. To establish if in the studied population there is an association between the metabolic syndrome and autoimmune hepatitis, with any variable of the metabolic syndrome

Methods. Study of cases and controls between metabolic syndrome (MS) and autoimmune hepatitis (AIH) in patients of Mexican population in the Military Central Hospital of Mexico City in the period between January 2015 to March 2019. For the quantitative variables with mean and standard deviation, and for those with distribution not similar to the normal with median and interquartile ranges. For qualitative variables, absolute and relative frequencies. The statistical package SPSS version 20 was used.

Results. Of the total population studied, were: 89% female population (n=49), 11% male population (n=6), with average age of 56.46 years, minimum age of 25 years and maximum age 81 years, the state with the highest prevalence was Mexico City with 40%. At the time of diagnosis, 95% of patients diagnosed with AIH exhibited alterations in either nutritional status (49%), metabolic decontrol (32%) or hypertriglyceridemia (14%). 27.27% were in Child Pugh A stage and 1.8% in Child Pugh C stage. Mortality in our study group occurred in 3.63% secondary to complications of decompensated cirrhosis, (33% of the male population). The following association was found with other autoimmune diseases: patients with overlap (HAI/CBP) 12.72%, rheumatoid arthritis 9.09%, LES 3.6%, hypothyroidism 10.90%, SITT 1.8%, Sx Sjögren 5.4% and scleroderma 1.8%

Conclusions. Our study is similar with the frequency reported to that described in the international literature. The variables that make up the metabolic syndrome should be considered in the diagnostic criteria of HAI when causality of the proinflammatory state and liver lipotoxicity is verified. Tables and graphs.

The authors do not report conflicts of interest.

71. Epidemiological Aspects of Variceal Bleeding in Mexico

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Background. Chronic liver disease (CLD) represents the 4th cause of mortality in Mexico, with variceal bleeding being the most common lethal complication in cirrhotic patients, with a mortality of 15–25%. Esophageal varices correlate with the severity of the

disease and their size is the most important predictor for bleeding. That is why these patients must have an endoscopic follow-up and an adequate therapeutic approach, with precise indications for primary and secondary prophylaxis for variceal bleeding.

Aim. To determine the epidemiological aspects related to variceal bleeding of patients with CLD of the Hospital General del ISSSTE SLP.

Methods. A total of 72 patients with CLD were evaluated in a cross-sectional descriptive study, determining the variables corresponding to gender, etiology, functional status, endoscopic findings and treatment. The results were analyzed with measures of frequency to obtain averages and percentages.

Results. Up to 56% of the patients had decompensated cirrhosis, being esophageal varices the most frequent finding, they were found in 48%, 81% and 100% of patients with Child A, B and C respectively; at the same time, the masculine gender and the alcoholic and idiopathic etiologies were the most affected. 56% of patients had small esophageal varices, 14% large and 29% residual, after endoscopic treatment. In patients with varices and depending on their history of variceal bleeding, it was observed that 80% were under primary prophylaxis, while only 66% had secondary prophylaxis.

Conclusions. The fact that the majority of patients present with small esophageal varices and a Child A functional status implies that acting early and providing adequate treatment can reduce the progression of varices and the mortality. On the other hand, the low percentage of patients with secondary prophylaxis translates the need to offer a better diagnostic and therapeutic approach; this is why it is important to establish the epidemiological data of Mexico, since knowing the specific characteristics and needs of our population would make possible to deal in a better way with this public health problem.

72. Transition Elastography and the Controlled Attenuation Parameter in Patients with Non-Alcoholic Fatty Liver Disease, Free of Diabetes and Hypertension

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Background and aim. Non-alcoholic fatty liver disease (NAFLD) is highly prevalent in countries such as Mexico. More than 70% of the Mexican adult population suffers from overweight or obesity, so a characterization is necessary to evaluate clinical implications. We aimed to evaluate the association between hepatic steatosis measured by the parameter of controlled attenuation (CAP) with the clinical and anthropometric characteristics of Mexicans with NAFLD without diabetes mellitus (DM) or systemic hypertension (HT).

Methods. Participants > 18 years-old, without DM, HT or smoking were invited to participate from November 2017 to December 2018. We excluded patients with cirrhosis, cardiopa-

thy or pregnant women, as well as metformin or statins users. Sociodemographic data were collected through a standardized questionnaire. A detailed physical examination was performed, and anthropometric measurements were collected. Laboratory studies, carotid ultrasound, abdominal ultrasound and transitional elastography–CAP were performed. Study was approved by the Research and Ethics committee and informed consent was obtained.

Results. Eighty-four patients were analyzed (median age: 41 years, IQR: 31–49 years, 54% men). In all, 88% had at least one family member with DM, NAFLD or HT. Alcohol consumption was reported in 66.7% (12.8 g/month, IQR: 0–28.8). The weight had a median 78.15 kg (IQR 70 – 87.38), waist-to-hip ratio (WHR) of 1.00 (IQR 0.92 – 1.03) and the waist-to-height ratio (WHtR) of 0.61 (RIC: 0.55 – 0.64). The mean HOMA1 index was 2.05 (IQR: 1.24–2.98) and HOMA2 of 2.05 (IQR: 1.24 – 2.98). CAP had an average of 307.92 ± 39.36, with 54.8% of the population in stage S3. In abdominal ultrasound, 72.6% presented diffuse steatosis. CAP correlated significantly with waist circumference ($r=0.49$, $p<0.001$), insulinemia ($r=0.44$, $p=0.001$), HOMA2 ($r=0.44$, $p=0.01$), WHtR ($r=0.42$, $p=0.001$), HOMA1 ($r=0.42$, $p=0.001$), weight ($r=0.42$, $p=0.001$), liver size ($r=0.40$, $p=0.001$), hip circumference ($r=0.37$, $p=0.001$), ALT ($r=0.35$, $p=0.001$), as well as left arm ($r=0.34$, $p=0.001$) and right arm circumference ($r=0.35$, $p=0.001$).

Conclusions. Even in patients free of diabetes and hypertension, CAP seems to be a good non-invasive method to evaluate the magnitude of NAFLD that correlates with markers of central obesity, insulin resistance and metabolic disease.

The authors have no conflict of interest.

73. Body Composition Post Hepatic Transplantation. Experience in a Mexican Third Level Center

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Background. Different trials show that weight gain is common in patients with hepatic transplantation, being significant during first year post transplantation, this is probably as a result of a lack of physical activity and wrong feeding. Also, weight gain and body mass index (BMI) have been related to *de novo* appearance of non alcoholic liver disease (NAFLD) in this population.

Aim. To describe body composition post hepatic transplantation in a Mexican third level center.

Methods. Cross sectional study. Post liver transplantation data was analyzed between the period 2005 to 2018. Body composition data was obtained by bioelectrical impedance: weight, height, fat mass (FM), fat free mass (FFM), total body water percentage (%BTW) intracellular water (ICW) muscular skeletal mass (MSM), visceral fat (VF). Descriptive statistics with frequencies, medians and interquartile ranges was used with statistics program SPSS version 21.

Results. Of a total of 55 post liver transplantation patients (23 men, 32 women, with an age median of: 59 years, IQR: 48–64). It was observed BMI of 27.79 kg/m² ± 3.77, with the next distribution: normal weight 12 (21.8%), overweight 30 (54.5%) and obesity 13 (23.6%). In relation to body composition it was observed that patients with post transplantation time ≥ 5 years, presented more fat mass (30.67 kg, IQR: 26.76–35.80, $p=0.025$), less % BTW (43.3%, IQR: 39.5–46.0, $p=0.038$) and more visceral fat (3.2 L, IQR: 2.65–5.05, $p=0.036$), compared to those with < 5 years post transplantation.

Conclusions. Weight gain is a common situation in post liver transplantation patients. In this group of Mexican post liver transplantation patients, was observed that, at 5 years of surgery, fat mass and visceral fat increased, both risk factors for the

development of NAFLD. Close and multidisciplinary monitoring is suggested for this population.

74. Association of Metabolism and Inflammation Biomarkers with Serum levels and Consumption of Bioactive Fatty Acids in Overweight and non-Overweight Patients with Non-Alcoholic Fatty Liver Disease

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Background and aim. It has been observed that patients with NAFLD have different outcomes according to Body Mass Index (BMI), metabolic characteristics, disease severity and consumption of bioactive lipids (BL). The aim of this study was to determine the correlation of inflammation, oxidative stress, lipid and endotoxemia metabolism biomarkers with consumption and serum levels (S%) of BL in patients with NAFLD.

Methods. Forty patients were classified in 4 groups: BMI > 25 kg/m²/NAFLD (G1), BMI > 25 kg/m²/non-NAFLD (G2), BMI < 25 kg/m²/non-NAFLD (G3) and BMI < 25 kg/m²/NAFLD (G4). NAFLD was determined by transient CAP. Demographic characteristics and liver function tests were evaluated. BL consumption was assessed by a food frequency questionnaire. S% of BL was achieved by Gas chromatography–mass spectrometry. Plasmatic biomarkers LBP, ANGPTL4, TNFR1, leptin, ICAM-1, MDA were determined. GPR40 and -120, PPAR γ gene expression was performed. r of Spearman was calculated to analyze correlations of consumption and S% of LB with inflammation and metabolism biomarkers. Additionally, NAFLD severity was compared with LB measurements by one-way ANOVA test.

Results. 65% ($n=26$) of sample were man with medium age of 44 ± 9 years. Leptin showed correlation with BMI > 25 ($r=-0.71$ G1, $r=0.64$ G2), ICAM-1 correlates with S% of linolenic ($r=-0.83$) and oleic ($r=-0.65$) acids. GPR40 gene expression was lower in G4 compared to G2 ($p<0.05$); G3 not showed GPR40 expression. In G2 PPAR γ showed correlation with S% of palmitic acid ($r=0.81$). LBP showed correlations with S% of palmitic ($r=-0.65$), palmitoleic ($r=-0.63$), EPA ($r=-0.72$) and DHA ($r=-0.68$) acids in G3, meanwhile MDA showed correlation with AST ($r=-0.69$) and GGT levels in G4. Concerning to NAFLD severity analysis, patients with mild and moderate steatosis showed lower consumption of butyric, caprylic and capric acids compared to non-steatosis patients ($p\leq 0.05$). Patients with non-steatosis showed higher S% of oleic and linoleic acids respect to mild steatosis ($p\leq 0.05$). Patients without NAFLD showed higher S% of polyunsaturated LB. ($p<0.05$).

