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Effect of pangenotype treatment on chronic hepatitis C. Real life studio

I. Santana Salgado, A. Bautista-Santos, R. Moreno Alcántar

Gastroenterology, Hospital De Especialidades, Centro Médico Nacional Siglo XXI, Mexico city, Mexico

Background and aim: Hepatitis C is the main cause of transplantation in the United States (USA) and worldwide, in Mexico it has a prevalence of 0.3-0.5% and represents one of the main causes of liver cirrhosis and alcohol consumption. Treatment has change with the arrival of direct-acting antivirals (DAAs), in particular with pangenotype schemes, reporting sustained viral response (SVR)> 95%. SVR reduces mortality from all causes, the need for liver transplantation, death related to cirrhosis and its complications. Aim: To determine the effect of pangenotype treatment with Glecaprevir / Pibrentasvir in patients with chronic hepatitis C.

Material and methods: Cross-sectional, retrolective, analytical and comparative study. All older subjects diagnosed with chronic hepatitis C, who received glecaprevir-pibrentasvir treatment and who had a viral load result at the end of treatment and APRI and baseline FIB-4 and post-treatment were included. Descriptive statistics and group comparisons were performed with t-Student, to show differences the Wilcoxon test. The project was submitted for approval by the institutional ethics committee.

Results: We analyzed 50 patients, 33 (66%) women, genotype 1b was the most frequent (36%), 41 patients received treatment for 8 weeks (82%), the mean age was 56 ± 13.78 and the median mass index body 26 (23-30). 18% (9) had diabetes mellitus, 2 (4%) patients with chronic kidney disease on hemodialysis. 16% (8) had cirrhosis. SVR 12 was 98%. A significant difference of $p < 0.05$ was shown in the fibrosis markers APRI and FIB-4 when comparing baseline and post-treatment. There were no adverse effects that caused the suspension of the treatment.

Conclusions: Pangenotype treatment with glecaprevir-pibrentasvir is effective in achieving SVR 12 in 98% and improves fibrosis parameters measured with biomarkers as has been shown in previous studies.

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

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Experience in treatment with direct action antivirals in patients with HCV-HIV coinfection

N. Martínez Gómez, A. Bautista-Santos, R. Moreno Alcántar

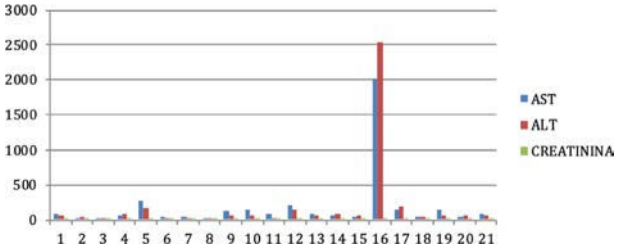
Specialties Hospital National Medical Center XXI Century Mexican Institute of Social Security, Mexico City, Mexico

Background and aim: Near 25% of people infected with Human Immunodeficiency Virus (HIV) are also carriers of the Hepatitis C Virus (HCV). Hepatitis C virus infections are generally asymptomatic, and because HIV-infected individuals have a decreased immune response, these infections can escape immune control and lead to chronic asymptomatic disease. The use of direct-acting antivirals (DAAs) decreases the inflammation and liver fibrosis in this group of patients. Aim: To describe the characteristics of patients coinfected with HIV with HCV and analyze the changes in liver inflammation assessed by aminotransferases and liver fibrosis measured by transitional elastography.

Material and methods: Cross-sectional, retrolective, analytical and comparative study. We included elderly subjects with a diagnosis of chronic HCV infection coinfected with HIV, treated with DAAs and who had a viral load result 12 weeks after treatment, aminotransferases and basal transition and post-treatment elastography. Descriptive statistics and group comparison were performed with the Student's t test, and the Wilcoxon test was shown to show differences.

Results: 21 male subjects were analyzed, the mean age was 44 ± 12.3 and 66% (14) were genotype 1 and 34% (7) genotype 4. The median AST 77 (42-1459) and ALT was 64 (35-87). The median fibrosis by transitional elastography was 6.5 (4.1-12.3). 100% percent of the participants received sofosbuvir and ledipasvir. The SVR was 95% in the analyzed group. The decrease in fibrosis measured by elastography before and after treatment was not statistically significant. There is a decrease in aminotransferases after treatment with AAD (Table 1).

