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**Hepatoprotective effect of nifedipine against ischemia-reperfusion injury in rats**



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**Background and aim:** Ischemia-reperfusion (IR) injury is the leading cause of early graft dysfunction. Many mechanisms are involved in IR injury; activation of apoptosis is one of the most important. The blockade of the Ca<sup>2+</sup> channels inhibits apoptosis and has a potential protector effect against IR injury. Calcium channel blockers, like nifedipine, have potential therapeutic activity against this process in organs such as brain, testicle and intestine. In this project, we aimed to assess the hepatoprotective effect of nifedipine in our IR model.

**Material and methods:** A total of 18 female Wistar rats were divided into three groups: Sham (SH), IR, and nifedipine + IR (NIR, 10 mg/kg, p.o., twice a day for three days). A midline laparotomy was performed, exposing the liver hilum and inducing IR injury to the IR and NIR groups, by using an atraumatic vascular clamp (ischemia: 20 min; reperfusion: 1 hour). Serum activities of ALT, AST, LDH, and ALP, and serum concentrations of total bilirubin and glucose were measured. Proinflammatory cytokines (IL-1β, IL-6, and TNF-α) were determined, and oxidative stress biomarkers (superoxide dismutase, malondialdehyde, and glutathione peroxidase) were assessed. Histological parameters, such as congestion,

vacuolization, and necrosis, were evaluated in tissue samples stained with hematoxylin and eosin. All rats were handled according to the Official Mexican Norm NOM-062-ZOO-1999. This project was approved by the Ethics and Research Committee of our Institution with registry: HI19-00003.

**Results:** The administration of nifedipine caused a decrease in the serum activities of ALT and AST compared against the IR group. Also, it caused an increase in the activity of ALP probably caused by osteoclastic induction due to nifedipine. The concentration of glucose and total bilirubin compared with the SH group showed an elevation (Figure). There were no significant differences in the other parameters analyzed.

**Conclusions:** Nifedipine presents a hepatoprotective effect against IR injury, evidenced by the decrease of liver enzymes. This compound does not show an immunomodulator or antioxidant effect.

**Conflicts of interest:** The authors have no conflicts of interest to declare.

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**Reported resistance to different antibiotics in cirrhotic patients with spontaneous bacterial peritonitis**



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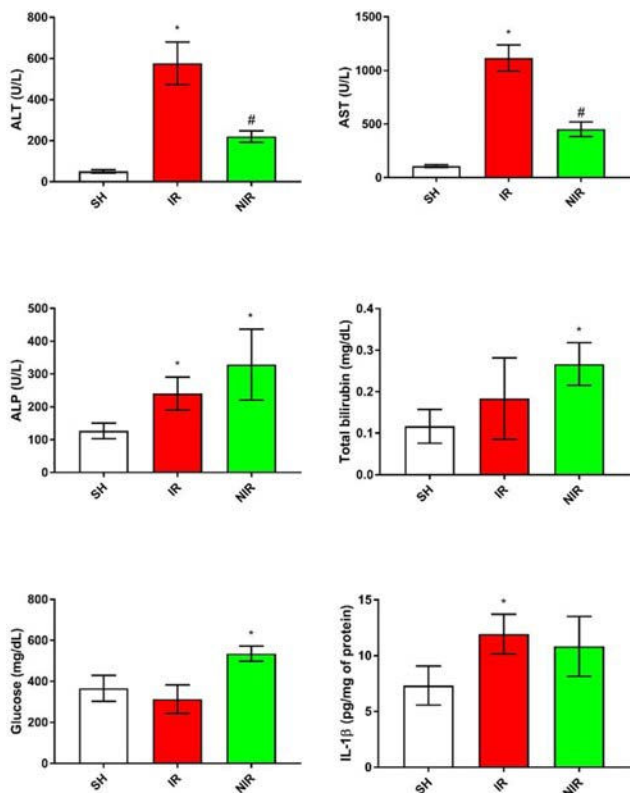
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**Background and aim:** Spontaneous bacterial peritonitis (SBP) is one of the most frequent bacterial infections in cirrhotic patients, its mortality without specific treatment is high. Within the first choice of empirical therapy, cephalosporins and quinolones are recommended. However recent studies have shown an increase in the prevalence of infections caused by multiresistant bacteria, especially in nosocomial episodes, which has caused a change in practice. The national literature present only a few data regard this subject, thus its study is important. Aim: To describe the reported resistance to different antibiotics in cirrhotic patients with SBP.