Conclusions. Inflammation and metabolic profiles in patients with NAFLD are different according to BMI, S% and consumption of BL. Consumption and S% of BL are related to NAFLD severity.

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75. Prevalence of Caregiver Collapse of Patients with Cirrhosis
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Background and aim. Caregiver collapse refers to a negative impact in biopsychosocial aspects of caregivers. Prevalence of

caregiver collapse and caregivers characteristics of patients with cirrhosis is unknown. The aim of the study was to determine the prevalence of caregiver collapse of primary caregivers of patients with cirrhosis.

Methods. We collected sociodemographic data of caregivers and patients with cirrhosis from two hospitals. Caregiver collapse was measured by Zarit's scale and Burden Index of Caregivers. Data is shown through central tendency measurements and dispersion. Protocol was authorized by Medica Sur Ethics Committee.

Results. We analyzed data of 52 patients and their caregivers, median age of caregivers was 47 ± 11 years and 57 ± 7 years for patients. 41.7% (n=21) of caregivers were female. Principal etiology of hepatic disease was hepatitis C virus infection (58.3%, n=30), followed by chronic alcohol consumption (12.5%, n=6). Child-Pugh A was observed in most of the patients (54.2%, n=28) with mean of MELD 11.6 ± 3.6 points. 39.6% (n=20) of patients had at least one hospitalization in the last six months. Prevalence of caregiver collapse by Zarit scale was 45.8% (n=23), meanwhile Burden Index of Caregivers showed a prevalence of 25% (n=13). 41.7% (n=21) of caregivers dedicated more than 60 hours per week to patient care, 35.7% (n=18) of caregivers referred to leave their jobs in order to dedicate to patient caring. 52.2% (n=28) of caregivers had a chronic disease. Mainly of caregivers were principal economic family responsible and also had to care children. 58% (n=33) of caregivers had less than \$500 USD income per month and 4.2% (n=2) refer less than \$75 USD income per month.

Conclusions. Prevalence of caregiver collapse of patients with cirrhosis is high. Impact of liver cirrhosis in wellness of caregivers and patients must be evaluated and included in an integral medical attention.

76. Comparison of Prevalence of HCV Genotypes in Patients Coinfected with HIV and Patients without Coinfection

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Background and aim. The hepatitis C virus (HCV) is classified into a great variety of genotypes and subtypes depending on their genetic makeup. The determination of HCV genotype and subtype is of utmost importance to select the optimal treatment. In Mexico, the most frequent HCV subtype is 1b, followed by 1a, 2a, 2b, and 3a respectively. However, epidemiological studies have not been conducted to determine the prevalence of HCV genotypes and subtypes in patients coinfecting with the human immunodeficiency virus (HCV/HIV) in Mexico. The aim of this study was to determine the differences between the genotypes and subtypes of patients with HCV/HIV and HCV.

Methods. An analytical cross-sectional study, patients with HCV and HCV/HIV from the Gastroenterology Department of INCMNSZ were evaluated. The subtype was determined by RT-PCR and LiPA. The analysis was performed with the SPSS 21 statistical software, to compare the genotypes between both groups, the chi-square and Fisher's exact test were used.

Results. Of 303 patients evaluated, 53 (17.5%) had HCV/HIV coinfection and 250 (82.5%) only HCV infection. The median age of coinfecting patients was 56 (46–64) vs. 42 (35–49) of non-coinfecting patients. The table shows the prevalence of subtypes in infected and coinfecting patients.

Prevalence of genotypes in HCV and HCV/HIV

Genotype	Patients with HCV	Patients with VHC/VIH	P-value
1a	89 (35.6%)	37 (69.8%)	0.001
1b	90 (36.0%)	3 (5.7%)	0.001
Other subtypes of genotype 1	7 (2.8%)	0 (0%)	0.610
2b	4 (1.6%)	0 (0%)	0.604
Other subtypes of genotype 2	47 (18.8%)	1 (1.9%)	0.001
3a	1 (0.4%)	1 (1.9%)	0.320
Other subtypes of genotype 3	9 (3.6%)	1 (1.9%)	0.699
Genotype 4	2 (0.8%)	10 (18.9%)	0.001
Genotype 5	1 (0.4%)	0 (0%)	0.1

Conclusions. Genotype 1a has a higher prevalence in patients coinfecting with HIV, followed by genotype 4. These results differ from patients without coinfection, and from previous national statistics in patients with only HCV.

The authors report no conflict of interests.

77. Hepatitis C Virus Infection and Popular Insurance

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Background and aim. Currently, HCV response to treatment with Direct action antivirals (DAA) is greater than 90%. Until 2016, at INCMNSZ, treatment for HCV provided by the Catastrophic Expenditure Fund of the Social Protection in Health System (Seguro Popular) was based on Interferon. In 2017, DAA acquisition was approved, but age restriction (patients under 50 were eligible), leaved without treatment a significant number of patients. In March 2018, age was increased to 65 years, benefiting a larger number of patients. We aimed to describe the sociodemographic characteristics of patients treated DAA that benefited from Seguro Popular.

Methods. This is a cross-sectional study. Patients with a diagnosis of HCV infection who were treated with DAA financed by Seguro Popular from November 2017 to November 2018 were included. A current socioeconomic study was evaluated. Data such as type of family, number and occupation of the economic provider (s), family monthly income, dependents, type and location of the home and family health status were included for analysis. Results were reported using descriptive statistics.

Results. In all, 106 cases were analyzed (median age: 47 years, IQR 27–65, 57% men). Treatment schemes used were Sofosbuvir/Ledipasvir, Sofosbuvir/Velpatasvir or 3D combination. Up to 57% had > 9 years of studies. Herein, 44% (n=47) did not have an economically remunerated occupation. As for family structure, 28% (n=30) were nuclear and 23% (n=25) were large. In each family, 1 or 2 economic providers were reported and were classified as unskilled workers (31.1%). Trade/market vendors were a 26.4% and scientific and intellectual professionals were 11.3%. The monthly income range was from 850 to 20,000 pesos, with an average monthly per capita income of 2.4 general monthly minimum wage. For type of home, 69.8% (n=74) were owned or lent, and a 52.8% (n=56) were located in urbanized areas and classified as popular.

Conclusions. The Seguro Popular program has benefited economically productive age patients, members of families with limited income and difficulty to access high-cost treatments.

The present work did not receive any sponsorship.

78. Pirferidone Effect on Hepatic Stellate Cells in the context of hepatic Fibrogenesis

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Background. The activation of hepatic stellate cells (HSC) as well as influencing factors of hepatic fibrogenesis have been previously described.

Aim. To evaluate pirfenidone effect over HSC at the transcriptional and translational levels.

Methods. Caspase-3 assays were performed on LX-2 treated with 1 mM Pirfenidone and protein was extracted at 24–48 h. TUNEL assay was analyzed in primary culture of mouse hepatocytes treated with pirfenidone for 6 h. LX-2 treatment: TGF- β [5 ng/mL] or Pirfenidone [1 mM], total protein was extracted at 3–12 h, and western blot was performed for the proteins Fosfo-cJun (Ser 73), caspase-3 (cleaved), cyclin-D1, Fosfo-Smad2 (Ser465/Ser467), MMP-9, P21, Nrf2 and Actin as endogenous control; RNA was extracted with TRIzol at 3–12 h, cDNA was synthesized by RT-PCR. The expression of Nrf2, MMP-9, cyclin D1, TGF- β 1 and Col1 α 1 was quantified by qPCR. The relative expression was calculated with $2^{-\Delta\Delta Ct}$ using ARP as normalizing gene.

Results. In LX-2 treated with pirfenidone caspase3/8 activity was increased to 24 h; The TUNEL assay at 6 h showed a decrease in TUNEL (+) cells compared to the control in the pirfenidone treatment. A statistically significant decrease ($p < 0.05$) was found after treatment with pirfenidone at transcriptional level of the following genes: Nrf2 (6 h), TGF- β (3 h), Col1 α 1 and cyclin-D1 showed down-regulation both (3–12 h); Cyclin-D1 was increased at 6 h in LX-2 treated with TGF- β . At translational level LX-2 + pirfenidone Fosfo-cJun (Ser73) expression was increased (12 h) as well as Caspase-3 (cleaved); cyclin-D1 did not change, Fosfo-Smad2 (Ser465/Ser467) was increased (6 h), P21 and Nrf2 were overexpressed both at 12 h; In LX-2 treated with TGF- β , caspase-3 increased at (6 h), Fosfo-Smad2 (Ser465/Ser467) and P21 were overexpressed at (3–6 h).

Conclusions. There was a reduction at a transcriptional level of fibrosis related genes such as TGF- β and Col1 α 1 in the treatment with pirfenidone at evaluated times. pirfenidone plays an important role in the regulation of Nrf2, however more research is necessary to evaluate the activation of its target genes and the role it plays in cell protection and the relationship with pirfenidone induction. This work has been partially subsidized by the project PAICYT SA669-18.

The authors do not report any conflicts of interest.

79. Multidrug-resistance Bacterial Infections in Patients with Decompensated Cirrhosis

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Background. Bacterial infections are one of the main causes of decompensation in patients with cirrhosis. A large percentage of them are caused by multi-drug-resistance (MDR) microorganisms to antibiotic therapy, which worsens their prognosis. This group is vulnerable due to re-hospitalizations and repeated exposure to antibiotics.

Aim. To describe the frequency of infections by MDR bacteria, as well as risk factors for their development in patients with cirrhosis.

Methods. Analytical retrospective study. Positive-cultures of patients with decompensated cirrhosis from January 2015 to December 2017 were included. Numerical variables were compared between groups with the Mann-Whitney U test due to their abnormal distribution; the categorical ones were compared with Fisher's exact test. A multivariate analysis was performed that included the relevant variables for MDR prediction.