Table 1
Baseline Values of Aminotransferases and Creatinine in HCV-HIV Co-infected Patients.



Conclusions: Treatment with ADD in patients coinfected with HIV and HCV has SVR rates similar to those described in monoinfected patients (95% in our group) and decreases inflammation and fibrosis as measured by transitional elastography.

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Hepatic and gastrointestinal manifestations of SARS-COV-2 infection (COVID-19)

J. Aquino-Matus, I. Lopez-Mendez, E. Juarez-Hernandez, S. Murua-Beltran Gall, J.D. Prieto-Nava, P. Castañeda-Mendez, G. Castro-Narro, M. Uribe

Medica Sur Clinic and Foundation, Mexico City, Mexico

Background and aim: Abnormal liver function tests (LFTs) and gastrointestinal (GI) symptoms have been reported up to 50% in patients with COVID-19, and in 5% they can precede respiratory symptoms. The objective of this work is to describe the LFTs and GI symptoms of patients with COVID-19 and their association with admission to the intensive care unit (ICU) and mortality.

Material and Methods: We conducted a retrospective, cross sectional, descriptive study, using files from patients with a positive Gen Finder COVID-19 test, admitted to Medica Sur Clinic and Foundation between March 13th through May 14th, 2020. We performed descriptive analysis of data and its association with clinical outcomes.

Results: A total of 108 patients with COVID-19 were identified; 68.5% ($n=74$) were men, the mean age was 53 ± 14 years and the body mass index was 28.6 ± 5.8 kg/m^2. The most frequent comorbidity was hypertension with 24% ($n=26$). The presence of comorbidities was associated with risk of ICU admission (OR 3.9 [95% CI 1.6-9.9], $p=0.002$). The most frequent symptoms were cough (72.2%, $n=78$), fever (69.4%, $n=75$) and dyspnea (48.1%, $n=52$). At least one abnormal LFT was present in 94% ($n=103$) of patients at admission, the most frequent was LDH (88.9%, $n=96$), AST and GGT (63%, $n=65$), which are summarized in Table 1. Patients presented abnormal LFTs and respiratory symptoms in 48.1% ($n=52$), while 16.6% ($n=18$) presented abnormal LFTs without respiratory symptoms. Among GI symptoms, 37% ($n=4$) reported at least one, including diarrhea (28.7%, $n=31$), hyporexia (9.3%, $n=10$), nausea (8.3%, $n=9$) or vomiting (4.6%, $n=5$). Of patients admitted to the ICU ($n=39$), 27.5% ($n=10$) presented at least one GI symptom. Mortality was 7.4% ($n=8$). No associations were found between abnormal LFTs, GI symptoms, and outcomes of mortality and ICU admission.

Table 1
Initial liver function tests of patients with COVID-19 ($n=108$).

Parámetro	M [IQR]
Hemoglobin (g/dL)	14.6 [13.7-15.7]
Platelets (cells $\times 10^3$/L)	110.5 [100-136.6]
Albumin (g/dL)	3.2 [2.8 -3.5]
Total bilirrubin (mg/dL)	0.94 [0.67-1.01]
Direct bilirrubin (mg/dL)	0.23 [0.16-0.24]
Alanine aminotransferase (IU/L)	42 [28-52.7]
Aspartate aminotransferase (IU/L)	52.1 [33-55]
Alkaline phosphatase (IU/L)	72.5 [55-75.7]
Gamma-glutamyl transpeptidase (IU/L)	73 [34-77]
Lactate dehydrogenase (IU/L)	303 [222-360]

Conclusions: In patients with COVID 19, the presence of metabolic comorbidities confers a higher risk of ICU admission, in contrast to abnormal LFTs and GI symptoms that were not associated with clinical outcomes.

