Background & Aims: The treatment of hepatitis C with DAAs has offered an opportunity to analyze the changes in the immune system caused by the rapid inhibition of viral replication. We sought to analyze the kinetics profiles of serum biomarkers in patients upon DAAs treatment.

Methods: 50 patients were enrolled before (baseline), during (W2-4 and W8-12 weeks) and post-treatment (W12-24 weeks) with sofosbuvir and daclatasvir ± ribavirin (n=36) or simeprevir (n=14). 15 uninfected blood donors formed the control group (NI). Serum biomarkers CXCL8, CCL11, CCL3, CCL4, CCL2, CCL5, CXCL10, IL-1β, IL-6, TNF-α, IL-12, IFN-γ, IL-15, IL-17, IL1Ra, IL-4, IL-5, IL-9, IL-10, IL-13, FGF-basic, PDGF, VEGF, G-CSF, GM-CSF, IL-7 e IL-2 were quantified by Luminex Bio-Plex Pro™. Mann-Whitney (HCV and NI), Kruskal Wallis (multiple), and Dunn (sequential in pairs) tests compared groups, with significance value if $p \leq 0.05$. The study was approved by ethical boards.

Results: At baseline, patients had high levels of chemokines, pro-inflammatory cytokines, and growth factors, with minor increase of regulatory cytokines. The kinetics timeline of baseline fold changes revealed early decline of CXCL8, CCL4, IL6, IL-15, IL-17, IL-9, GM-CSF and IL-7 at W8-12, and late remodeling of CCL3, CCL2, CCL5, IL1β, TNF-α, IL-12, IFN- γ, IL1-Ra, IL-4, IL-10, IL-13, PDGF, VEGF, G-CSF at W12- 24. Baseline ALT ≥69U/L, platelet ≤150,000/mm3 and cirrhosis were related to delayed remodeling in immune response.

Conclusions: The HCV eradication with DAAs results in profound readjustment of the microenvironment of serum immune biomarkers and may be slower in cirrhotic patients. These results add evidence to the knowledge of the process of immune remodeling associated with the rapid viral eradication of HCV with the DAAs.

https://doi.org/10.1016/j.aohep.2021.100498

O-12 MIR-181A AS A BIOMARKER OF FIBROSIS IN NON-ALCOHOLIC FATTY LIVER DISEASE

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Introduction: Non-Alcoholic Fatty Liver Disease (NAFLD) covers a wide spectrum of disease, ranging from simple steatosis to cirrhosis. Liver biopsy is still the gold standard for assessing fibrosis, but there is a need to seek non-invasive biomarkers that can also be efficient in predicting fibrosis.

Objectives: To evaluate the role of microRNAs miR-21, miR-29a, miR-122, miR-155 and miR-181a in the phenotypic expression of NAFLD, correlating their serum levels with the different stages of the disease.

Methods: Cross-sectional study carried out on 108 NAFLD patients diagnosed by liver biopsy. In the histological analysis, the degrees of fibrosis and NAFLD activity score (NAS) were obtained. The FIB-4 and NAFLD fibrosis score were calculated and compared with the degree of fibrosis by biopsy. The comparison between the distributions of microRNA values according to the presence or absence of clinically expressed fibrosis (F2-4) was performed. The serum expression of microRNAs was also compared with the NAS of the biopsy. A multivariate logistic regression analysis was performed to build a score for predicting fibrosis using FIB-4 and Ln (miR-181a) as independent variables.

Results: Among the microRNAs studied, only miR-181a showed a statistical difference between patients with clinically expressed fibrosis and those without fibrosis (F0-F1) determined by liver biopsy ($p = 0.017$). FIB-4 revealed an AUC on the ROC curve of 0.667 to predict clinically expressed fibrosis (F2-F4). When assessed using the score in association with Ln (miR-181a), there was an improvement in the ROC curve, with AUC of 0.71. There was no correlation between the serum levels of microRNAs miR-21, miR-29a, miR-122, miR-155 and miR-181a with the degrees of inflammatory activity determined by NAS.

Conclusion: miR-181a can be used as a non-invasive method of predicting fibrosis in NAFLD, and an association of biomarkers has the potential to increase the accuracy of each method alone.

https://doi.org/10.1016/j.aohep.2021.100499

O-13 Hepatocellular carcinoma patients are advantage in the Brazilian current liver transplant allocation system. A competing risk analysis. A RETROSPECTIVE STUDY

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Background: In Brazil, the Model for End-Stage Liver Disease (MELD) score is used to prioritize patients for deceased donor liver transplantation (DDLT). Patients with hepatocellular carcinoma (HCC) receive standardized MELD exception points to account for their cancer risk of mortality, which is not reflected by their MELD score.

Objective: To compare DDLT rates between patients with and without HCC in Rio Grande do Sul, the Southernmost state of Brazil.

Methods: We retrospectively studied 825 patients on the liver-transplant waiting list from January 1, 2007, to December 31, 2016, in a transplant center located in Porto Alegre, the capital of Rio Grande do Sul, to compare DDLT rates between those with and without HCC. The time-varying hazard of waiting list/DDLT was estimated, reporting the subhazard ratio (SHR) of waiting list/DDLT/dropout with 95% confidence intervals (CI). The final competing risk model was adjusted for age, MELD score, exception points, and ABO group.