Results. A total of 3,263 samples were cultured, growing 485 (14.8%), of which 186 (38.3%) were decompensated cirrhosis patients. MDR bacteria were reported in 53.7%. The most common infection was the urinary tract (34.6%). The isolation of Gram negative bacteria predominated (62.2%), these were associated with an OR 3.1 for MDR ($p = 0.003$). Sepsis was more common in the group of MDR bacteria (37 vs. 16.3, $p = 0.001$). Patients with Child C had more MDR (64% vs. 45%, $p = 0.052$). Those with respiratory tract infection had a tendency to higher MDR (27 vs. 16%, $p = 0.07$), as well as previous antibiotic therapy (29% vs. 1.2% $p \leq 0.001$). The consumption of proton pump inhibitor had a non-significant tendency to risk MDR (11 vs. 3.5%, $p = 0.053$). In the ROC analysis, a Child-Pugh > 10 was obtained as a predictor of MDR ($p = 0.013$), however, with low sensitivity and specificity (53% and 65%). In the multivariate adjustment, only the previous use of antibiotics persisted significantly (OR 27.4 $p = 0.001$).

Conclusions. Liver cirrhosis is an evident independent risk factor for contracting MDR bacteria, as well as the previous use of antibiotics. Isolates of hospital origin involve more MDR, whose cases are more associated with the development of infectious clinical disease; useful data that could contribute to the design of strategies to prevent the development of MDR.

80. Effect of Inulin on the Microbiota and the Regulation of Inflammation in a Non-Alcoholic fatty Liver Disease Model

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Background and aim. Inulin is a prebiotic that modulates the intestinal microbiota and is involved in the regulation and metabolism of hepatic lipids. The aim of this study was to evaluate the effect of inulin on the microbiota balance and the inflammatory mediators in a non-alcoholic fatty liver disease (NAFLD) murine model.

Methods. Forty mice of the C57-BL/6 strain were separated into six dietary groups a period of four weeks with a standard control diet or high fat diet (HFD) [60% fat-energy] supplemented with cellulose or inulin [10% w/w] (1. Chow-cellulose, 2. HFD-cellulose, 3. Chow-inulin and 4. HFD-inulin) and a subsequently diet “switch” from HFD to supplementation with inulin or chow diet for 8 more weeks “switch-groups” (5. HFD→HFD+inul 8w and 6. HFD→Chow+inul 8w). NAFLD was determined by immunohistochemistry (H&E and Oil Red O). Microbiota composition was determined in fecal samples by means of V3-V4 variable 16S rRNA gene regions amplicon (NextSeq Illumina). Serum biomarkers TNF α , IL-6, IL-10, matrix metalloproteinase-2 (MMP2), chemokine (C-C motif) ligand 8 (CCL8), ALT, AST, albumin and triglycerides (TG) were determined by ELISA and COBAS respectively and analyze through an ANOVA test.

Results. Histological liver analysis suggested that inulin is able to prevent lipid droplet deposition, even with a HFD pretreatment (Figure 6). Concentration of serum biomarkers showed a tendency to decrease. In “switch-groups” TG decreased ($p = 0.01$), whereas albumin levels increased ($p = 0.003$, $p = 0.008$) The composition of the microbiota was significantly modified with inulin ($p = 0.03$) and in “switch groups” ($p = 0.04$, $p = 0.02$). Phylum Bacteroidetes

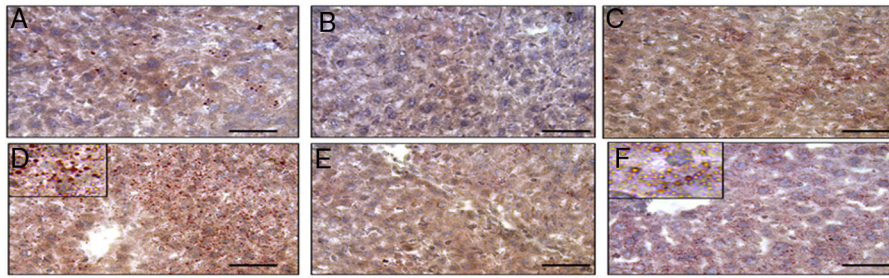


Figure 6. Representative micrographs of mouse liver sections stained with ROR. The panel shows representative images from mice feed with standard diet (A,B), high fat diet (HFD) (D,E) with (B,E) or without (A,D) inulin. Liver sections from mice with HFD-pretreatment and subsequently inulin supplementation with standard diet (C) or HFD (F). Inserts in D and F shows 100x magnification for clarity. Scale bar 40X, 50 μ m.

increased, while Firmicutes and Proteobacteria decreased between HFD-cel vs. HFD-Inul group. Prevotellaceae and Parabacteroides gordonii increased in the HFD-Inul vs. HFD-cel group, among other genus such as Bacteroides acidifaciens.

Conclusions. Inulin is able to decrease the deposition of fat droplets in the liver, as well as promotes modification in gut microbiota composition which could regulate the inflammatory and lipid metabolism in NAFLD. A prebiotic approach could be useful in the treatment of hepatic disease associated with obesity.

This study was supported by Medica Sur Clinic & Foundation.

81. Does the Mexican Epidemiology of Chronic Liver Disease Corresponds to what is Reported in the International Literature?

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Background. In recent years, a change in the incidence of the different etiologies of chronic liver disease (CLD) has been observed; currently the most prevalent etiology worldwide is the non-alcoholic fatty liver disease, followed by the alcoholic etiology. However, in Mexico there are few reports that can establish the epidemiology of this entity, making it difficult to create preventive, diagnostic and therapeutic measures guided to each of the main etiologies of CLD.

Aim. To determine the epidemiological aspects of patients with CLD of the Hospital General del ISSSTE SLP.

Methods. A total of 72 patients with CLD were evaluated in a cross-sectional descriptive study, determining the variables corresponding to gender, age, etiology, functional status and endoscopic findings. The results were analyzed with measures of frequency to obtain averages and percentages.

Results. The prevalence of CLD was similar in men and women, 48.6% and 51.3% respectively, with the age group between 61 and 70 years being the most affected. The idiopathic etiology (31.9%) was the most frequent cause globally and in the male gender (15.28%), while the autoimmune (18.06%) was the main cause in the female gender; this one was associated with advanced stages of the disease (Child B or C). Although most of the patients were in a Child A functional status, up to 56% of the total patients presented portal hypertension findings.

Conclusions. No difference was found in the prevalence of hepatopathy between men and women, however, it was observed that the prevalence of the different etiologies is not the same between both groups, nor does it correspond with what is reported in the international literature. On the other hand, the fact that the idiopathic etiology was the most prevalent cause of CLD implies the need for better study protocols in our country; which could be elaborated based on the knowledge of the characteristics and specific needs of our population, and that is why we should work on establishing the epidemiology of the CLD in Mexico.

82. Non-HODGKIN Primary Liver Lymphoma in Patients with HIV-Aids

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Background. Non-Hodgkin lymphomas (NHL) of Phenotype B is the second most frequent neoplasm in patients with HIV/AIDS., of them the primary liver disease is 0.016%.

Aim. To present a clinical case of primary Hepatic NHL in patients with AIDS.

Methods. Case Clinic; Male, 49 years old, homosexual with a recent diagnosis of HIV-1 infection. Admission due to jaundice, abdominal pain and weight loss. His laboratory with anemia of 10.6 gray/dl, hypoglycemia of 52.0 mg, hyperbilirubinemia of 11.3 mg/dl, direct bilirubin of 8.1 mg/dl, FA 1,325, GGTP 1,167, TP 17.8 sec: abdominal sonography was normal., Only common bile duct 13 mm: CT scan revealed edematous pancreatitis. CPRE was performed, reporting bulging papilla, intra-hepatic bile duct of irregular appearance with dilated areas compatible with cholangiopathy due to HIV/AIDS vs. sclerosing cholangitis. The patient requested his voluntary discharge. Admission to our Institution. It was received in poor conditions with anemia of 8.7 gray/dl, Hypoglycemia of 34 ms and Total hyperbilirubinemia in 20.36 ms/dl, FA 1,982, GGTP 1,889 u, DHL 433 u/lto., Albumin 1.9., TP 26.1 sets. I present a Rapid Impairment with Hepatic Insufficiency. The Colangio-Resonance showed multiple nodular lesions. Transjugular hepatic biopsy was performed. The histopathological report was diffuse B-cell lymphoma with origin in the post-germinal: the immunohistochemical report of CD20 + + +, CD3 negative, MUM-1 positive + + +. At 24 hrs I present multi-organ failure and he died.

Conclusions. Jaundice in patients with HIV infection is a diagnostic challenge and includes HIV-AIDS cholangiopathy: less frequently, non-Hodgkin lymphoma. Our case was concluded as a very low frequency entity Primary Liver Lymphoma.

83. Acute Cholecystitis in the Pediatric Age. Experience in a THIRD Level Pediatric hospital

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Background. Acute cholecystitis in infancy, is a rare entity, may occur, associated with hemolytic disease, prematurity, prolonged NPT, sepsis, burns and congenital malformations of the bile ducts, obesity, with or without the presence of Vesicular lithiasis.

Objective. To Describe the presentation, evolution and treatment of the children cared for, in a third level with diagnosis of acute cholecystitis.

Methods. Retrospective, Transverse Study. All Cholecystitis patients who entered for study and treatment of January 2013-2016

were included, the demographic data, evolution and treatment were obtained and the analysis was performed using simple frequencies. The study has been approved by the Ethics Committee of the institution.

Results. We included 31 patients, were female sex 77% and 23% of males, the most frequent age group was in adolescents, the average age was 11 ± 4 years. The nutritional status was 48% with normal weight, overweight 16% and obesity in 13%. The clinical data in 74% of the cases were chronic abdominal pain of predominance right flank, dyspepsia, nausea and vomiting; Associated with acute pancreatitis in 25% of the cases, cholestasis in 16%, hypercholesterolemia at 3% and Triglyceridemia in 29%. The histopathological findings were cholecystitis lithiasis in 51.6%, Cholecystitis acalculous in 29%, and no significant inflammation data and no litos in 19.4%. ALL patients underwent laparoscopic cholecystectomy without complications.

Conclusions. Our results showed a greater frequency of acute cholecystitis lithiasis in children, with predominance of the female sex. The most common associated factors were dyslipidemia and overweight and obesity in a third of the cases. Acute Cholecystitis is a clinical entity that should be considered within the possible causes of acute abdominal pain in children. Surgical treatment in children is effective as well as in the adult.

