

susceptibility in patients with spontaneous bacterial peritonitis was conducted at the General Hospital of Mexico "Dr. Eduardo Liceaga" between January 2022 and January 2024. Clinical information was collected from the records of the Gastroenterology Service. Microbiological results were obtained from reports from the Microbiology Service. Patients diagnosed with hepatic cirrhosis and meeting the criteria for SBP were included. Clinical and microbiological data were collected, analyzing variables such as age, sex, etiology of liver disease, and associated decompensations, such as gastrointestinal bleeding and hepatic encephalopathy. Antimicrobial resistance patterns, as well as clinical and microbiological characteristics of patients with SBP, were examined. This analysis aims to contribute to the optimal management of SBP and the development of more effective antimicrobial treatment strategies.

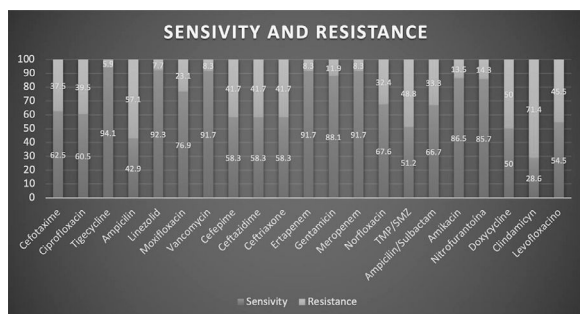
Results: A total of 48 patients were included, 52.1% were men, with a mean age of 52.4 ± 12.7 years. The predominant etiology of cirrhosis was alcohol, present in 56.3% of cases. Among the isolated bacteria, *Escherichia coli* (56.25%), *Klebsiella pneumoniae* (12.5%), *Enterococcus faecalis* (6.25%), *Streptococcus* spp. (6.25%), *Staphylococcus epidermidis* (4.16%), *Staphylococcus aureus* (4.16%), *Enterococcus gallinarum* (4.16%), *Staphylococcus marcescens* (2.08%), *Acinetobacter sobria* (2.08%), and *Staphylococcus haemolyticus* (2.08%) were prominent. The sensitivity and resistance table to different antimicrobials are presented in Graph 1.

Conclusions: Antimicrobial resistance is increasing in patients with SBP, leaving few effective alternatives, where cephalosporins and quinolones, recommended treatments, are no longer sufficiently useful, which is dangerous in the context of empirical therapy given the high risk of therapeutic response failure.

Ethical statement: This study was reviewed and approved by the ethics committee.

Conflict of Interest: None.

Funding: This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.



<https://doi.org/10.1016/j.aohep.2025.101862>

Ceftriaxone versus cefotaxime in the treatment of spontaneous bacterial peritonitis

Carlos A. Campoverde-Espinoza,
Daniel Santana-Vargas, Alejandro Tovar-Durán,
Brenda Govea-Mendoza, Verónica G. Pérez-Pérez,
Fátima Higuera-De la Tijera, José L. Pérez-Hernández

Hepatology and liver transplantation, Hospital General de México "Dr. Eduardo Liceaga", Mexico

Introduction and Objectives: Infections in cirrhotic patients occur in one-third of hospitalized patients. Spontaneous infections (spontaneous bacteremia, spontaneous bacterial peritonitis (SBP), and spontaneous empyema) are the most common and their management with third-generation cephalosporins (cefotaxime or ceftriaxone) is recommended. The effect of albumin on in vitro antimicrobial activity is greater for cefotaxime.

Materials and Patients: This is a retrospective, observational, and analytical study. We included clinical records of patients admitted to the Gastroenterology service of the Hospital General de México "Dr. Eduardo Liceaga" from March 2021 to February 2024 with a diagnosis of SBP ≥ 250 polymorphonuclears (PMN), comparing two different treatments (cefotaxime 2gr c/12 hours vs ceftriaxone 1 or 2gr/day) and follow-up one year after the event. We evaluated the response to treatment with a second paracentesis with 48 hours of antibiotic therapy. We determined the recurrence at 12 months and the relationship with serum albumin levels in treated patients. We excluded patients with secondary bacterial peritonitis, tuberculosis or carcinomatosis, and previous antibiotic use (except rifaximin). Qualitative variables were expressed as frequencies and percentages; numerical variables as means and standard deviation. We used X2, Student's t-test, and Mann-Whitney U to compare the variables. To compare the percentages of deaths per treatment, response rate, and recurrences at one year, we used the Z test for contingency tables. The log-rank test and the Kaplan-Meier survival curve were used to evaluate survival per treatment at 30 days. A value of $P < 0.05$ was considered statistically significant.

