O-25 BACTERIAL INFECTION ENHANCES THROMBIN GENERATION IN PATIENTS WITH CIRRHOSIS

Marina Pamponet Motta[1], Elbio Antonio D'Antonio D'Amico[2], Tânia Rubia Flores da Rocha[2], Beatriz Yuri Migita[1], Juliana Medeiros Batista[1], Caroline Marcondes Ferreira[1], Flair José Carrilho[1], Alberto Queiroz Farias[1]

[1] *Department of Gastroenterology, University of Sao Paulo School of Medicine*
[2] *Coagulation Laboratory, Division of Hematology, University of Sao Paulo School of Medicine*

Introduction and Aims: Current concept of coagulopathy in cirrhosis indicates that there is a rebalancing of hemostasis with plasma hypercoagulability. Bacterial infection can promotes releases of endothelial heparinoids. However, the effect of this condition on the thrombin generation is unknown. Our aim was to assess the effect of bacterial infection on thrombin generation in cirrhosis.

Methods: 36 patients with cirrhosis and bacterial infection (infected group) were evaluated within 24 hours after start antibiotic and at least 5 days after infection resolution. 28 patients with decompensated cirrhosis and not infected (not infected group) were also enrolled and reevaluated, without any intervention between evaluation times. Primary endpoint was the effect of bacterial infection on thrombin generation (TG) parameter ETP with TM (ETP TM). TM is a protein C activator added to mimic *in vivo* conditions. ROTEM assays, INTEM and HEPTEM (heparinase modified), was performed to evaluate the endogenous heparinoids effect. Protein C (PC) and antithrombin (AT) assays were performed. All results were compared within each group between evaluation times.

Results: ETP TM values in infected cirrhotics were significantly higher than after resolution of infection (from 1145.4 ± 360.7 nmol/L*min to 958.1 ± 254.8 nmol/L*min, p=0.005) - figure 1. A heparinoid effect was found only in infected cirrhotics, with CT_{INTEM} duration significantly longer than CT_{HEPTEM} (p=0.004). This effect disappeared after resolution of infection (p=0.75). PC and AT deficiencies were significantly more severe in infected patients (p<0,01). RNI/TP, aPTT was worsen at active infection (p<0.05). None of these parameters exhibited a significant difference between inclusion and revaluation times in not infected group.

Conclusion: patients with cirrhosis exhibits significant higher amount of TG during bacterial infection and it is associated with reduction of PC and AT levels. Despite the endogenous heparinoid effect during infection in cirrhosis, plasma hypercoagulability is preserved and cannot be assessed by conventional coagulation tests.

https://doi.org/10.1016/j.aohep.2021.100512

O-26 ASPARTATE AMINOTRANSFERASE, AGE AND D-DIMER IN COVID-19 PATIENTS: A USEFUL PROGNOSTIC MODEL

Fátima Higuera-de la Tijera[1,2], Alfredo Servín-Caamaño[1,3], Daniel Reyes-Herrera[1,3], Argelia Flores-López[1,3], Enrique J.A. Robiou-Vivero[1,3], Felipe Martínez-Rivera[1,3], Victor Galindo-Hernández[1,3], Catalina Casillas-Suárez[1,4], Oscar Chapa-Azuela[1,5], Alfonso Chávez-Morales[1,6], Víctor Hugo Rosales-Salyano[1,3], Billy Jiménez-Bobadilla[1,7], María Luisa Hernández-Medel[1,8], Benjamín Orozco-Zúñiga[1,9], Jed Raful Zacarías-Ezzat[1,5], Santiago Camacho-Hernández[1,2], José Luis Pérez-Hernández[1,2]

[1] *Multidisciplinary Team for the Attention and Care of Patients with COVID-19, Hospital General de México "Dr. Eduardo Liceaga", Mexico City, Mexico*
[2] *Gastroenterology and Hepatology Department, Hospital General de México "Dr. Eduardo Liceaga", Mexico City, Mexico*
[3] *Internal Medicine Department, Hospital General de México "Dr. Eduardo Liceaga", Mexico City, Mexico*
[4] *Pneumology Department, Hospital General de México "Dr. Eduardo Liceaga", Mexico City, Mexico*
[5] *General Surgery Department, Hospital General de México "Dr. Eduardo Liceaga", Mexico City, Mexico*
[6] *Intensive Care Unit, Hospital General de México "Dr. Eduardo Liceaga", Mexico City, Mexico*
[7] *Colorectal Surgery Department, Hospital General de México "Dr. Eduardo Liceaga", Mexico City, Mexico*
[8] *Infectious Disease Department, Hospital General de México "Dr. Eduardo Liceaga", Mexico City, Mexico*
[9] *Ginecology Department, Hospital General de México "Dr. Eduardo Liceaga", Mexico City, Mexico*

Introduction: Some patients with SARSCov-2 infection develop severe disease (SARS); however, the factors associated with severity are not yet fully understood. Some reports indicate that liver injury may be a poor prognostic factor.

Aim: To identify the biochemical factors related to the development of SARS with mechanical ventilation (MV) requirement in patients with SARSCov-2 and COVID-19.

Methods Type of study: Observational. Cohort study.

Procedure: Data from COVID-19 patients were collected at admission time to a tertiary care center. Differential factors were identified between seriously ill SARS+MV patients versus stable patients without MV. Transformation to the natural logarithm of significant variables was performed and multiple linear regression was applied, then a predictive model of severity called AAD (Age-AST-D dimer) was constructed.

Results: 166 patients were included, 114(68.7%) men, mean age 50.6±13.3 years-old, 27(16.3%) developed SARS+MV. In the comparative analysis between those with SARS+MV versus stable patients without MV we found significant raises of ALT (225.4± 341.2 vs. 41.3±41.1; *P*=0.003), AST 325.3±382.4 vs. 52.8±47.1; P=0.001), LDH (764.6±401.9 vs. 461.0±185.6; P=0.001), D dimer (7765±9109 vs. 1871±4146; P=0.003), age (58.6±12.7 vs. 49.1± 12.8; P=0-001). The results of the regression are shown in the Table, where model 3 was the one that best explained the development of SARS+MV; with these variables was constructed the model called AAD, where: [AAD= 3.896 + ln(age)x-0.218 + ln(AST) x-0.185 + ln(DD)x0.070], where a value ≤ 2.75 had sensitivity=0.797 and 1-specificity= 0.391, AUROC=0.74 (95%CI: 0.62-0.86; P<0.0001), to predict the risk of developing SARS+MV (OR=5.8, 95%CI: 2.2-15.4; P=0.001).

Conclusions: Elevation of AST (probable marker of liver damage) is an important predictor of progression to SARS, together with elevation of D-dimer and age early (at admission) and efficiently predict which patients will potentially require MV.