87. Association Between Nutritional Status and Prognosis of Patients with Acute on Chronic Liver Failure (ACLF), Compensated and Decompensated Liver Cirrhosis

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Background. Malnutrition is one of the main complications in patients with liver cirrhosis (LC), appearing in almost 40-90% of this population. This condition is related to a pro-inflammatory state and an increase in systemic oxidative stress that might be involved in the pathophysiology of acute-on-chronic liver failure (ACLF) and patient prognosis. ACLF is characterized by decompensation of liver disease and development of organ failure with a high short-term mortality at 28 days (30-40%); the main precipitating factors of this syndrome are bacterial infections and virus reactivation, however in 40% of the patients an obvious etiology is not recognized.

Aim. Evaluate the association between nutritional status and prognosis of patients with ACLF, compensated and decompensated LC.

Methods. A cross-sectional, observational study was undertaken of prospectively data collected from ambulatory and hospitalized patients with LC at INCMNSZ. Nutritional, clinical and biochemical assessment were made. For statistical analysis, data normality was analyzed with the Kolmogorov-Smirnov test; the comparison between groups was performed using Kruskal-Wallis and ANOVA with post hoc analysis. To evaluate the association between severity scores and nutritional parameters Pearson and Spearman correlation were used.

Results. 256 patients with LC were included (87 compensated, 72 decompensated and 97 with ACLF), 57% were female and the median age was 53 (47-62). The main etiology was Hepatitis C virus (23.4%), 29.7% of patients were Child A, 16.4% Child B and 53.9% Child C, the median MELD was 16 (9-26). The nutritional parameters based on the severity of LC are shown in the table. There is a negative correlation between PA with the Child-Pugh score and MELD being -7.712 ($p < 0.01$) and -641 ($p < 0.01$). The correlation between TST and the same scales were -0.500 ($p < 0.01$) and -446 (0.01), respectively; no correlation was found with the MAC.

Parameter	Nutritional parameters according to the severity of liver cirrhosis			
	Compensated	Decompensated	ACLF	P-value
PA	5.6 (5-6)	3.7 (3.1-4.45)	3.5 (2.8-4.1)	0.001
MAC	22.94 ± 3.16	18.74 ± 3.47	20.45 ± 3.28	0.001
TST	25 (20-29)	17 (12-22.5)	15 (11-18)	0.001

PA: Phase angle; MAC: Mid arm circumference; TST: tricipital skin-fold thickness

Conclusions. Patients with greater malnutrition have worse prognosis.

88. High Agreement Between Biological Tests and Hepatic Elastography for Estimation of Fibrosis in Patients with Non-Alcoholic Fatty Liver Disease. Rubens Study

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Background. According to the new Mexican guidelines for non-alcoholic fatty liver disease (NAFLD), timely detection of at-risk population should be promoted using non-invasive biological tests (NIBT). However, few studies have evaluated its usefulness, in comparison with Hepatic Elastography (HE) which has been validated as a good fibrosis estimation method.

Aim. To evaluate the degree of concordance between NIBT, FIB-4, APRI and NAFLD in comparison with hepatic stiffness, to estimate the degree of fibrosis. Methodology. 331 patients were selected: steatosis (14%), steato-hepatitis (20%) and cirrhosis (65%). HE was performed after 6 h fasting (2DSWE, Supersonic Imagine®). IQR/Md values ≤ 0.30 were considered reliable and ≤ 0.10 very reliable. NIBT were calculated using fresh serum samples (< 3 months) and with the usual cut-off values for advanced liver fibrosis (ALF). In HE, cut-off values for ALF were: F3 (> 9.5 kPa), F4 (> 12.5 kPa). Pearson correlation index and Spearman's linear relation were calculated.

Results. According to NIBT, ALF was detected in: FIB-4 (46.8%), APRI (24.3%), NAFLD (42.0%) and according to EH (67.3%); 93.1% resulted with IQR/md < 0.30 and 62.8% < 0.10 . The concordance of EH with FIB-4 was 0.638, $p < 0.001$, APRI 0.571, $p < 0.001$, with NAFLD 0.691, $p < 0.0001$. The concordance between APRI and FIB4 was 0.874, $p < 0.0001$ and NAFLD with FIB4, 0.838, $p < 0.0001$. Score discrepancies were detected in 44 patients (13.3%).

Conclusions. A high correlation between NIBT and HE to estimate ALF was detected. Primary care physician should be encouraged to use these simple and low-cost diagnostic tools that can be repeated as often as required in clinical practice.

Authors declare that there is no conflict of interest in this study.

89. Usefulness of Biomolecular Mediators of INFLAMMATION and Fibrosis in Clinic Practice. Paradigma Study

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Background. Despite significant advances in the pathophysiology of liver diseases that confirm the mediating role of various cytokines in inflammatory or fibrogenic processes, their measurement in clinical practice is exceptional and is generally relegated to basic research, leaving clinicians with the usual practice of exclusively common liver function tests.

Aim. To evaluate the predictive value of various cytokines (endothelin 1, IL-6, TNF- α and TGF- β 1) to predict different stages of evolution of hepatic fibrosis. Methodology. Study population was divided into four groups a) healthy (F0), b) steatosis detected by ultrasound (F0), c) untreated cirrhosis, d) cirrhosis treated with

Pirfenidone LP 600 mg, v.o., bid. Cytokines were measured after 10-h fasting, by ELISA (Thermo Fisher Scientific) and liver stiffness was measured by real-time 2D SWE (Supersonic Imagine®). Treated subjects were evaluated at 12 months' post-treatment and progressive or regressive fibrosis was considered when changes greater than 30% were detected in relation to baseline measurement (kPa).

Results. A total of 161 subjects were included, with the following findings:

Evaluated cytokines (Reference Healthy (n = 14) values)	Steatosis (n = 18)	Untreated cirrhosis (n = 31)	Treated cirrhosis (n = 98)	p value	
Endothelin-1 (5-10 pg/mL)	13.8 ± 8.4	9.1 ± 6.3	23.8 ± 14.0	18.0 ± 13.2	NS
IL-6 (< 5.0 pg/mL)	3.9 ± 2.8	5.2 ± 4.0	14.8 ± 8.2	12.2 ± 9.2	0.001
TNF-α (1.2-15.3 pg/mL)	8.7 ± 5.6	10.8 ± 8.1	26.7 ± 14.0	23.4 ± 12.8	0.001
TGF-β1 (30-60 pg/mL)	46.2 ± 9.5	55.7 ± 22	112.7 ± 51.6	73.1 ± 35.3	0.001

TGF-β1 values in progressive fibrosis were higher (166.1 ± 84.5) than in stable (67.0 ± 28.3) or regressive fibrosis (66.6 ± 24.1), $p < 0.0001$.

Conclusions. TGF-β1 serum levels could be useful in the prediction of liver stiffness evolution, as well as therapeutic guidance in patients with liver fibrosis, in clinical practice.

Authors declare no conflict of interest in this study.

90.S-Adenosylmethionine (SAM) Regulates the Expression of HCV in an Independent Way of the Regulation of the Total Ubiquitination

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Background and aim. The molecular mechanisms involved in the development of the pathogenicity caused by the Hepatitis C Virus (HCV) are still unclear. Recently, we found that SAM has a negative effect on HCV expression, along with the proteasome activity and total ubiquitination within the cell, using the Huh7 hepatoma cell line that expresses non-structural proteins of the virus. The aim of this study was to evaluate the role of the total ubiquitination over the HCV downregulation by SAM.

Methods. Huh7 HCV-replicon cells were treated with 1 mM SAM at different time points, alone and combined with PR619 (1-5 μM), a known deubiquitinases inhibitor. Total protein was extracted at 4 and 24 h at different treatment schemes with both compounds. Western blot was performed for viral protein NS3 and for ubiquitin, obtaining an ubiquitination profile, using β-actin as control.

Results. By inhibiting the deubiquitinase enzymes with PR619 (5 μM, 4 h), a slightly rise in HCV-NS3 was observed, while the total ubiquitinated proteins also increased. SAM reverses the effect of PR619 upon 4 h of treatment, being the level of total ubiquitination equal to the control group at the same time. Previously, we reported that SAM decreases NS3 levels at 24-72 h. There was a decrease on HCV-NS3 expression in PR619 treated cells, showing a possible antiviral effect at 24 h, while an accumulation of ubiquitinated proteins was detected; the last was expected and used as control to test the PR619 function. When SAM and PR619 treatment were combined, the second was added 4 h before reach the 24 h treatment time with SAM and a recovery of ubiquitination of total proteins was observed; however, the effect of SAM over NS3 was unmodified (decreased).

Conclusions. SAM regulates deubiquitinases; however, this effect seems not to be related with the decrease in expression of viral proteins at the evaluated conditions.

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91.Hepatic Toxicity Induced by Drugs (DILI) Secondary to Anabolics

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Background. Drug-induced liver disease (DILI) is a rare condition; however, it causes 40-50% of acute liver failure.

Case report. Male of 38 years of alcoholism of 15 years of evolution with 21.6g/day of alcohol and intramuscular application of anabolic steroids based on Testosterone 250 mg, Nandrolone 100 mg and Stanozolol 50 mg intramuscular, 1 vial each week, for 31 days. One day after the withdrawal of these drugs, he presented a clinical picture characterized by mucotegumentary jaundice, generalized pruritus and nausea. Laboratories were requested, among which stood out: Total bilirubin 33.87 mg/dL, Direct bilirubin 26.41 mg/dL, ALT49 IU/L, AST 65 IU/L, GGT 60 IU/L and Alkaline Phosphatase 207 IU/L. USG of the liver and bile ducts was performed without evidence of dilation of the bile duct and magnetic cholangioresonance without alterations. Special analytical tests were requested as part of the approach to a cholestasis where they were reported: Serology of hepatotropic viruses (HAV, HBV, HCV and HEV) negative, Cytomegalovirus and Epstein Barr Negative Virus. Serological profile of autoimmune liver diseases with ANAS report (IFA), antimitochondrial antibodies, anti-smooth muscle and anti-LKM1 antibodies. Given the suspicion of a DILI secondary to the application of anabolic steroids, the R value was calculated at 0.27, indicating a pattern of cholestatic lesion. A percutaneous biopsy of liver tissue was performed with a report of intracytoplasmic and acute canalicular cholestasis with perivenular predominance (Zones 2 and 3). The score of the CIOMS/RUCAM scale of 9 points was calculated indicating a definitive DILI. During his hospitalization, treatment with Methylprednisolone 60 mg every 24 hours with subsequent dose reduction with Prednisone, S-adenosylmethionine 500 mg every 12 hours and ursodeoxycholic acid 15 mg/kg/day divided into three doses, with adequate clinical evolution during 5 days of stay was initiated. Intrahospital

Discussion. The long-term prognosis for DILI, in general, depends on the initial clinical and biochemical presentation of the patient, being the levels of aminotransferases, total bilirubin, prolongation of coagulation times and the presence of hepatic encephalopathy the greatest predictors of mortality. Conflict of interests. There are no conflicts of interest on the part of the authors of this work.