Results: Out of 950 hospitalized cirrhotic, 6.42% (61) presented SBP. 63.9% were male and aged 52 ± 11.9 years. Etiology of cirrhosis, 39.3% alcohol, 26.2% unfiltered, 14.8% MASLD, and 8.2% autoimmune hepatitis. Comparing groups, 29 patients with cefotaxime and 32 with ceftriaxone, with no differences concerning Child-Pugh, MELD score (23 vs 31, $p=0.07$), acute on chronic liver failure (ACLF) (56.5% vs 43.5%, $p=0.79$), ACLF points (55 vs 53, $p=0.52$), leukocytes, PMN and DHL levels in ascites fluid ($p=0.55$, $p=0.45$ and $p=0.52$), and serum albumin (2.32g/dl vs 2.26g/dl, $p=0.71$). An equal response rate was observed at 28/32 (87.5%) for cefotaxime and 26/29 (89.7%) for ceftriaxone with no statistical differences between groups. The recurrence rate was similar with 3 cases for each group with no differences between them. The mortality rate was 14/61 (23%); 4/32 (12.5%) for cefotaxime and 10/29 (34.5%) for ceftriaxone with statistical differences between groups. At 30 days total mortality was 9/61 (14.8%) with 2/32 (6.2%) for cefotaxime and 7/29 (24.13%) for ceftriaxone with no difference between groups Log-Rank(1) = 3.75 $p=0.053$.

Conclusions: The ceftriaxone or cefotaxime is equally effective in patients with SBP, with no difference in ACLF, serum albumin level, or ceftriaxone dose (1-2gr/day). The recurrence rate was similar between both treatments, with a tendency towards higher mortality for ceftriaxone without differences in terms of etiology, ACLF, or the severity of cirrhosis.

Ethical Statement: Retrospective study, the identity of the patients was kept secret at all times.

Declaration of interests: None.

Funding: This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

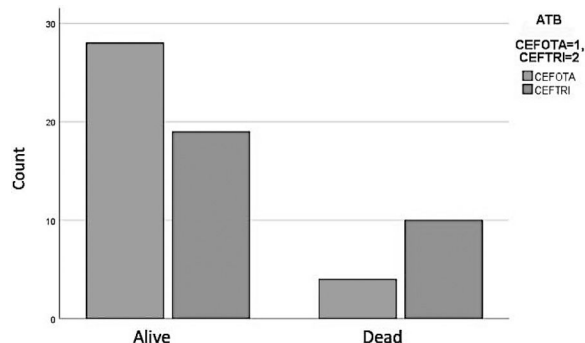


Figure 1. Bars expressing patients who survived or died with respect to type of antibiotic.

Source: Data extracted from records of the Gastroenterology service of the Hospital General de México "Dr. Eduardo Liceaga".

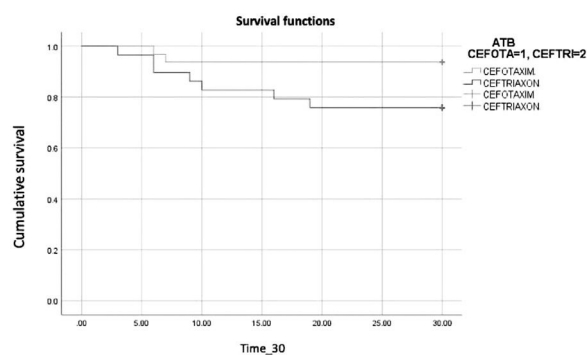


Figure 2. Kaplan Meyer survival curve with respect to type of antibiotic.

Source: Data extracted from records of the Gastroenterology Service of the Hospital General de México "Dr. Eduardo Liceaga".

<https://doi.org/10.1016/j.aohep.2025.101863>

The role of the prognostic nutritional index as a prognostic factor in patients with hepatocellular carcinoma.

Wilma Hernandez-Garza, Berenice Lorenzo-Valle,
Kenia Michel Bastida-Guadarrama,
Santiago Camacho-Hernandez,
Fátima Higuera-de-la-Tijera

Department of Gastroenterology and Hepatology,
General Hospital of Mexico "Dr. Eduardo Liceaga",
Mexico City, Mexico

Introduction and Objectives: Immune-nutritional status has been demonstrated to be associated with prognosis in patients with various malignancies. The aim of this study is to determine the association of the nutritional prognostic index (PNI) with survival and assess the correlation between PNI and clinic-pathological parameters in HCC patients.

Materials and Patients: An observational, retrospective, descriptive and case series study was performed. We included 69 patients from a third-level hospital with a diagnosis of HCC from February 01, 2019 to July 24, 2023 and studied their survival 12 months after diagnosis. We determined the association between PNI status and their clinic-pathological characteristics and evaluated the impact of PNI on the HCC patient survival. The following formula was used to determine PNI: $10 \times \text{serum albumin (g/dL)} + 0.005 \times \text{total lymphocyte count (per } \mu\text{L)}$. Clinic-pathological characteristics related to disease prognosis included age, sex, body mass index (BMI), alpha-fetoprotein (AFP) value, the presence or not of cirrhosis, tumor size, ECOG score, and BCLC grade. Qualitative data are expressed as percentages and quantitative data as mean $\pm$ SD. Statistical comparison was performed with two-tailed unpaired Student's t-test or chi-square and Fisher's exact test. Statistical significance was defined as $P < 0.05$.

