38

Spontaneous bacterial peritonitis and bacterioascitis. Microbiological and resistance profile in a third level hospital

A.M. Ganado-Escobar, X. García-León,
D.R. Menéndez-Morales, R.M. Miranda-Cordero,
M.S. González-Huezo

*Gastroenterology, Centro Médico ISSEMyM (CMI)
Metepec, State of Mexico, Mexico*

Background and aim: Spontaneous bacterial peritonitis (PBE) and bacterioascitis are frequent complications in cirrhotic patients with ascites. Treatment guidelines recommend third-generation cephalosporins (C3G) as the first choice, however, antimicrobial resistance in our setting is unknown. The objective of the study was to know the microbiological and resistance profile associated with PBE and bacterioascitis in our population.

Material and methods: Retrospective study, which included results from ascites fluid culture between May 2017 to May 2020. Adults with a diagnosis of PBE (> 250 PMN cel / ml^3 and a positive culture) or with a diagnosis of bacterioascitis (positive culture with <250 PMN cel / ml^3) were included. Incomplete records or non-cirrhotic ascites were excluded. Variables: sex, age, etiology, treatment, and bacteriology results. The analysis was descriptive.

Results: Of 242 files, 214 (88.4%) were included. 84 women (39.2%) and 130 men (60.7%); average age 61 years (range 26-91). 26/214 (12.1%) with PBE and 16/214 (7.4%) bacterioascitis. 42/214 (19.6%) cultures were positive, of these 26/42 (61.9%) had PBE and 16/42 (38.0%) bacterioascitis. The pathogens isolated in descending order were: E. Coli 21 (50%, 11/21 BLEE), S maltophila 5 (11.9%), Staphylococcus 4 (9.5%), Sphingomonas 2 (4.7%), Klebsiella 2 (4.7%), Candida 2 (4.7%), Enterococcus 2 (4.7%), Streptococcus 2 (4.7%), L. inocua 1 (2.3%), C. neoformans 1 (2.3%). The results of the antibiogram highlighted: resistance to Cs3G in 30.9% (13/42), to quinolones in 33.3% (14/42), carbapenems in 3/42 (7.1%) and to piperacillin / tazobactam in 1/42 (2.3%).

Conclusions: The positivity of the culture was low. The most frequent causal agent was E. Coli, similar to that reported in the literature. Rare isolated pathogens such as S. Maltophila and fungi can translate intense immunosuppression and multiple previous antibiotic exposures in this population. We found high resistance to antimicrobial groups commonly used in hospital such as cephalosporins and quinolones. Undoubtedly, the antimicrobial scheme must be adapted locally and dynamically according to microbiology results, in order to optimize the outcome in these cases.

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

39

Frequency and characteristics of alterations in liver function tests (LFT) in adult patients with COVID-19 (preliminary report)

D. Menéndez-Morales, G.A. Peña-Arellano,
M.S. González-Huezo

*Division of Gastroenterology, Medical Center
ISSEMyM. Metepec, State of Mexico, Mexico*

Background and aim: Daily evidence arises from of other organs involvement in this new viral disease called COVID-19, several publications describe variable liver involvement, characterized by cholestasis and mild hyperbilirubinemia. The objective of the present work was to describe the frequency and characteristics of alterations in liver function tests (LFT) in patients diagnosed with SARS-COV2 in our hospital.

Material and methods: Descriptive study type. Data obtained from database in COVID-19 unit. Hospitalized adult patients confirmed with SARS-COV2 diagnosis by using RNA through PCR were included, from April 7 to May 12, 2020. Demographic, biochemical variables were analyzed upon admission, as well as comorbidities and outcome.

Results: 27 out of 113 patients, including those with suspicious diagnosis, were confirmed with SARS-COV2 which at the time of the cutoff were also included in the analysis. Average age 50.7 years (range 25-91 years). Male sex 74% (N = 20/27). 13 patients (48.1%) presented Liver Functions Tests (LFT) alterations, the cholestatic pattern predominated in 84.6% (N = 11). Ferritin value $\geq$ 1000 ng / mL and severe Acute Respiratory Distress Syndrome (ARDS) had a Predictive Positive Value (PPV) 0.7%, Predictive Negative Value (PNV) 0.7%, S = 0.7%, E = 0.6% as a diagnostic marker. 20 patients have been discharged at the time of the cutoff, 4 remain hospitalized, and 3 deaths. 3/3 deaths had Liver Functions Tests (LFT) alterations. 55% (N = 11/20) of discharged patients had LFT alterations. None presented liver failure.