93.Evaluation of Polymorphisms in PNPLA3, NCAN and TM6SF2 Genes as Markers of Susceptibility to the Development of Hepatocellular Carcinoma (HCC), in a Population of the Northeast of Mexico

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Background. Hepatocellular carcinoma (HCC) is the sixth most common cancer, the third leading cause of cancer-related death and accounts for more than 90% of primary liver cancers. Hepatocarcinogenesis is a highly complex process and recent advances in molecular technology have allowed recognizing loci involved in

its development. The polymorphism of the PNPLA3 gene promotes an altered function in the metabolism of triglycerides initiating chronic liver damage. Other genes such as NCAN and TM6SF2 have been identified in lipid metabolism and the development of fibrosis. The aim of this study was to analyze the gene and allelic frequencies of the SNPs variants in the PNPLA3, NCAN and TM6SF2 genes in patients with HCC and their control population.

Methods. Case-control study. Patients with a diagnosis of HCC and their healthy controls were included. Polymorphisms of the PNPLA3 gene rs738409 and rs2294918, NCAN rs2228603 and TM6SF2 rs58542926 were defined by PCR for the presence of homozygous specific mutation.

Results. We included 92 patients with HCC and 372 controls. According to its etiology, the two main causes were of alcoholic origin (n = 32, 34.8%) and by NAFLD (n = 26, 28.3%). The presence of the GG variant of PNPLA3 rs738409 was significantly associated with an increased risk of disease (OR: 2.6, 95%CI: 1.6–4.11, p = 0.00002). The presence of the GG variant of PNPLA3 rs2294918 was also significantly associated with an increased risk of disease (OR: 1.8, 95%CI: 1.1–3.1, p = 0.01).

Conclusions. In the study population belonging to northeastern Mexico, we identified an association of polymorphisms of the PNPLA3 genotype rs738409 and rs2294918 and HCC. It is important to be able to implement prevention strategies or control of risk factors to develop a more individualized and directed screening. The present study is the first study in our country of these characteristics, providing additional elements that the presence of the G allele of the polymorphisms rs738409 and rs2294918 of the PNPLA3 gene, are the independent genetic risk factors with greater association with HCC.

96. Does the severity of Hepatopathy Influence the Development of Post-Paracentesis Fistulas?

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Background and aim. Post-paracentesis fistula (FPF) is a complication that occurs in patients with ascites who undergo diagnostic or therapeutic paracentesis. The reported prevalence of this complication is 1.8%. Little has been described about the factors that predispose to the development of FPF so it is vital to know in depth the clinical characteristics of these patients, the severity of liver disease and corroborate if there is any relationship for the formation of this complication. The objective was to know if there is a relationship between the severity scales (Child Pugh and Meld) and the development of FPF.

Methods. We included 117 patients with FPF hospitalized in the Gastroenterology service of the General Hospital of Mexico “Dr. Eduardo Liceaga”. Clinical and biochemical data were collected from the patients and the staging scales of Child Pugh and MELD liver disease were calculated. Statistical analysis. The statistical package SPSS version 25 was used for data analysis. The value of p was considered statistically significant when it was less than 0.05.

Results. Of patients studied, 68 were male (58.1%). The average age of patients was 56.68 ± 11.82 years. 0.9% of patients were Child A, 20.5% were Child B and 78.8% were Child C. The mean score of MELD score was 15.91 ± 7.94 . The most frequent etiologies of cirrhosis were: alcoholic (47.9%), cardiogenic (21.4%) and NASH (9.4%). 26 patients (22.2%) developed post-paracentesis fistula, of which 58.1% had a previous puncture. We did not find statistically significant differences between the development of post-paracentesis fistula and the biochemical parameters ($p \geq 0.05$), the severity measured by MELD ($p = 0.08$), CHILD ($p = 0.52$) or previous puncture ($p = 0.23$).

Conclusions. The severity of liver disease does not relate to the development of post-paracentesis fistulas.

The authors do not report any conflict of interest.

97. Impacts the Type of Alcohol Consumed in the Severity of Alcoholic Hepatitis?

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Background and aim. Alcoholic Hepatitis (HA) is a complication with a mortality as high as 60%. To date, no study in Mexico has evaluated the type of alcohol consumed and its relation to the severity of HA. The objective was to know the type of alcohol consumed by patients with HA and its relationship with severity according to the known prognostic scales.

Methods. We included 52 patients diagnosed with AH hospitalized in the Gastroenterology service of the General Hospital of Mexico “Dr. Eduardo Liceaga”. The clinical data and laboratory parameters of each patient were collected. We inquired about the type of alcohol consumed, consumption pattern and gramma, in addition the severity scales of Maddrey, MELD, MELD-Na, Glasgow and ABIC were calculated. Statistical analysis. The statistical package SPSS version 25 was used for data analysis. The value of p was considered statistically significant when it was less than 0.05.

Results. Of the patients included, 92.3% (48) were males. The average age was $45.15 (\pm 8.73)$ years. 78.8% (41) consumed alcohol daily, 17.3% intermittently, 1.9% every third day and 1.9% every weekend. The most consumed type of beverage was cane alcohol (46.2%), tequila (13.5%) and agave distillate (9.6%). Trademarks with the highest consumption were gold cane (28.8%), Tonayan (15.4%) and Rancho Escondido (7.7%). When comparing the pattern of consumption, type of drink and brand of drink with the biochemical parameters of the patients, we did not find significant differences ($p > 0.05$). We did not find significant differences when comparing type of drink with gravity by scales: Maddrey ($p = 0.84$), MELD ($p = 0.10$), MELD-Na ($p = 0.12$), Glasgow ($p = 0.72$) and ABIC ($p = 0.14$); the same occurred when comparing the brands of the drinks consumed with the Maddrey scales ($p = 0.45$), MELD ($p = 0.20$), MELD Na ($p = 0.10$), Glasgow ($p = 0.35$) and ABIC ($p = 0.54$).

Conclusions. There are no differences between alterations in the biochemical parameters of patients with alcoholic hepatitis in relation to the type of alcohol and/or brand thereof. Nor are there differences between the severity of alcoholic hepatitis and the type and/or brand of alcohol consumed.

The authors do not report any conflict of interest.

98. Experience in Five Years of Liver Transplantation in Patients with Alcoholic Cirrhosis

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Background and aim. Alcohol consumption is a frequent cause of cirrhosis worldwide; however, in Mexico the experience in this group is limited. In the alcohol cirrhosis group, the pre-transplant evaluation is crucial to determine the possibility of relapse associated with alcohol consumption. The objective of this analysis is to identify the risk factors associated with relapse in alcohol consumption and to assess whether the epidemiological characteristics and comorbidities are related to the patient's post-transplant evolution.

Methods. A descriptive analysis of patients with alcohol cirrhosis who underwent liver transplantation between 2014 and 2018 at the National Institute of Medical Sciences and Nutrition Salvador Zubirán was carried out.

Results. From 2014 to 2018, 250 patients underwent liver transplant. In 14 patients (5.6%), cirrhosis was caused by alcohol

consumption. The median age was 61 ± 9.7 ; 58% of the patients had a bachelor's degree as a minimum level of education and 79% of the patients were married. The most prevalent comorbidities were type 2 diabetes mellitus and obesity. The median age of onset of alcohol consumption was 20 ± 5 . The median pre-transplant abstinence was 13 months. In this analysis, 35% of patients had a family history of alcohol use disorder, 93% had tobacco use, and only one of the fourteen patients had cannabis addiction. In the five years, no case of relapse in the consumption of alcohol was reported. Only one patient lost follow-up in the post-transplant period and another died in the immediate period after transplantation. One patient died from another cause not directly related to liver transplantation.

Conclusions. The percentage of patients transplanted due to alcoholic etiology in our population is low. Post-transplant mortality was not found to be related to alcohol use disorder. In the five years of this study, there were no reports of alcohol relapse in the post-transplant patients.

99. Electrophysiological Alternative for the Detection of Minimal Hepatic Encephalopathy in Patients with Liver Cirrhosis

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Background. Minimal encephalopathy (ME) comprises subtle neuropsychiatric and cognitive alterations that can be assessed with the psychometric hepatic encephalopathy scale (PHES) and the critical flicker frequency (FCC). Combined sensibility is 61%, and specificity is 79%. P300 evoked potentials auditory or visual have not represented a competitive value for detecting ME when are compared against PHES, which is the gold standard with the sensibility of 50% and specificity of 60%. P300 evoked potentials are sensitive to changes in their experimental parameters, reason why improvement in the design for its acquiring could represent a better detection of EM.

Aim. To obtain sensibility and specificity of the P300 evoked potential modification to improve the detection of minimal encephalopathy.

Methods. Visual instead of auditory stimuli and the rate of presentation were modified to obtain the P300 evoked potentials. Sensibility and specificity were calculated for FCC and P300 against the gold standard PHES, and also the area under the ROC curve was calculated.

Results. 60 cirrhotic patients were included (52% women, $n=31$), age 51.9 ± 8.4 years old. 32/60 patients were positive to EM (63%), 41/60 were positive to FCC (68.3%), and 24/60 were positive to both PHES and FCC (40.0%). Sensibility and specificity of FCC versus PHES was 58% and 68% respectively. The P300 modified obtained ($AUC=0.823$, $95\%CI=0.706-0.860$; $p=0.02$) sensibility of 61% and specificity of 64%.

Conclusions. Sensibility and specificity of P300 modified versus the gold standard PHES was higher compared with the conventional experimental auditory paradigm. The P300 modified is closer to the FCC for detecting the EM in cirrhotic patients and could be valuable in future studies.

