BACKGROUND: Crohn’s disease (CD) patients present characteristic abnormalities in the mesenteric adipose tissue (MAT) near the affected intestinal area. The MAT is thickened and wraps around the bowel circumference. Recent evidence indicates that this tissue plays a role in storing memory immune cells and potentially supporting antigen-driven immune responses. Therefore, the generation of antigen-presenting cells (APCs) in the MAT of CD patients is an extension of the gut microbiome and can be modulated by means of an RNA sequencing (RNAseq) analysis (2) and to perform a biological validation of the results comparing to controls (CTR).

METHODS: For this purpose, 25 patients with active Crohn disease who underwent surgery were included in the study. The cohort consisted of 15 patients operated on for other disease, except inflammatory bowel diseases. The in silico analysis of the modulated miR was performed by TargetScan and the enrichment of the metabolic pathways through the DAVID platform. The biological validation of the transcripts was performed by RT-qPCR analysis. The data were analyzed using the nonparametric Mann-Whitney Test. Univariate and multivariate analysis were performed by the Cox regression model for correlations between gene expressions and the disease recurrence after surgery.

RESULTS: RNAseq identified a significant increase in miR-650 expression in the MAT of the CD group compared to the CTR (P = 0.003). Among the 227 downregulated genes, 25 were validated in silico analysis as a predicted target for miR-650. The enrichment analysis of metabolic pathways containing the miR-650 target genes identified the metabolic pathway of alanine, aspartate and glutamate. RT-qPCR and ALDH4A1 were identified as miR-650 target genes of this enriched pathway. The biological validation by RT-qPCR confirmed significant increased miR-650 expression in the MAT of CD compared to the CTR (P = 0.003), besides decreased levels of GPT2 (P = 0.026) and ALDH4A1 (P = 0.006) target genes. Moreover, Cox regression analysis showed that the miR-650 levels in the MAT of CD patients strongly correlated with the postoperative disease recurrence in the first 26 postoperative months (Hazard Ratio 6.85, Confidence Interval 95%, P = 0.006).

CONCLUSION: For the first time, the modulation of miR-650 and its target genes (ALDH4A1 and GPT2) were validated in the MAT of CD patients. Indeed, the miR-650 levels correlated to a higher risk of postoperative disease recurrence. Although a larger multicenter prospective study is needed, these findings may constitute a potential tool to guide the clinical management after surgical resection.


REFERENCES:

S16

Abstracts

P063

Prophylaxis of Hepatitis B Reactivation and Inflammatory Bowel Disease: A case report

Basílio Fabiano1, Amerim Cesar2, Carvalho Márcia3, Martins Carolina4, Fonseca Isabel5, Breves Joao6, Zuidam Carl1.

1. Federal University of Rio de Janeiro, Rio de Janeiro, Brazil.

BACKGROUND: The risk of opportunistic infections is increasing with the progressive use of immunosuppressants and biological therapy in IBD treatment. In this scenario, screening for Hepatitis B Virus (HBV) is important in order to prevent viral reactivation.

METHODS: CASE REPORT. A 48 year old female with longstanding ulcerative colitis (diagnosed in 2000) was evaluated by our department in 2021. She presented with 3 bowel movements a day with mucus and blood, diffuse abdominal pain, tenesmus, and urgent evacuation. Laboratory tests showed leukocytosis without left shift, normal platelets and liver tests. Flexible sigmoidoscopy showed a severe disease activity (Mayo score 3) in the rectum and sigmoid. The patient was admitted to our hospital and received IV corticosteroids without response. She continued with pain. A rectosigmoid biopsy and ileocolonoscopy (IU, anti-HBs Ag positive) were positive in admission. HBV DNA was detected (225 IU/mL –low). Other labs were consistent with chronic hepatitis B (Anti-HBc Ag positive, HBeAg negative, Anti-HBsAg positive). Abdominal ultrasonography and ultrasound were normal. Considering the serological profile and the use of high-dose corticosteroids, immunosuppressants, and antibiotics, Entecavir 0.5 mg/ml was initiated.

RESULTS: HBV produces stable coDNA mini-chromosome in infected hepatocytes, that can be present even after the loss of the HBs Ag of salivary conversion to anti-HBs. coDNA serves as a matrix for reactivation even in patients with a remote history of Hepatitis B. This fact explains the impossibility of HBV infection evaluation. Viral reactivation in chronic inactive patients is defined as a 2-log increase in HBV DNA.

The use of prophylaxis must be based on the patient’s epidemiological risk and the risk of drug use and their potential for viral reactivation. Higher doses than 20 mg/m2 of prednisone for 4 weeks or more are considered of moderate risk but the use of immunosuppressants or biological therapy increase this risk (high risk). Azathioprine should be avoided in patients with viral reactivation, unlike what occurs with the use of immunosuppressants. Antimalarial prophylaxis should be done with nucleotide analogs (NA) with high potency (Entecavir, Tenofovir Disoproxil Fumarate or Tenofovir Alafenamide). Lamivudine and other NAs are not recommended because of the risk of selection of resistant strains, but it can be used if it is the only possibility. Prophylaxis should be maintained for 6–12 months after the suspension of the immunosuppressive agent. Pre-emptive therapy with an antiviral can be performed in moderate risk patients with easy access to serial viral load dosage, transaminases and serology.

CONCLUSION: Screening for HBV infection should be a routine in IBD patients mainly at diagnosis, as HBV reactivation can occur in the context of immunosuppressive therapy. As this risk depends on host factors, virological factors, and type and degree of immunosuppression, therapeutic prophylactic strategies must be individualized.

S16

Abstracts

P064

Clinical Aspects of Pediatric Inflammatory Bowel Disease – A Multicentric Study From Brazil

Bodinn Jaquezinha1, Coronel Juliana2, dos Santos Beatriz3, Dias Carolina4, Nunes Dalob4, Pinheiro Francisco5, Cesar Adalberto5, Vaneza4.

1Hospital da Criança Santo António, Porto Alegre, Brazil. 2Hospital de Clínicas de Porto Alegre, Porto Alegre, Brazil. 3Hospital Nossa Senhora da Conceição, Porto Alegre, Brazil. 4Hospital de Clínicas de