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Introduction and Objectives: Infections in patients with liver cirrhosis (LC) are the cause of most decompensations, leading to a high mortality rate in 54% of cases. Describe the characteristics of the patients with spontaneous fungal peritonitis or fungiascites.

Materials and Patients: Three cases are presented. Patient A is a 58 years male with liver cirrhosis resulting from Metabolic Dysfunction Associated Steatotic Liver Disease (MASLD), Child-Pugh (CHP) B, MELD 3.0 score of 29 points, intractable ascites in secondary prophylaxis due to spontaneous bacterial peritonitis (SBP), systemic arterial hypertension, and chronic kidney disease KDIGO IIIa, biochemically with lymphocytes of $0.55 \times 10^3/\text{mL}$; The patient B is a 58-year-old female with liver cirrhosis due to MASLD, CHP B, and MELD 3.0 score of 16 points, intractable ascites, type 2 diabetes mellitus, and systemic arterial hypertension, biochemically with lymphocytes of $0.88 \times 10^3/\text{mL}$; The patient C is a 66-year-old male with LC secondary to alcohol use disorder and MASLD, CHP C, and MELD 3.0 score of 38 points with grade III acute on chronic liver failure with a history of hepatocellular carcinoma not eligible for oncological treatment. The ascites sediment underwent processing in the Mycology unit laboratory of the Faculty of Medicine at the National Autonomous University of Mexico (UNAM), where phenotypic and molecular identification of fungal agents was conducted.

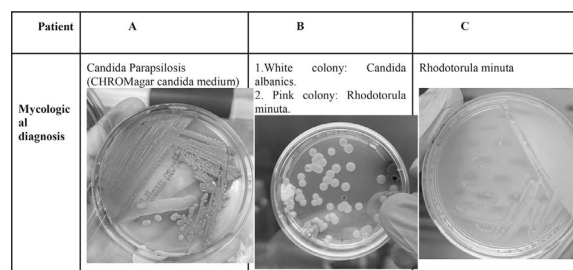
Results: *Candida Parapsilosis* was isolated in patient A, cytologically without SBP data and negative bacterial culture of ascites (BCA). Days later, he presented to the emergency room with acute-on-chronic grade II liver failure with SBP data associated with health-care. Following the previous culture showing growth, treatment with caspofungin was administered for 14 days before discharge. However, 15 days later, he was readmitted due to severe clostridioides difficile enterocolitis and esophageal candidiasis, ultimately passing away during hospitalization. Patient B exhibited isolation of *Candida Albicans* and *Rhodotorula minuta*, cytologically without SBP data and negative BCA, reporting abdominal pain and ascites grade II. The patient received intravenous Caspofungin for 7 days and Fluconazole for 10 days and emergency dialysis was required, hemodialysis was performed. The patient was hospitalized for 10 days. Patient C was diagnosed with *Rhodotorula minuta*, had a positive procalcitonin, lymphocytes at $0.61 \times 10^3/\text{mL}$, and no biochemical cytological data of ascites for SBP. Bacterial culture of ascites was negative. Imaging showed left pleural effusion on chest x-ray and ascites on abdominal x-ray. The family requested discharge for palliative care, and the patient passed away.

Conclusions: Patients with a MELD score higher than 15 points, ascites, lymphopenia, and positive fungal culture of ascitic sediment, absence of spontaneous bacterial peritonitis in ascitic cytology, and negative bacterial culture results may indicate a grim survival outlook. Further research is needed to delineate the features of PFE or Fungiascites.

Statement of ethics: Consent was from the patient or from there legal guardian.

Declaration of interest: None.