Conclusions: Half of the patients affected with SARS-COV2 present LFT alteration, with predominance of cholestatic pattern in our sample. All deaths showed alteration at admission time, while 55% of discharged patients presented said alteration. The cause can be multifactorial, and involve hepatotoxicity due to drugs, deficient blood circulation, the effect of assisted ventilatory mechanics, among others, and not necessarily attributed exclusively to viral infection. Therefore, there is no evidence that suggests SARS-COV2 virus is directly hepatotropic. Serum ferritin could be useful in (ARDS) diagnosis secondary to SARS-COV2.

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

40

Evaluación de marcadores fibroticos en células estelares expuestas al extracto metanolico de *Turnera diffusa*

D.R. Rodriguez-Rodriguez[1],
S. Lozano-Sepúlveda[2], N. Waskman-De Torres[2],
P. Cordero-Pérez[3], A.M. Rivas-Estilla[1]

[1] *Departamento de Bioquímica y Medicina
Molecular, Facultad de Medicina*
[2] *Departamento de Química Analítica, Facultad de
Medicina*
[3] *Unidad de Hígado, Departamento de Medicina
Interna, Hospital Universitario "Dr. José E. González",
Universidad Autónoma de Nuevo León, Monterrey,
N.L., México*

Background and aim: Activation of stellar liver cells is the cellular basis for the establishment of liver fibrosis. In search of drugs that reverse and/or inhibit the fibrogenic process, plants are important sources of bioactive compounds. *Turnera diffusa* methanol extract (METD) shows "hepatoprotective" activity. Aim: To explore the effect of METD on the expression of fibrotic markers, modulators of extracellular matrix proteins (ECM), underlying mitochondrial mechanisms and epithelial-mesenchymal transition (EMT) in an *in vitro* model of human liver stellar cells (LX-2).

Material and methods: The IC50 of the METD in the LX-2 cells was evaluated by the MTT assay. LX-2 cells were exposed to METD (100-200 ng/mL) with TGF-β (10 ng/mL) at 24, 48 and 72 h. RNA and proteins were extracted, RT-PCR, qPCR and WB were performed, the relative expression of tumor growth factor beta (TGF-β), collagen 1α 1 (COL1α-1), smooth muscle alpha actin (α-SMA), inhibitor of metalloproteinase 1 (TIMP1), metalloproteinase 2 (MMP2), SNAIL1 an EMT marker and mitofusin 2 (MNF2) of mitochondrial function. Endogenous β-actin gene and GAPDH. ANOVA analysis ($p < 0.05$).

Results: The METD has a concentration of 150 ng/mL mantain over 80% viability in LX-2 cells. The presence of METD in cells treated with TGF-β modifies fibrogenic markers, decreasing COL1α-1 and increasing α-SMA RNA expression at all times, but increase the translational expression of α-SMA at 48 and 72 h. We find TIMP1 and MMP2 RNA overexpression, and decreased TIMP1 translational expression was found at all times. It was found Snail1 and MFN2 RNA overexpression, controversially found decreased the translation of MNF2 at all times.
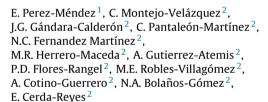
Conclusions: The METD modulates the expression of profibrogenic markers, ECM modulators and some pathways related to EMT and mitochondrial morphology and function, attenuating the expression of profibrogen markers in human LX-2 stellar cells. This work was partially subsidized by PAICYT SA669-18. Registration number of the ethics committee HI11-003.