**Material and methods:** Observational, descriptive, transversal, retrolective study. Procedure: We reviewed the clinical records of patients admitted to the Gastroenterology Department in hospitalization area with diagnosis of SBP from March 2018 to December 2019, taking in count the bacterial culture result and the reported sensitivity or resistance to different antibiotics included in the antibiogram. The qualitative variables were expressed as frequencies and percentages. The numerical variables were expressed as mean and standard deviation.

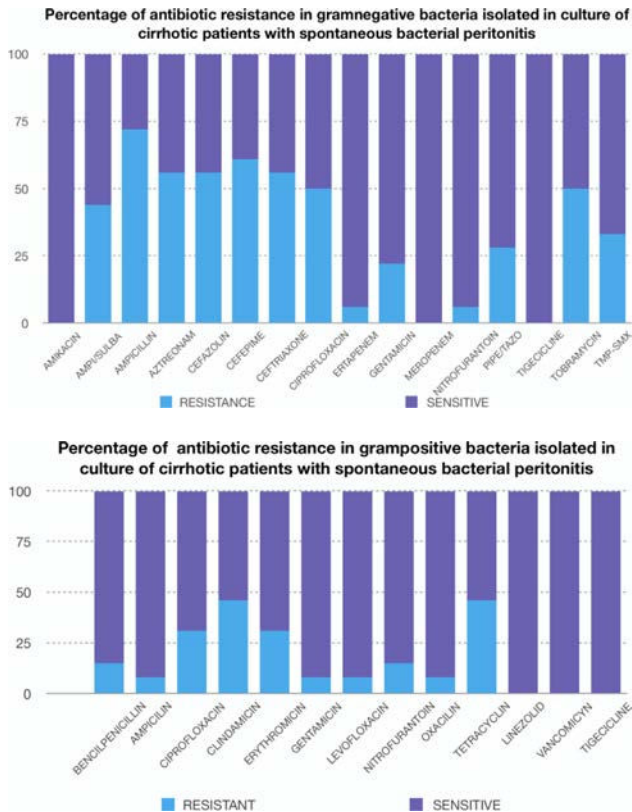
**Results:** The study included 70 patients of whom 61.4% were men. The main age was 52.2 ± 12.2 years-old. About 20% of patients were Child Pugh B, and 80% Child Pugh C. Of all patients, 55.7% corresponded to neutrocytic ascites, a gram-negative microorganism was isolated in 25.7% of the cultures, and a gram-positive microorganism was isolated in 18.6%. The most frequently isolated bacterium was *Escherichia coli*. Acquisition of SBP: 56% of infections were acquired in the community, 33% related to health care and 11% nosocomial. The sensitivity and resistance to different antibiotics obtained in the cultures are shown in the following graphs.

**Conclusions:** There is increasing resistance to different antibiotics, especially in hospital-acquired infections. In the case of spontaneous bacterial peritonitis, resistance to cehalo-sporins and quinolones is observed in more than half of the cases, so we must be careful with its prescription.