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

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Effect of chronic alcohol intake in a pre-clinical model with cholesterol overload

J.M. Alonso-Mora [1], J.G. Rosales-García [1], L.E. Gómez-Quiroz [1], R. Miranda-Labra [1], V. Souza-Arroyo [1], L. Bucio-Ortíz [1], P. Muriel-De la Torre [2], M.C. Gutiérrez-Ruíz [1]

[1] *Departamento de Ciencias de la Salud. Universidad Autónoma Metropolitana Iztapalapa, Ciudad de México, México*
[2] *Departamento de Farmacología, Centro de Investigaciones y Estudios Avanzados-IPN, Ciudad de México, México*

Background and aim: Obesity and alcohol consumption are two of the main risk factors in liver diseases, which coexist frequently and are considered to accelerate the progression of liver damage, from simple steatosis to steatohepatitis, cirrhosis and cancer. The Mexican diet is high in cholesterol, in addition to being frequently found elevated in patients and animal models with obesity. Therefore, our goal is to determine the effect of alcohol intake in an environment with cholesterol overload.

Material and methods: Male and female mice of the C57BL / 6J strain 8-10 weeks old were used. The NIAAA model was used, which consists of consuming a Lieber-DeCarli diet added with ethanol (5% v / v final concentration) for 10 days, followed by acute dose intragastric (5 g / kg) of ethanol. Cholesterol overload was induced by adding cholesterol (1.25 w / v) to the liquid diet. Liver damage was assessed using liver function tests. Biochemical tests were carried out to determine the degree of apoptosis and the amount of cholesterol in the different experimental groups.

Results: The alcoholic diet added with cholesterol exacerbates liver damage and causes premature death of males. Also, the enzymatic activity of ALT and AST were increased, both in males and in females groups. Liver caspase 3 activity, indicative of apoptosis, was also found increased with respect to the other groups. At the macroscopic level, a liver with higher steatosis was observed in the group treated with alcohol and cholesterol, data that was corroborated by H&E in histological sections with a 5.15-fold increase in the total cholesterol content in the liver compared to the control group. Females had higher liver cholesterol content than males (18.66 μg cholesterol / mg protein vs. 15.6 μg cholesterol / mg protein), however, the activity of transaminases were similar in both genders.

Conclusions: The data obtained suggests that liver cholesterol overload increases susceptibility to alcohol damage. An increase in cell death was observed in this group, as well as in liver damage tests. Further studies are required to determine the mechanism by which greater damage is caused in the presence of both agents.

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

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Acute liver injury and survival in patients with SARS-Cov-2 from the Hospital Central Militar

A. Figueroa-Peña, N.A. Gómez-Bolaños, C. Monejo-Velázquez, E. Muñoz-Monroy, M. Santiago-Torres, S. Hernández-Díaz, María del Rosario Herrero-Maceda, J.G. Gándara-Calderón, J. Torres-Vázquez, E. Cerda-Reyes

Hospital Central Militar, Escuela Militar de Graduados de Sanidad, Jefatura de Medicina Interna, Sección de Gastroenterología, Ciudad de México, México

Background and aim: Recent studies on SARS-CoV-2 have shown that the incidence of liver injury varies between 14.8% and 53%, mainly demonstrable by abnormal ALT / AST levels accompanied by slightly elevated bilirubin levels. Reports of autopsies around the word of patients that death from COVID-19 shows severe liver damage ranging from 58.06% to 78% of the cases.

There is evidence that the elevation of transaminases (ALT / AST) translates into a more serious clinical profile. Besides, the elevation of AST is related with a high risk of mortality, so it must be monitored during hospitalization. Thus, it is important to know the behavior of liver injury and mortality in our population. Aim: To determine transaminase levels in patients with SARS-Cov-2 and its relationship with mortality.

Methods: All the patients admitted with a positive SARS-Cov-2 PCR test were analyzed, the mean and standard deviation of AST, ALT, and other variables of the liver biochemistry, hemoglobin, leukocyte, fibrinogen, and TP were obtained. A Kapplan Meier curve was made for survival to compare patients with and without transaminases elevation.

Results: We studied a total of 92 patients: 79 (86%) were male, age 56.62 ± 13.70 years, weight 72.5 ± 14.30 kg, height 1.63 ± 0.10