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

41

Prevalence of spontaneous bacterial peritonitis in patients with hepatic cirrhosis in the military central hospital

E. Perez-Méndez[1], C. Montejo-Velázquez[2], J.G. Gándara-Calderón[2], C. Pantaleón-Martínez[2], N.C. Fernandez Martínez[2], M.R. Herrero-Maceda[2], A. Gutierrez-Atemis[2], P.D. Flores-Rangel[2], M.E. Robles-Villagómez[2], A. Cotino-Guerrero[2], N.A. Bolaños-Gómez[2], E. Cerda-Reyes[2]

[1] *Departamento de Medicina Interna, Hospital Militar de Zona, Ixcotel Oaxaca, México*
[2] *Departamento de Gastroenterología, Hospital Central Militar, Ciudad de México, México*

Background and aim: Spontaneous bacterial peritonitis (SBP) is one of the main complications of cirrhotic patients with ascites and is of great importance due to the high mortality rate and even in asymptomatic patients, a high prevalence of SBP has been documented. The objective of the present study was: To calculate the prevalence of SBP in decompensated cirrhotic patients who were hospitalized in the HCM, as well as to identify which is the main agent that appears in the SBP.

Material and methods: A retrospective study was performed in cirrhotic patients with SBP who were hospitalized in the Gastroenterology Section of the Central Military Hospital from the period of January 2017 to January 2018. Patients with CH with data on SBP were included, those patients with HCC were excluded, secondary or cirrhotic peritonitis with tumor-caused peritoneal carcinomatosis.

Results: A review of the records was carried out and there were 134 patients, 68 (50.7%) male, with an average age of 56.42 ± 15.27 years, the etiology of cirrhosis had alcoholic cirrhosis with 80 (40%), autoimmune etiology 72 (36%) patients, CBP 12 (6%), cirrhosis due to NASH 12 (6%), cirrhosis due to HBV 16 (8%) and cirrhosis due to HCV 8 (4%). According to the reports of the cultures and antibiograms, there was a higher frequency of E. Coli 84 (42%) and a lower frequency of S. aureus 15 (8%) (See Table 1). AKI type SHR was diagnosed in 188 (94%) of patients.

Conclusions: The most common etiology found was E. Coli ESBL with sensitivity to carbapenems (Meropenem), so in our hospital, the use of this type of antibiotics should be considered as first-line treatment to avoid progression to RHS and thus decrease the day of hospital stay and recurrence of hospitalization for SBP

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

Ascites fluid culture report and antibiogram	
Enterococcus sp	Ceftriaxona
Escherichia coli BLEE	Meropenem
Klebsiella pneumoniae	Piperacilina-Tazobactam
Staphylococcus aureus	Ceftriaxona

42

Comparison of two ROC curve-based methods for determining the cross-point critting frequency in the diagnosis of EHM

A. Villaseñor-Todd[1,2], F.J. Bosques-Padilla[3,4], E. López-Soriano[5,6,7], C.A. Cortez-Hernandez[3], J.A. Hernández-Hernández[8], C. López-Sanchez[8]

[1] *Investigación, Hospital Regional de Monterrey, Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado Monterrey Nuevo León*
[2] *Facultad de Medicina Universidad Autónoma de Nuevo León, Monterrey, Nuevo León, México*
[3] *Gastroenterologia, Hospital Universitario "Dr. José Eleuterio González", Universidad Autónoma de Nuevo León, Monterrey, Nuevo León, México*
[4] *Escuela de Medicina y Ciencias de la Salud, Tecnológico de Monterrey, Monterrey, México*
[5] *EGADE Business School Tecnológico de Monterrey, Campus Monterrey, Nuevo Leon, México*
[6] *Escuela nacional de ingenieria y ciencias, Tecnológico de Monterrey, Campus Monterrey, Nuevo Leon, México*
[7] *Facultad de Ingeniería Mecánica y Eléctrica Universidad Autónoma de Nuevo León, Monterrey, Nuevo León, México*
[8] *Tecnológico de Monterrey, Escuela de Medicina y Ciencias de la Salud y Laboratorio Nacional de Medicina de Sistemas, Monterrey, Nuevo León, México*

Background and aim: Minimal hepatic encephalopathy (MHE) is characterized by time of reaction, executive function, as well as high disability and mortality. There is an absence of a Gold Standard for its prognosis; the application of psychometric tests combined with neurophysiological tests to identify the presence of MHE is worldwide accepted. Critical flicker frequency (CFF)test is commonly used; however, there exist discrepancies with respect to the determination of the cutoff value.

Material and methods: While analyzing CFF's continuous scale, the application of Logistic Regression Analysis proved to be suitable to define the appropriate cutoff point. A set of 59 patients with hepatic cirrhosis were studied. The ROC curve showed ambiguities in the determination of the cutoff point when using "Youden's index" as well as the closest point on the graph to the upper left