Results: Of the 69 patients diagnosed with HCC, most of the studied population was found to involve males at 56.52% while females were reported at 43.48%, with an age range of 26-81 years and a median age of 61.84, 61.84 ± 9.8 (59.53-64.15). Of the total sample, 10.14% were patients with no diagnosis of cirrhosis while 89.86% were patients with some degree of cirrhosis (Child Pugh Stages: A 37.68%, B 43.48%, C 8.70%). The results indicated that low PNI is associated with poor prognosis while high PNI was found to be beneficial for survival with a 95% CI = 35.48 ± 8.41 (32.42-38.54), 95% CI = 40.86 ± 5.42 (39.19-42.54) $p = 0.0019$, respectively. It is also associated with more favorable outcomes, such as lower AFP, lower ECOG grade and lower BCLC

staging ($p = 0.0371$, $p = 0.0303$, $p = 0.002$), respectively. However, we found that age, sex, presence or absence of cirrhosis, BMI and tumor size were not statistically significantly associated with the PNI value.

Conclusions: PNI is an independent predictive indicator of survival and is significantly associated with serum AFP, ECOG score, and BCLC stage in patients with HCC.

Ethical statement: The research was carried out in accordance with the Helsinki Declaration of the World Assembly 2013.

Declaration of interests: None.

Funding: This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

<https://doi.org/10.1016/j.aohep.2025.101864>

Clinical and demographic characteristics of liver transplant recipients who develop steatosis in the liver allograft.

Edgar A. Quezada-Cornejo¹,
María F. Hernández-Torres¹,
Pedro A. López-Hernández¹,
Alma L. Kuljacha-Gastelum²

¹ Department of Gastroenterology, High Specialty Unit
25, Monterrey, NL, Mexico

² Gastroenterology, Hepatology & Liver Transplant,
Ángeles Valle Oriente Hospital, Monterrey, NL, Mexico

Introduction and Objectives: Liver steatosis (LS) can develop in liver transplant (LT) recipients, with different studies reporting prevalence of 30-60%, our country has a high prevalence of the components of metabolic syndrome. The objective of this study is to describe the characteristics of liver transplant recipients who develop steatosis.

Materials and Patients: Retrospective, transversal and descriptive study in which 28 LT recipients with diagnosis of LS after LT were included, data was retrieved from patients clinical file and the following data were considered: age, sex, history of obesity, arterial hypertension, diabetes mellitus (DM), dyslipidemia and metabolic syndrome (MS) prior and after LT. Other data included were etiology of cirrhosis, immunosuppressive treatment and liver biochemistry at the moment of diagnosis.

Results: A statistic sample of 28 LT recipients who developed LS after LT was analyzed, 12 were male (42.9%) and 16 female (57.1%) with a medium age of 52 (27-74). The medium of post-LT years at diagnosis was 8 years (1-19). Etiology of cirrhosis was autoimmune in 14 (50%) patients, viral in 6 (21.4%), steatosis in 4 (13.8%) and alcohol in 4 (13.8%), the diagnostic method was imaging in 15 (53.6%) patients and biopsy in 13 (46.4%). The medium body mass index (BMI) was 28.6 (22-39), presence of pre-LT DM in 4 (13.8%) patients and post-LT DM in 15 (53.6%), pre-LT and post-LT obesity was found in 5 (10.7%) and 15 (53.6%) patients, respectively, pre-LT and post-LT arterial hypertension in 3 (10.7%) and 11 (39.3%) patients respectively, pre-LT and post-LT dyslipidemia in 0 (0%) and 22 (78.6%) respectively, pre-LT and post-LT MS in 0 (0%) and 15 (53.6%) respectively. 24 (85.7%) patients used prednisone at diagnosis with a medium dose of 11.8 milligrams (5-30). Previous to diagnosis, 24 (85.7%) received tacrolimus and 23 (82.1%) sirolimus. Liver biochemistry showed the following mediums: ALT 85.3 (16-406), 50.5 (14-273), ALP 139.8 (38-519), GGT 237 (11-2296) and TBIL 0.7 (0.2-1.5).

Conclusions: This study highlights the frequency with which metabolic comorbidities after LT presented in comparison to the ones presented before LT, especially DM, obesity and dyslipidemia. Concluding, LT recipients should be tightly monitored for these metabolic parameters to prevent LS in a timely manner.

Ethical statement: The identification of patients was protected; informed consent was obtained.