**Figure.** Biochemical and inflammation markers. \*p < 0.05 against SH. #p < 0.05 against IR.

**Conflicts of interest:** The authors have no conflicts of interest to declare.



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**Sustained viral response in patients with hepatitis C and chronic kidney disease in hemodialysis and treatment with direct acting antivirals in the UMAE 71**

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**Background and aim:** In Mexico, there is a high prevalence of patients with hepatitis C virus (HCV) with chronic kidney disease on hemodialysis (CKD-H); since the appearance of new direct-acting antivirals (DAAs), 95-99% of patients have been documented to be cured worldwide, however, in a mexican population with these characteristics, there are no studies that support the response to treatment. The objective was to determine the sustained viral response (SVR) and drug safety in patients with HCV and CKD-HD treated with DAAs free of sofosbuvir in patients at UMAE 71.

**Material and methods:** Observational and retrospective study that including patients over 18 years old with HCV diagnosed by positive RNA test using CRP technique, who also had permanent CKD-HD received at UMAE 71. Twenty-eight patients were included, of whom 25 received glecaprevir/pibrentasvir for 8 weeks and 3 received ombitasvir/paritaprevir/ritonavir/dasabuvir for 12 weeks; all completed treatment. SVR was considered negative CRP 12 weeks after treatment was completed; in addition, treatment-related adverse effects were documented. Statistical analysis was based on frequencies and percentages, means and standard deviation.



**Table 1**  
Baseline Characteristics of the Patients.

| Characteristics                           | Glecaprevir/<br>Pibrentasvir<br>Total (n = 25) | Ombitasvir/<br>paritaprevir/<br>ritonavir/<br>dasabuvir<br>Total (n = 3) |
|---|--|--|
| Sex: Women-Men (%)                        | 52%-48%  | 100% (M)   |
| Age (years)                               | 57.8 ± 16.4                                    | 52.6 ± 17.6  |
| Diabetes mellitus (%)                     | 40%  | 33.3%  |
| Systemic arterial hypertension (%)        | 96%  | 100%   |
| Genotype 1B (%)                           | 96%  | 100%   |
| Non-significant fibrosis (FIB4 F1-F2) (%) | 68%  | 66.6%  |
| Significant fibrosis (FIB4 F3-F4)         | 32%  | 33.3%  |

**Results:** The patients were analyzed from February 2019 to January 2020. The baseline characteristics of the patients are shown in Table 1. SVR was documented at 12 weeks of 100% and they presented minimal side effects.

**Conclusions:** Using sofosbuvir-free DAAs demonstrated SVR in all patients with frequent but not serious side effects, guaranteeing its efficacy and safety in the population studied with HCV and CKD-H.

**Conflicts of interest:** The authors have no conflicts of interest to declare.

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**Total cholesterol/high-density lipoprotein cholesterol ratio, high-density lipoprotein triglycerides/colesterol with hepatic fat infiltration grade in non-alcoholic fat liver**

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**Background and aim:** Nonalcoholic Fatty Liver Disease (NAFLD) is a de worldwide public healthproblem, has a relationship with insulin resistance and, hyperglycemia, related to type 2 diabetes. Total cholesterol (TC)/ High density lipoprotein cholesterol (HDL) and ultrasensitive reactive C protein has been a biomarker of CVD risk, the Framingham Cardiovascular Institute suggested that TC/HDL should be <4. Because optimal cut-off values of TC/HDL and Triglycerides (TG)/HDL are already known to predict NAFLD, however, it has not been correlated with the degree of hepatic fat infiltration using abdominal ultrasound mode B (AUMB) study, with a sensitivity of 79.7% and specificity 86.2%. AIM: Describe the TC/HDL, TG/HDL ratio with degree of hepatic fat infiltration in patients diagnosed with Non-Alcoholic Fatty Liver.

**Material and methods:** Retrospective study of patients registered with NAFLD in external gastroenterology consultation at hospital Juárez in Mexico, from January 1, 2017 to January 31, 2020, who complied with the following: 1. No history of alcohol consumption or quantity < 30 grams/day men and < 20 grams/day women, 2. Exclusion of a history of specific diseases that may cause NAFLD, 3. AUMB with 3.5 MHz (Toshiba) soda according to the diagnostic criteria of NAFLD by the Chinese society of Hepatology 2010

