

prolonged-release pirfenidone (PR-PFD) plus standard of care for the regression of liver fibrosis and its effect on key epigenetic marks.

Patients / Materials and Methods: HCV patients who responded to direct-acting antivirals (DAAs) and had residual fibrosis received PR-PFD (1200 mg/day) for 12 months. Liver biopsies and serum samples were analyzed at the beginning and end of the treatment. Additionally, six non-fibrotic controls were included to compare the epigenetic marks.

Results and Discussion: 38 patients completed the 12-month treatment, and 28.94% showed a reduction of at least one fibrosis stage according to liver biopsies, while 57.57% experienced an improvement in fibrosis according to transient elastography. Levels of bilirubin, alkaline phosphatase, AST, INR, and APRI significantly decreased. Profibrogenic miRNAs (miR-34a, miR-21, miR-16, miR-181b, miR-200a, and miR-200b) showed a significant increase in advanced fibrosis compared to non-fibrotic controls. Notably, PR-PFD treatment restored the expression of miR-34a, miR-16, miR-192, miR-200a, and miR-122. In cell-free DNA (liquid biopsy), PDGF α showed hypermethylation in patients with mild fibrosis, while in liver tissue hypomethylation was present in non-fibrotic controls. In the circulating DNA of non-fibrotic controls, PPAR- δ was hypermethylated compared to mild and advanced fibrosis cohorts. Treatment with PR-PFD induced hypermethylation in three islets of TGF β 1, suggesting a decrease in the transcription of this profibrogenic cytokine.

Conclusions: These findings indicate, for the first time, that PR-PFD treatment could exert therapeutic effects in Hispanic patients with residual fibrosis by modulating miRNA expression and methylation of specific CpG sites.

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P-27 OBESITY AND LIVER STEATOSIS IN ADOLESCENTS AND YOUNG ADULTS - RELATED FACTORS AND THE IMPACT OF LIFESTYLE

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Conflict of interest: No

Introduction and Objectives: Obesity and lifestyle are factors associated with steatotic liver disease related to metabolic dysfunction (MASLD). **Objective:** To describe the frequency of obesity and MASLD in adolescents/young adults and related factors.

Patients / Materials and Methods: Cross-sectional study. Demographic, anthropometric and lifestyle data were assessed (self-completed questionnaire). All underwent liver elastography with CAP (Fibroscan® Touch 502, Echosens, Fr) to estimate the frequency of steatosis (CAP $\geq$ 248 DB/m) and significant fibrosis (E > 7.9 kPa). The related factors for obesity and steatosis were assessed by logistic regression analysis.

Results and Discussion: One hundred and twenty-three healthy individuals participated in the study (68.3% women, 19.5 $\pm$ 1.5 years). Pre-hypertension, overweight and obesity were identified in 13.3%, 16.3% and 10.6% respectively (62.8% were not satisfied with their

weight). Alcohol consumption was 26.7% (2-4 drinks/week), higher in men. 6% had glycated hemoglobin $\geq$ 5.7% (Pre-diabetes) and 28% had hypercholesterolemia. Steatosis was identified in 21.1%, and no individual had significant fibrosis [median E = 4.4 (3.6 – 5.3) kPa]. The median daily time spent on the computer was 5 (3-8 hours), and 56% used the computer for more than 4 hours/day. The factors that were independently associated with obesity in these adolescents were pre-hypertension (OR 8.7: 95% CI 2.1-36.0, p=0.003) and time spent using a computer (OR 6.1: 1.09-34.9; p=0.039). Obesity (OR 71.4: 95%CI 7.0-725.5, p<0.001), pre-hypertension (OR 7.4: 95%CI 1.3-41.9, p=0.024) and male sex (OR 13.5: 95%CI 1.3-137.3, p=0.027) but not alcohol use was associated with the presence of hepatic steatosis.

Conclusions: The prevalence of obesity, pre-hypertension and hepatic steatosis in adolescents/young adults is high. Lifestyle changes, including better control of screen time, must be implemented urgently in this population to combat obesity and steatosis.

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P-28 CHARACTERIZATION OF CHRONIC LIVER DISEASE, CIRRHOSIS, AND HEPATOCELLULAR CARCINOMA PROGRESSION IN A COLOMBIAN HEALTH MAINTENANCE ORGANIZATION: A TEN-YEAR RETROSPECTIVE STUDY

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Conflict of interest: Yes, Roche employee as co-authors

Introduction and Objectives: Chronic liver disease (CLD), cirrhosis, and hepatocellular carcinoma (HCC) pose a significant global health burden. In Colombia, these conditions challenge the health-care system, necessitating a thorough understanding of their progression and impact. This study aimed to evaluate the prevalence, progression, median survival time and transition rates of patients with CLD, cirrhosis, and HCC in a Colombian Health Maintenance Organization.