Results: Patients with HCC underwent a transplant almost three times faster than patients with a calculated MELD score (SHR 2.64; 95% CI 2.10-3.31; $P<0.001$). The DDLT rate per 100 person-months was 11.86 for HCC patient's vs 3.38 for non-HCC patients. The median time on the waiting list was 5.6 months for patients with HCC and 25 months for patients without HCC.

Conclusion: Our results demonstrated that, in our center, patients on the waiting list with HCC have a clear advantage over candidates listed with a calculated MELD score.

https://doi.org/10.1016/j.aohep.2021.100500

O-14 A SYNERGISTIC EFFECT OF PNPLA3 GENE POLYMORPHISM AND INSULIN RESISTANCE INCREASES THE RISK TO NON-ALCOHOLIC FATTY LIVER DISEASE IN PATIENTS WITH POLYCYSTIC OVARY SYNDROME

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Introduction: The patatin-like phospholipase 3 gene polymorphism (PNPLA3) has been consistently associated with non-alcoholic fatty liver disease (NAFLD) and its histological severity on different populations. In addition, increasing evidence demonstrates the association of NAFLD and polycystic ovary syndrome (PCOS), both associated with obesity, insulin resistance (IR) and metabolic syndrome (MS).

Aim: Describe the prevalence of the PNPLA3 gene polymorphism and its impact on NAFLD susceptibility and progression in women with PCOS.

Methods: This was a cross-sectional study enrolling 163 patients with PCOS. All the patients were evaluated for the presence of the PNPLA3 (rs738409 c.444C>G) polymorphism, hepatic steatosis at ultrasound and metabolic disorders. In patients with steatosis, transient hepatic elastography was performed to assess liver stiffness.

Results: In this population, evidence of hepatic steatosis was observed in 72.4% of them. The polymorphism was present in heterozygosis (CG) in 41.7% and in homozygosis (GG) in 8% of patients and was not statistically associated with the occurrence of NAFLD or clinically significant fibrosis (≥ F2). IR had a prevalence of 75% and, after evaluation by a multiple regression model, it was the main factor associated with the risk of NAFLD (B = 1.405, p = 0.026). A synergistic effect between IR and the presence of polymorphism on increasing the risk of NAFLD was observed (B = 2.047, p = 0.042). HDL values ≥ 49 mg/dL showed a negative association with NAFLD (B = - 1.578, p = 0.001). MS and IR, waist circumference, higher values of transaminases and lower levels of dehydroepiandrosterone sulfate were associated with clinically significant fibrosis.

Conclusion: The PNPLA3 gene polymorphism did not present an independent association either with NAFLD or the development of clinically significant fibrosis in women with PCOS. However, the polymorphism interacts synergistically with IR and increases the risk of NAFLD.

https://doi.org/10.1016/j.aohep.2021.100501

O-15 ABSENCE OF DISEASE REMISSION AS A RISK FACTOR FOR HEPATOCELLULAR CARCINOMA IN PATIENTS WITH AUTOIMMUNE HEPATITIS

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Background and Aims: Hepatocellular carcinoma (HCC) occurrence is rare in autoimmune hepatitis (AIH) and data about its characteristics are still scarce. The aims of this study were to describe HCC prevalence and risks factors in AIH patients in a tertiary referral hospital.

Methods: Retrospective cohort of AIH patients followed from 2003 to 2019. The hazard ratios (HR) and their respective 95% confidence intervals (95%CI) were estimated using simple Cox regression. A multivariate regression model was fitted using relevant covariates for HCC occurrence.

Results: Among 355 AIH patients, 84.5% were female, 85% AIH-1, 65% with cirrhosis and mean age at AIH diagnosis of 27±18yr. Sixteen cases of HCC were diagnosed (4.5%), all of them in cirrhotic patients, 81.3% female, mean age of 49±20yr, 83% overweight (BMI 34±5kg/m^2) and 3 with associated steatohepatitis. The pooled incidence rate for HCC was 3.2 per 100 patient-years. The pooled incidence of HCC in patients with cirrhosis at AIH diagnosis was 4.5 per 100 patient-years. The median time between AIH diagnosis and HCC was 9 years (1-42). At univariate analysis the factors associated with HCC risk were age at diagnosis of AIH (HR,1.05; 95%CI,1.02-1.08; p<0.001), platelet count $<100 \times 10^6/mm^3$ (HR,4.77; 95%CI, 1.73-13.17; p=0.003), presence of portal hypertension (HR,2.72; 95%CI,0.79-9.29; p=0.001), diabetes (HR,3.89; 95%CI,1.18-12.7; p=0.025) and disease remission at any time of follow up (HR,0.14; 95%CI,0.05-0.41; p<0.001). At multivariate analysis the factors associated with HCC risk were age at diagnosis (HR,1.05; 95%CI,1.027-1.083; p<0.001) and portal hypertension (HR,4.88; 95%CI,1.49-15.92; p=0.009). The occurrence of disease (AIH) remission during follow up was associated with lower risk of HCC (HR,0.128; 95%CI,0.043-0.38; p<0.001).

Conclusions: The prevalence of HCC in this cohort was 4.5%. Advanced age at diagnosis, diabetes, platelet count $<100 \times 10^6/mm^3$, presence of portal hypertension and absence of disease remission during treatment were associated with greater risk of HCC.

https://doi.org/10.1016/j.aohep.2021.100502

O-16 EVALUATION OF THE RESPONSE TO TREATMENT OF VITAMIN D DEFICIENCY IN PEDIATRIC PATIENTS WITH CHRONIC LIVER DISEASE

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