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Association between malnutrition determined by hand grip strength and the presence of minimal hepatic encephalopathy in women with liver cirrhosis

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Introduction and Objectives: Minimal hepatic encephalopathy (MHE) represents the initial stage within the spectrum of hepatic encephalopathy (HE). Its presence has been linked to muscular alterations: a reduction in the Skeletal Muscle Index was observed in 84% of MHE patients. Moreover, between 41–49% of individuals with MHE exhibit muscle depletion, as indicated by their mid-arm muscle circumference (MAMC) falling below the 5th percentile. Hand grip strength (HGS) serves as a marker of muscle functionality; however, the relationship between HGS values and the presence of MHE remains uncertain. Therefore, this study aims to achieve two primary objectives: 1) to establish a cut-off value for classifying malnutrition based on HGS measurements and 2) to investigate the association between malnutrition, as determined by HGS and the presence of MHE.

Materials and Patients: This cross-sectional study enrolled 241 female participants from the Gastroenterology department at Hospital de Especialidades of Centro Médico Nacional Siglo XXI. Eligible participants were aged between 18 and 76 years and diagnosed with liver cirrhosis of any etiology, excluding cases related to excessive alcohol consumption. Exclusion criteria included recent antibiotic use (<1 month), chronic kidney disease, elevated creatinine levels, hepatocellular carcinoma, illiteracy, and a history of hepatic encephalopathy (HE) or current decompensation due to variceal hemorrhage. Various parameters, including chronometric, clinical, biochemical, anthropometric, and dietary factors, were assessed. The determination of the malnutrition cut-off point based on hand grip strength was established using tertiles, and the association between these values and Minimal Hepatic Encephalopathy (MHE) was evaluated through logistic regression analysis. Statistical calculations were performed using the SPSS© 27 software.

Results: The median age of the participants was 59 years (interquartile range 52–63). Among subjects, 168/241 (50.8%) individuals with liver cirrhosis had hepatitis C virus as an associated factor, while

136/241 (56.4%) were classified as stage 2 cirrhosis, and 37/241 (15.4%) presented with ascites. Furthermore, 36/241 (14.9%) participants were diagnosed with MHE. The threshold for identifying malnutrition based on HGS was established as the values falling within the lowest tertile of the sample (<16.5 kg), resulting in 76/241 (31.5%) individuals being classified as malnourished. Malnutrition showed an association with the presence of MHE, OR: 2.214 (95% CI: 1.077-4.552, $p=0.031$). Adjustment of models for the presence of hyponatremia, BMI, CAMB, triceps skinfold, and Child-Pugh score did not alter this association. However, when accounting for albumin levels (g/dl), both malnutrition and albumin levels were independently associated with the presence of MHE [Malnutrition OR: 2.104, 95% CI 1.014-4.364, $p=0.046$ / Albumin OR: 0.512, 95% CI 0.282-0.932, $p=0.028$].

Conclusions: Reduction of the hand grip is associated with an increased risk of MHE, supporting the role of muscle tissue in the development of MHE.

Ethical Statement: Approval for the study was obtained from the local ethics committee (R-2024-3601-045).

Declaration of Interests: None.

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Skeletal muscle as a source of IGFBP-2 in a murine model of metabolic dysfunction associated with steatotic liver disease.

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Introduction and Objectives: Insulin-like Growth Factor Binding Protein (IGFBP)-2 is lower in serum during obesity and metabolic dysfunction. We have previously shown that the decrease in serum IGFBP-2 follows a diminished expression in liver and heart, both associated with the progression of steatotic liver disease. We aimed to identify, in a murine model, the synthesis of IGFBP-2 in extrahepatic tissues involved in metabolic dysfunction: skeletal muscle and adipose tissue.

Materials and Patients: Samples of hamstring muscle, and epididymal adipose tissue were obtained from male C57BL/6 mice, fed a high-fat diet supplemented with sucrose and fructose (42g/L) in the beverage during 6 months. All procedures were approved by the Institutional Committee of Care and Use of Laboratory Animals at the School of Medicine, UNAM (FM/DI/005/2022). Four groups were included: Control; Metabolic dysfunction (MD), exhibiting increased bodyweight and adiposity; MD with steatosis (MD+SS); and MD+SS with fibrosis (MD+SS+F). Total protein was isolated in a protease inhibitor cocktail. Protein integrity was assessed by SDS-PAGE. IGFBP-2 was assayed by ELISA. Data was shown as Mean \pm SD, analyzed by one-way ANOVA; Student's t test was applied to compare 2 groups. $P<0.05$ was considered significant.