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100. Use of MoCA in the Detection of Hepatic Encephalopathy of Minimal Changes in Patients with Liver Cirrhosis

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Background. The Montreal Cognitive Assessment (MoCA) is a screening instrument, used for the detection of mild cognitive detrioto and dementia, with cut points that vary according to the

population studied. Currently little used for the detection of HD of minimal changes.

Methods. The sensitivity and specificity of the FCC and MoCA tests were calculated with the gold standard PHES, and the combinations PHES-FCC and MoCA FCC against the gold standard. They were considered with EHM according to PHES (score < -4) with FCC (score < 39), with deterioration in MoCA (score less than 24). The ROC curve and cut-off points for MoCA against PHES and its sensitivity and specificity were calculated.

Results. 48 patients with cirrhosis participated (48.5% women, $n=22$) with 55.6 ± 10.9 years of age, Child-Pugh A 50.0% ($n=24$), B 41.7% ($n=20$) and C 8.3% ($n=4$). They were detected with PHES positive to EHM 34/48 subjects (70.8%); positive to FCC 33/48 (68.8%) and with deterioration in MoCA 22/48 (25.8%). The sensitivity and specificity of FCC with PHES was 76.5% and 50% respectively. The cut-off point for MoCA in the ROC curve was 23 ($AUC=0.705$, $95\%CI=0.549-0.860$, $p=0.027$) with sensitivity of 73.5% and specificity of 57.1%.

Conclusions. The sensitivity and specificity of FCC against the standard PHES gold is low but within what is expected according to the literature. The MoCA test considers other cognitive alterations with sensitivity and competitive specificity against the FCC. A larger sample is required to obtain a better AUC that suggests its use in conjunction with the PHES test as a possible option when the FCC is difficult to access.

101. Etiology of Cirrhosis and its Relationship with the Incidence and Prevalence of Metabolic Syndrome in the Orthotopic Hepatic Transplantation

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Background. Metabolic alterations are frequent in patients with orthotopic liver transplantation (OLT). The reported prevalence of metabolic syndrome (MS) is 44-58%, systemic hypertension (SH) 40-85%, diabetes mellitus (DM) 13-61%, dyslipidemias (DLP) 40-66% and obesity 24-40%. MS is associated with alterations in insulin resistance and predisposes to DM and cardiovascular disease.

Aim. To describe the prevalence of MS in liver transplant patients in the INCMNSZ at 4 years of follow-up.

Methods. A retrospective, descriptive study that included post-OLT patients from 2005 to 2016. Clinical records were reviewed, demographic and clinical characteristics were obtained. The next variables were taken into account; gender, age at transplantation, weight (kg), height (cm), body mass index (BMI), lipid profile, fasting glucose, and blood pressure, as well as pharmacological treatment for DM, SH and DLP; pre and post transplant. For the diagnosis of MS, NCEP-ATP III criteria were used, prevalence frequencies and correlations were analyzed. The statistical significance was $p < 0.05$.

Results. 120 patients from 2005 to 2016 who met the clinical and biochemical parameters of MS were evaluated. 64 men (53%) and 56 women (47%) with a median age of 47.8 years. 62 (52%) were transplanted for HCV. Of these transplanted patients, 58 (48.3%) fulfilled criteria of metabolic syndrome at 3 years, 27% at 1 year, 13 (49%) with HCV ($p < 0.05$). We found BMI (kg/m^2) at pre-transplant with a median of $24.2 kg/m^2$ (17-35) and modified at the time of the metabolic syndrome to $26.9 kg/m^2$ (19-41), being significant ($p < 0.05$). Triglycerides of 90 (20-496), increased to 125 (33-567) mg/dl. ($p < 0.05$). HDL lipoproteins pre and post-transplant were found below normal. Blood pressure was raised from pre-transplant with a median of 110/70 (85/50-140/80) to 125/85 (90/60-150/100) mmHg. Of the 58 patients who met criteria for MS, 35 (60%) required pharmacological treatment.

Conclusions. Metabolic syndrome is a frequent complication in OLT. Those transplanted by HCV were the most associated with SM. A high percentage of post-transplant patients required treatment for SH, DM and DLP.

103. Metabolic Alterations in Patients After Liver Transplantation

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Background. In recent decades, advances in surgical technology and the further development of immunosuppressive regimens have improved the survival of patients and grafts in patients undergoing orthotopic liver transplantation (OLT). It is known that metabolic disorders are common among these patients. Therefore, identifying the risk factors for such metabolic disorders remains an important respect for long-term survival.

Aim. To determine the metabolic alterations in the patients transplanted in a third level hospital.

Methods. Retrospective, cross-sectional and descriptive study. Patients evaluated in the outpatient clinic for liver transplantation during the period of 2010–March 2019 were included. Demographic data, weight, height, BMI, lipid profile and blood chemistry were collected from the file. Descriptive statistics were used: frequency, percentage and median.

Results. A total of 200 patients were included (H 94; M 106; Average age 53). The main etiology of Cirrhosis was by HCV in 32.5% followed by cryptogenic in 17.5% of cases. 89% of patients were in treatment with Tacrolimus, 5% with Ciclosporin and 5.5% with Sirolimus. 46.5% of the patients were overweight, 14% had obesity class I and 32% corresponded to normal BMI. The patients were divided into two groups according to the post-transplant time: greater and less than 12 months of the procedure, without differences in biochemical levels. The medians of HDL, LDL, triglycerides and glycosylated hemoglobin were: 45.5, 84, 127 and 5.4% respectively. Vitamin D deficiency was found in 70% of the cases.

Conclusions. The most relevant alterations in this cohort were overweight and vitamin D deficiency.

The authors declare that there are no conflicts of interest.

104. Improvement of Non-Invasive Biomarkers of Fibrosis in Patients with HCV Cirrhosis with Sustained Viral Response at La Raza National Medical Center

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Background. Chronic infection with Hepatitis C Virus (HCV) implies a state of continuous liver inflammation and progression of fibrosis, preliminary evidence suggests that after treatment with direct-acting antivirals (DAA) and reaching the sustained viral response (SVR) there is improvement in the degree of fibrosis, so the use of non-invasive biomarkers of fibrosis such as the APRI index (AST/platelet index) and FIB4 can be useful in post-treatment evaluation.

Aim. To evaluate the improvement in non-invasive fibrosis biomarkers by calculating baseline FIB4 and APRI 6 months after having obtained SVR with DAA in patients with liver cirrhosis due to HCV.

Methods. Retrospective and longitudinal study. Patients from the Hepatitis C clinic of La Raza Specialties Hospital with liver cirrhosis compensated by HCV, Genotype 1, in the period from June 2017 to March 2018 treated with DAA for 12 weeks, who obtained SVR and followed-up at 6 months were included. APRI and FIB4 indexes were calculated at baseline and at six months of follow-up

as well as platelet levels. By means of student’s t-test a value of $p < 0.05$ was taken as significant, reporting with mean \pm standard deviation.

Results. 36 patients were included, 33.4% men, 66.6% women, age 58 years, 41.7% genotype 1a, 58.3% genotype 1b, 16.7% naive and 83.3% non-responders to PegInterferon/Ribavirin. Baseline scores were reported and at 6 months of FIB4 20.3 ± 1.7 vs. 3 ± 0.2 ($p = 0.001$), APRI $2.3 \pm .3$ vs. 0.85 ± 0.09 ($p = 0.001$) and platelets 107.58 ± 45.32 vs. 114.69 ± 49.38 ($p = 0.192$) (Table).

Variable	Baseline	6 months	p-value
Platelets	107.58 \pm 45.32	114.69 \pm 49.38	0.192
APRI	2.37 \pm 2.13	0.85 \pm 0.58	< 0.001
FIB4	5.61 \pm 2.76	3.06 \pm 1.71	< 0.015

Conclusions. Statistically significant improvement was observed in the FIB4 and APRI indices 6 months after having obtained SVR with DAA. Despite the use of the non-invasive biomarkers of fibrosis already mentioned, these results must be corroborated with other more sensitive and specific non-invasive techniques to evaluate fibrosis such as transient elastography.

This work was not subsidized.

105. Liver Injury Induced by Methyldopa in Pregnancy: A Case Report

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Drug-induced liver injury can be intrinsic (predictable) or idiosyncratic (unpredictable), it is a diagnostic challenge for all clinicians, since it is a diagnosis of exclusion, in addition to having different forms of presentation. Drug or herbal hepatotoxicity can range from asymptomatic abnormal liver enzymes, to fulminant hepatic failure. The diagnosis requires high suspicion on the part of the clinician, since it has a latency period of days to weeks. The following is a case of hepatotoxicity in a 39-year-old multiparous woman, known as hypertense, who during her pregnancy changed her antihypertensive treatment for methyldopa. The patient presented hepatotoxicity approximately 4 weeks after its onset. She presented peak ALT and AST elevation of 55.6x ULN and 50.3x ULN, respectively, and she had direct hyperbilirubinemia and coagulopathy, without evidence of encephalopathy. Infectious, viral, autoimmune causes were ruled out, hepatic biopsy was performed with report of acute hepatitis with focal necrosis of hepatocytes, which is compatible with DILI due to methyldopa. The resolution of the hepatic enzymes was 28 days after the suspension of methyldopa, currently the patient continues her pregnancy in the 2nd trimester without complications. Hepatotoxicity by methyldopa is documented in the literature, however there are few cases reported internationally, and to a lesser extent in our environment. Being that the methyldopa is usually a safe medicine for the use of hypertension in pregnancy, it has gone in disuse, nevertheless in Mexico, it is still the 1st line of treatment according to the clinical practice guidelines for the treatment of these patients and should be monitored more closely regarding its possible complications and adverse effects.

The authors do not report conflicts of interest.

106. Frequency and Clinical Presentation of AUTOIMMUNE Liver Disease Associated with Inflammatory Bowel Disease

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Background. The association between autoimmune liver disease (AILD) and inflammatory bowel disease (IBD) in children has a prevalence of 2 to 8%. In our Hospital the frequency of this association is unknown.

Aim. To evaluate the frequency and the clinical features in children with AILD associated with IBD.

Methods. Observational, descriptive and retrospective study. Children from 0-15 years, with the diagnosis of AILD associated with IBD were included in a period of five years. Clinical, biochemical and histopathological data were registered and analyzed with descriptive statistics.

