Sandra Tochetto[4], Maria Cristina Chammas[4], Denise Paranaguá-Vezozzo[1], Edmund Baracat[4], José Tadeu Stefano[1], Alex Cassenote[1], João Renato Pinho[1], Flair Carrilho[1], Oliveira Claudia P.[1]

[1] *Division of Clinical Gastroenterology and Hepatology, University of São Paulo School of Medicine, São Paulo, Brazil*
[2] *Division of Endocrinology, University of São Paulo School of Medicine, São Paulo, Brazil*
[3] *Division of Obstetrics and Gynecology, University of São Paulo School of Medicine, São Paulo, Brazil*
[4] *Radiology Institute, Hospital das Clínicas, University of São Paulo School of Medicine, São Paulo, Brazil*

**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.

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

Nayana Fonseca Vaz[1], Julia Fadini Margon[1], Bruna Damasio Moutinho[1], Michele Harriz Braga[1], Claudia Megumi Tani[2], Regiane Saraiva de Souza Melo Alengar[2], Lisa Rodrigues da Cunha Saud[2], Denise Cerqueira Paranaguá Vezozzo[1], Marta Deguti[1], Natally Horvat[2], Eduardo Luiz Rachid Cançado[1,3], Flair Jose Carrilho[1,2], Aline Lopes Chagas[1,2], Débora Terrabuio[1]

[1] *Department of Gastroenterology, Hospital das Clínicas da FMUSP, São Paulo, Brazil*
[2] *São Paulo Clinicas Liver Cancer Group, Instituto do Câncer do Estado de São Paulo, São Paulo, Brazil*
[3] *Immunopathology and Zoonoses, Institute of Tropical Medicine of São Paulo, São Paulo, Brazil*

**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.

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

Carolina Roos Mariano da Rocha[1], Carlos Oscar Kieling[2], Marina Rossato Adami[2], Renata Rostirola Guedes[2], Guilherme Guaragna Filho[1,3,4], Sandra Maria Gonçalves Vieira[1,2,4]

[1] *Universidade Federal do Rio Grande do Sul, Programa de Pós Graduação em Saúde da Criança e do Adolescente, Porto Alegre – RS (Brasil)*
[2] *Hospital de Clínicas de Porto Alegre, Serviço de Pediatria, Unidade de Gastroenterologia e Hepatologia Pediátrica, Programa de Transplante Hepático Infantil, Porto Alegre – RS (Brasil)*
[3] *Hospital de Clínicas de Porto Alegre, Serviço de Pediatria. Porto Alegre – RS (Brasil)*
[4] *Universidade Federal do Rio Grande do Sul, Departamento de Pediatria, Porto Alegre – RS (Brasil)*