Results: IGFBP-2 expression was 6-fold increased in control skeletal muscle compared to control adipose tissue. In epididymal adipose tissue, IGFBP-2 expression significantly decreased in MD+SS+F compared to Controls, and MD. In contrast, the hamstring showed

increased IGFBP-2 expression in mice showing metabolic dysfunction associated with steatotic liver disease: MD+SS and MD+SS+F. The percentage of adiposity significantly increased in MD subjects whereas no changes were observed regarding muscle mass, suggesting hypertrophy might be key.

Conclusions: Our results show that metabolic dysfunction (MD) associated with MASLD have a role in inhibiting IGFBP-2 expression in adipose tissue. In contrast, skeletal muscle increases its synthesis. These results suggest a role for skeletal muscle in the reversion of MASLD through IGFBP-2 expression. More studies are needed to identify the roles of skeletal muscle and its hypertrophic state in MASLD.

Ethical statement: All procedures were approved by the institutional Committee for the Care and Use of Laboratory Animals (CICUAL) from the Medicine School, UNAM (FM/DI/005/2022).

Declaration of interests: None.

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Mortality and outcome of acute kidney injury in hospitalized patients with cirrhosis, kidney injury and bacterial infection.

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Introduction and Objectives: Acute kidney injury (AKI) in hospitalized patients with cirrhosis occurs in 60%, is often precipitated and one cause is bacterial infections (BI), worsening the course of cirrhosis. The aim of this work is to report mortality and renal function outcomes in patients with cirrhosis, AKI and BI.

Materials and Patients: We analyzed a retrospective cohort from August 2022 to January 2023 with 201 patients (55.42 \pm 10.41 years, 52.7% men). We included patients with a diagnosis of decompensated cirrhosis secondary to different precipitants, including BI, who did or did not develop AKI. We report the frequency of AKI associated with BI and divide the population between those who presented with BI and those who did not. Qualitative data are expressed as percentages and quantitative data as mean \pm SD. Statistical comparison was performed with the two-tailed unpaired Student's t-test or chi-square, as appropriate Alpha=0.05.

Results: The 73 patients with BI (54.48 \pm 9.58 years, 54.8% male) did not differ in age or sex compared to the 128 patients without BI (55.95 \pm 10.85 years, 51.6% male, $p=0.65$) (Figure 1). Patients with BI had a higher risk of mortality at 28 (42.5% vs. 6.3%, $p<0.0001$) and 90 days (50.7% vs. 10.9%, $p<0.0001$) (figure 2). Of the total patients who developed AKI with BI (78.1% vs. 43%), it was observed that they had the worse outcome of renal function (complete resolution 37%, incomplete resolution 9.6% and no resolution 31.5% vs 32.8%, 2.3% and 7.8%, $p=0.0036$), more days of in-hospital stay (7.64 \pm 5.31 days vs. 4.23 \pm 3.29, $p<0.0001$) and analyzing risk factors, they also had significantly higher creatinine numbers (2.26 \pm 1.38 vs. 1.43 \pm 1.01, $p<0.0001$), as well as Child Pugh scores (A=1. 4%, B=15.1% and C=83.6% vs. 18.8%, 46.1% and 35.2%, $p<0.0001$), MELD Na (27.22 \pm 8.38 vs. 18.85 \pm 8.7, $p<0.0001$) and ACLF grades (1=20.5%, 2=32.9% y 3=13.7% vs. 14.1%, 7.8% y 1.6%, $p<0.0001$). Urinary tract infection 32 (43.8%) was the most frequent type of infection.

Conclusions: In patients with cirrhosis, AKI associated with BI increases mortality and worsens renal function outcome. Therefore,