Results. Beyond 55 cases with AILD we identify six cases associated to IBD (10.9%), female gender 3, and mean age at the diagnosis 9.6 yr. Autoimmune hepatitis (AIH) was associated to ulcerative colitis (UC) in 4 and in one case to Crohn disease (CD). One case had UC associated to autoimmune sclerosing cholangitis (ASC). Liver clinical features were present prior to the IBD in 2, one as an acute hepatitis and one due to persistent ALT elevation; both developed UC (PUCAI 20 and 22); one case had AIH and CD. One case has ASC and UC at the same time. Biochemical data at the diagnosis showed a mean liver ALT 321 UI/L, GGT 444 UI/L, positive ANCA in 4/6 cases. In the liver biopsy Cirrhosis was found in 3/6 and in 3/6 fibrosis Metavir <2.

Conclusions. In this study we found a 10.9% frequency of AILD associated with IBD. Liver disease may develop prior, during or after IBD manifestations; half of the cases had Cirrhosis at the diagnosis. It is important the recognition of both entities for the diagnosis and treatment on time.

108. Clinical and Sociodemographic Characteristics of Patients with Alcoholic hepatitis in a Third Level Center

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Background and aim. Alcoholic hepatitis (HA) is a frequent entity in our environment, but the clinical and socio-demographic characteristics of patients have still not been determined, being relevant due to the impact it has on society. Taking into account that most of the patients who develop it are male, productive age and the support of entire families it is crucial to identify the population at risk to perform targeted preventive strategies. The objective was to know the clinical, social and demographic characteristics of patients with HA in a third level hospital.

Methods. We included 52 patients with AH hospitalized in the Gastroenterology service of the General Hospital of Mexico “Dr. Eduardo Liceaga”. Sociodemographic, clinical and biochemical data of the patients and on the type and grammage of alcohol were collected. The severity scales of Maddrey, MELD, MELD-Na, Glasgow and ABIC were calculated. Statistical analysis. The statistical package SPSS version 25 was used for data analysis. The value of p was considered statistically significant when it was less than 0.05.

Results. Of the patients included, 92.3% (48) were males. The average age was 45.15 (\pm 8.73) years. The most frequent occupations of the patients were peasant (21.2%), bricklayer (17.3%), merchant (13.5%), driver (11.5%), among others. 38.5% of the patients had a high school degree, 26.9% high school, 19.2% primary, 9.6% could not read or write, and 5.8% had a bachelor's degree. The number of economic dependents was 1.6 \pm 1.7. 78.8% (41 patients) consumed alcohol daily, 17.3% intermittent, 1.9% every third day and 1.9% every weekend. The most consumed type of beverage was cane alcohol (46.2%), tequila (13.5%) and agave distillate (9.6%). The average consumed grammage was 254.24 \pm 141.95. The average consumption time was 19.3 \pm 9.4 years. The measured severity scales had an average score of Maddrey 75.0 \pm 41.67, MELD 29.97 \pm 8.25, MELD Na 31.66 \pm 7.81, Glasgow 9.32 \pm 1.51 and ABIC 8.50 \pm 1.66 points.

Conclusions. HA occurs in socially susceptible populations, parents of working age who, due to acute symptoms, have an impact on family and social dynamics. Therefore, it is essential to implement actions that contribute to the prevention of the disease in these risk groups.

The authors do not report any conflict of interest.

109. Improvement in the hepatic Function of Patients with Secondary Cirrhosis to HCV Infection with Sustained Viral Response at the National Medical Center La Raza

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Background. Chronic infection by Hepatitis C Virus (HCV) is one of the main causes of chronic liver disease in the world, treatment with direct-acting antivirals (DAA) reports sustained viral response rates (SVR) > 90%, associated with a decrease in hepatic inflammation, reduction of fibrosis progression and of risk of mortality due to its complications, reflected biochemically and clinically.

Aim. To evaluate the improvement in liver function by calculating Child-Pugh (CP) and MELD in patients with HCV cirrhosis treated with DAA at 6 months of SVR.

Methods. Retrospective and longitudinal study. Patients from the hepatitis C clinic of the CMNR Specialty Hospital with compensated cirrhosis, Genotype 1, who received treatment with Ombitasvir/Paritaprevir/Ritonavir and Dasabuvir or Sofosbuvir/Ledipasvir \pm Ribavirin for 12 weeks from June 2017 to March 2018, were included, SVR was obtained and follow-up for 6 months. Demographic characteristics, CP, MELD, TP, platelets, albumin and total bilirubin were reported basally and at six months of follow-up. The statistical analysis was performed with Student's t-test, a value of p < 0.05 was taken as significant, reporting with mean \pm standard deviation.

Results. 36 patients were included, 66.6% women, average age 58 \pm 11 years. 58.3% genotype 1b, 83.3% non-responders to PegIn-terferon/Ribavirin. The most frequent comorbidity hypothyroidism 24.4% and DM 12.2%. Baseline CPA was reported and at 6 months in 86.1% (30) vs. 97.2% (34), CPB 13.8% (4) vs. 2.7% (1) and MELD 9 basal points and at 6 months (p=0.125). There was a statistically significant change in albumin and PT levels (Table).

Variable	Baseline	6 months	p-value
PT	15.99 \pm 1.54	17.06 \pm 1.97	< 0.001
Albumin	3.75 \pm 0.55	4.06 \pm 0.62	< 0.001
Platelets	107.58 \pm 45.32	114.69 \pm 49.38	0.192
TB	1.33 \pm 0.63	1.25 \pm 0.60	0.274

Conclusions. Improvement in liver function was observed in patients with cirrhosis treated with DAA reflected in CPB change to CPA, no progression in MELD scale and improvement in albumin levels at 6 months of SVR.

This work did not receive subsidy.

110. Treatment of patients with Chronic Hepatitis C Genotype 1 with Direct-Acting Antivirals: Real-Life Results of a Northeastern Mexican Hospital

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Background and aim. Hepatitis C Virus (HCV) infection is one of the leading causes of chronic liver disease in the world. In Mexico, it is estimated that there are between 400 to 600 thousand infected people who have not receive treatment. We aimed to assess sustained viral response rate (SVR) in patients with HCV treated with direct-acting antivirals (DAA).

Methods. We performed a prospective, cross-sectional study, which included all patients with chronic HCV genotype 1 infection treated with DAA at the “Centro Medico Nacional del Noreste” (Monterrey, Mexico) from June 2017 to September 2018. We reported patients' baseline characteristics as well as safety and response rates for treatment.

Results. Of a total of 236 patients who initiated antiviral treatment with Sofosbuvir-Ledipasvir (Jarvoni) and Ombitasvir-Paritaprevir-Ritonavir and Dasabuvir (Viekira Pak), 202 completed treatment and follow-up. The epidemiological characteristics of the patients are shown in the table. Fiftyfive patients received Viekira and 147 received Jarvoni. Adverse events occurred in 36%, of which the most frequent were headache and asthenia, only 1 patient discontinued treatment due to adverse effects (severe anemia). Regarding the response to treatment, 95.5% had SVR, for Jarvoni 95.2% and for Viekira 96.2%.

Baseline characteristics (n = 202)

Male	98
Female	104
Age (x)	49.11 (15-82)
Genotype 1a	126
Genotype 1b	74
Compensated cirrhosis	93
Decompensated cirrhosis	29
Non cirrhotic	80
HIV Coinfected	13
Experienced patients	118

Conclusions. The SVR obtained in our patients was similar to that reported by the world literature. Treatment with AAD is safe and effective.

111.Prevalence of Non Alcoholic Fatty Liver Disease ASSESSED by CONTINUOUS ATTENUATION Parameter and Liver Fibrosis by Transient Elastography in asymptomatic Population, Analysis of 690 Subjects

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Background. Nonalcoholic fatty liver disease represents the most common chronic liver disease worldwide. The prevalence reported in general population ranges from 17-46%. In Mexican population the reported prevalence ranges from 14.4-62.9% diagnosed by hepatic ultrasound. However sensibility and specificity of ultrasound for detecting mild steatosis decreases significantly, which means the reported prevalence might be underestimated. Moreover ultrasound is unable to detect presence and grade of fibrosis.

Aim. To describe the prevalence of NAFLD and significant fibrosis in an asymptomatic population assessed by CAP and fibroscan.

Methods. We included all consecutive patients who attend to a check-up at our hospital between January and February 2019 who had transient elastography with CAP. We excluded patients with significant alcohol consumption (> 30g/day men, > 20 g/day women) and/or with known chronic liver disease. We used descriptive statistic, results are reported with means and standard deviation.

Results. A total of 690 patients were included for analysis, mean age was 49 ± 11 years, 59.4% men, 40.6% women, mean weight 74 ± 15 kg, BMI 26.25 ± 4 kg/m². Mean Kpa 4.24 ± 1.5 all with IQR < 30%, mean CAP 258.6 ± 60 all with IQR ≤ 40%. The prevalence of NAFLD was of 69%, and 1.5% for significant fibrosis, 8% had ALT elevation and 12% GGT elevation. 58% of the population was overweight or obese.

Steatosis grade	N 690
S0	36% (251)
S1	14% (100)
S2	19% (134)
S3	30% (209)

Conclusions. The reported prevalence is greater than the reported in previous studies in Mexican population. Because of the

characteristics of the analyzed population the reported prevalence might be underestimated.

113.Calculation of the Risk of Hepatocellular Carcinoma in Patients with Chronic Hepatitis C in Patients of the Military Central Hospital

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Background. Patients with chronic infection with hepatitis C virus who have received treatment achieve SVR rates > 95%. SVR substantially reduces the risk of hepatocellular carcinoma (HCC), regardless of whether it is achieved with interferon (IFN) or AAD-based regimens. It follows that the risk of HCC should be estimated specifically for the period after antiviral treatment, incorporating if SVR was achieved.

Aim. We used statistical models that estimated the risk of HCC in patients infected with HCV after antiviral treatment in patients with cirrhosis and SVR. We used decision curves to evaluate the full benefit of implementing HCC surveillance strategies compared to screening strategies. of image and tumor markers and thus be easily estimated in clinical practice.

Methods. Patients treated with ADA (n = 69) from the Central Hospital were included. 19 men and 50 women aged 23 to 84 years. It was used as a statistical test for qualitative variables x square and for discrete quantitative variables t student for independent samples, taking as statistical significance a p < 0.005, the statistical package SPSS version 19 was used.

Results. Total 69 patients were treated with ADA, 50 (72%) female, age of 60.89 ± 13.31 years, BMI 27.56 ± 4.73 kg/m², 39 (56.5%) patients were naïve, Degree of fibrosis by fibrotest F0: 2, F1: 0, F2: 1, F3.15, F4: 41, Genotypes 1a. 30 (43.4%) patients, 1b 20 (28.9%) patients, 2: 18 (26%) patients and 3: 1 (4.3%) patient. Biochemical data were compared before and after the treatment with the Student's t test, AST=64.21 ± 36.51 vs. 42.65 ± 28.28, t=3.54, p=0.001, ALT: 66.80 ± 42.03 vs. 41.80 ± 5.17, t=3.77, p=0.000, albumen 3.66 ± 0.52 vs. 3.66 ± 0.46, =t=0.34, p=0.97, platelets 88,363 ± 61,388 vs. 123,617 ± 70,047, =t=3.32, p=0.02, TP 13.50 ± 3.55 vs. 14.03 ± 2.56 = 0.61, p=0.354, BT= 1.09 ± 0.58 vs. 1.12 ± 0.50, t=0.342, p=0.734, AFP= 14.13 ± 210.4 vs. 4.74 ± 2.47, t=2.60, p=0.12. Child Pugh=5.81 ± 0.89 vs. 5.69 ± 0.81, t=1.438, p=0.161 MELD=8.97 ± 1.51 vs. 8.88 ± 1.36, t=0.564, p=0.687.

Conclusions. the CHC risk was performed in this group of patients: overall 5.01 ± 1.02% of developing HCC in 3 years and for F3-F4 of 8.22 ± 1.7% of developing HCC, if the groups without fibrosis and advanced fibrosis are compared, there is no statistical significance, p = 0.523.

There are no conflicts of interest in this work.

114.Terlipressin for 24 Hours as an Adjuvant Therapy in Acute Variceal Bleeding: Comparison Against a Historic

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Background. Gastrointestinal bleeding by esophageal varices (EV) is one of the most frequent complications in patients compensated and decompensated cirrhosis. The consensus of BAVENO VI suggests that the standard treatment is endoscopy with variceal ligation (VL) plus vasopressors (terlipressin) for 5 days. Several studies in 2012 suggest that administration terlipressin for 24 hours to 72 hours post VL gives a similar result to 5 days. Recently the portal hypertension consensus of 2017 suggests administering terlipressin from 2 to 5 days after LV.

Aim. To demonstrate that the use of terlypressin 24 hours after VL is same efficient that 3 and 5 days.

Table 2
Baseline characteristics.

Variable	Degree of association
Platelets	0.362
KPa <20	0.927

Methods. Patients with gastrointestinal bleeding by EV hospitalized in the Gastroenterology Service at the Juarez Hospital of Mexico from March 2016 to March 2017 as historical and March 2017 to December 2017 as a case study. The historical groups were: terlipressin at a dose for 5 days (2 mg in initial dose and 2 mg every 4 hours) for 5 days, terlipressin for 3 days (2 mg in initial dose and 1 mg each 6 hours for 3 days). The group of cases terlipressin administered for 24 hours (2 mg initial dose, 1 mg every 6 hours for 24 hours) all received antibiotic treatment, crystalloids and VL before 24 hours. Type of study: Case study and historical controls. Variable independent: Bleeding variceal and cost. Dependent variable: Days of terlipressin. Statistical analysis: square chi for non-parametric variables and student t for parametric variables, considering $p < 0.05$ as statistically significant.

Results. The rebleeding in none of the groups compared was statistically significant: the cost in all the compared groups is statically significant.

Conclusions. Terlipressin for 24 hours as adjuvant therapy is same efficient that for 3 and 5 days, with significant financial savings for the patient.

The authors do not report conflicts of interest.

117. Presence of Gastroesophageal Varices in Patients with Chronic Infection Because of Hepatitis C Virus with Advanced Fibrosis

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Background. Portal hypertension is associated with the most serious complications of cirrhosis. Variceal bleeding is associated with mortality of 10 to 20% at 6 weeks despite treatment. In this stage they present a risk of developing these complications, for this reason there are recommendations based on evidence to regulate surveillance behavior. It has been described that patients with liver stiffness <20 kPa and platelet count > 150,000 are at low risk of having varices requiring treatment and avoiding endoscopic exploration; however, in our environment we have detected the presence of varicose veins outside these parameters.

Aim. To report the prevalence of gastro-esophageal varices in patients with chronic infection due to hepatitis C virus (HCV) genotype 1 with platelet determination > 150,000 and advanced fibrosis by transient elastography > 12 and <20 kPa.

Methods. Patients from the Hepatitis Clinic who presented chronic HCV infection who underwent biochemical tests, transient elastography and endoscopy, including patients with fibrosis > 12 kPa and <20 kPa demonstrated by elastography and platelet count > 150,000 were retrospectively analyzed,

Results. 48 patients were included, 63.8% (n = 33) women, 56.3% (n = 27) genotype 1a, 43.8% (n = 21) genotype 1b, with BMI 28.53 (\pm 4.1), the majority with overweight 47.9% (n = 23) and 33.3% (n = 16) with obesity, 22.9% (n = 11) had DM2 and 31.3% (n = 15) HBP. Mean MELD of 9.18 ± 2.2 , 89.6% (n = 43) with Child-Pugh A, 43.8% (n = 21) of patients presented esophageal varices despite platelet count > 150,000 and elasticity <20 kPa, with no significant association for any of these parameters. [Table 2](#)

Conclusions. Despite what was described in the Baveno VI Criteria, in our population we found that half of the patients had varices WITH platelets > 150,000 and elastography <20 kPa, without

significant association with the presence of overweight, obesity or chronic-degenerative diseases; however, our population had a high BMI.

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118. Multicentric Real Life Study of Sofosbuvir/Velpatasvir (Direct Action Antiviral) in Mexican Patients

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Background. The treatment of chronic viral hepatitis C virus has evolved significantly with the arrival of drugs that act directly and are free of interferon, the contraindications are becoming less and the use of drugs called pangenotipics and panfibrotics simplify the use of antiviral therapy. Sofosbuvir/velpatasvir is a pan-genotype and panfibrotic drug, which has been used in Mexico. The efficacy and safety of these drugs have been tested in different groups, but not in Mexican patients.

Aim. To evaluate the behavior in real life in Mexican patients with sofosbuvir/velpatasvir treatment in a multicentric study.

Methods. We performed a retrospective study that included patients from 13 Hospitals of Mexico. All the patients were diagnosed with hepatitis C and were prescribed sofosbuvir/velpatasvir for any genotype and degree of fibrosis. Safety and efficacy were evaluated in the different subgroups such as: genotype, degree of fibrosis, experienced. Side effects were evaluated. Statistical analysis: Descriptive statistics were performed with measures of central tendency and dispersion, using the statistical program SPSS V 25.0.

Results. 158 patients were included, age 61.12 ± 12.5 years, 110 women and 48 men, Genotype 1:93 2:60 and 3:5, Degree of fibrosis: 0:30, 1:4, 2:16, 3:25 and 4:83. Naïve patients: 100, not naive 58, (interferon-rivabirine 48 and interferon-ribavirin-boceprevir 10) Prescribed treatment sofosbuvir/velpatasvir 136 sofosburiv/velpatasvir/ribavirin 22, Initial viral load $1,856,998 \pm 3,355,505$. Cirrhotic patients 83 (Child-Pugh A 52 and B 31), co-infected patients HIV 10. Patients who stopped treatment by their own mutually: 2. All those who completed the treatment were reported as negative viral load at the end of treatment and sustained viral response, 100% efficacy without a difference in genotype or degree of fibrosis. No serious side effects were documented, only 26 patients fatigued (16%) and 18 headache (11.2%). [Figure 7](#)

Conclusions. The treatment for hepatitis C virus in Mexican patients with sofosbuvir/velpatasvir showed excellent efficacy and safety.

119. Diabetes mellitus as the main risk factor for liver fibrosis progression in Mexican population with non-alcoholic steatohepatitis

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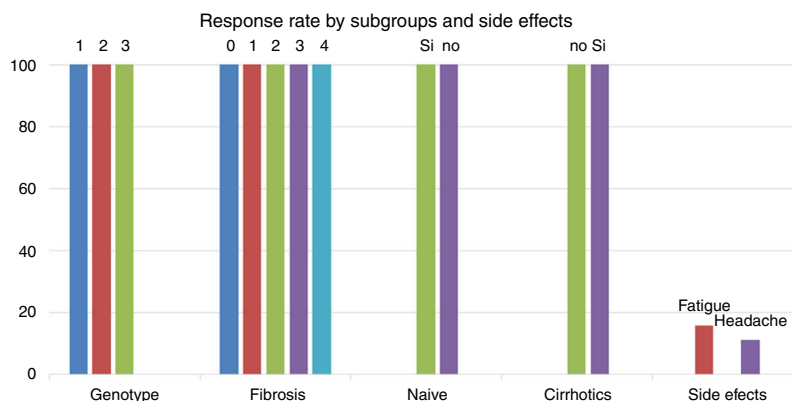


Figure 7.

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Background. Nonalcoholic fatty liver disease (NAFLD) and non-alcoholic steatohepatitis (NASH) have become a serious problem in Mexico because of the high prevalence of obesity, metabolic syndrome (MetS) and type-2 diabetes mellitus (T2DM). Therefore, we sought to investigate the risk factors in Mexican population for fibrosis progression in NASH.

Methods. We performed a multicenter retrospective cross-sectional study, from January 2012 to December 2017. We performed a multivariate analysis to found risk factors associated with liver fibrosis progression.

Results. A total of 215 patients with NASH and fibrosis were enrolled. Thirty-seven had significant liver fibrosis (F3-4). T2DM was the main risk factor for fibrosis progression with OR 4.53 (95%CI: 1.49-13.82; $p = 0.008$). Other risk factors as high TG OR 4.96 (95%CI: 1.69-14.48, $p = 0.003$).

Conclusions. In Mexican population, T2DM was the most important risk factor associated with the progression of liver fibrosis in NASH. Our study suggests that is necessary to establish a screening program for patients with T2DM and MetS in order to detect NAFLD with significant liver fibrosis early.