Patients / Materials and Methods: This retrospective cohort study was conducted from 2012 to 2022, identifying patients with CLD, cirrhosis, and HCC using ICD-10 codes from a claims database and electronic health records. The focus was on the cumulative 5- and 10-year survival rates of patients with cirrhosis and HCC.

Results and Discussion: The study included 33,315 CLD patients (median age: 49.1 years; 57.14% female), with the primary causes being fatty liver disease (82.98%) and chronic viral hepatitis (5.18%). Among these, 1,021 developed cirrhosis (median age: 61.45 years; 52.89% female), and 67 progressed to HCC (median age: 67.18 years; 50.75% male). The incidence rate was 165.03 per 10,000 patients. The probabilities of progression from CLD to cirrhosis at 5 and 10 years were 4% and 7%, respectively, whereas the probabilities of developing HCC from cirrhosis were 6% at 5 years and 20% at 10 years. The 5-year and 10-year cumulative survival rates for cirrhosis were 80% and 63%, respectively, whereas those for HCC were 34% and 23%, respectively.

Conclusions: This study provides a comprehensive overview of CLD in Colombia, identifying fatty liver disease as its primary etiology. It reveals the significant risks of disease progression and reduced

survival rates in advanced liver conditions, underscoring the need for improved monitoring and therapeutic interventions within the Colombian healthcare system. Future research should focus on developing effective healthcare strategies to enhance outcomes in these populations.

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P-29 DIFFERENCES IN THE PROGRESSION OF BODY COMPOSITION AND LIVER DAMAGE IN A MURINE MODEL OF METABOLIC SYNDROME: A SEX PERSPECTIVE

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Conflict of interest: No

Introduction and Objectives: The Metabolic dysfunction associated with fatty liver (MAFLD) is the most common hepatic affection worldwide¹. The critical pathophysiological hallmark of MAFLD is the hepatocyte's accumulation of intracellular fats².

The gold standard for diagnosing MAFLD is liver biopsy; however, this method is invasive and cannot be used to follow the progression of the disease. On the other hand, changes in total weight and body fat distribution can be used for clinically suspected indicators of MAFLD progression^{3,4}; however, sex dependence is not completely elucidated.

This study aims to investigate the sex differences in body composition changes and their relationship with liver disease progression in the eNOS KO. The eNOS KO is a metabolic model of MAFLD and recapitulates the disease in 8-12 weeks when fed a high-calorie and high-fat diet⁵.

Patients / Materials and Methods: We fed 8 groups of 12-week-old eNOS KO mice for 0 weeks (n=6), 4 weeks (n=6), 8 weeks (n=6), and 12 weeks (n=6)

At each time point, an in vivo MRI imaging of body composition and Dixon Quant quantification were acquired using a Philips Ingenia 3T MR scan. We harvested the liver each time for histology analyses and obtained plasma for serological measurements.

All data were analyzed using non-parametric statistics in Prism 9.0.0 (GraphPad Software Inc, La Jolla, CA). Principal Component Analysis (PCA) statistical package R v4.0.2.

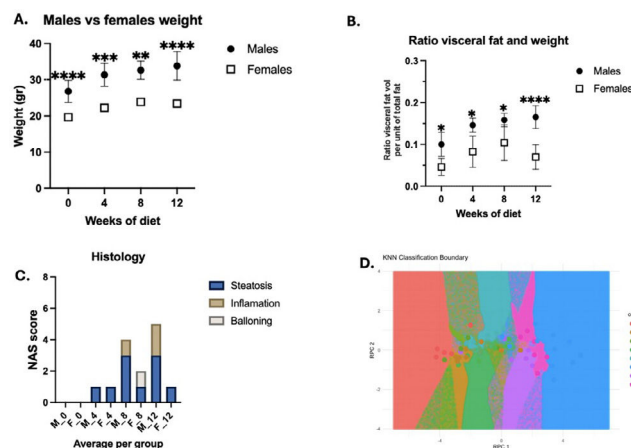
Results and Discussion: Males and females increased their weight during the diet intervention (23% males, 13% females, fig. 1A); however, both groups ate a similar amount of food. Males showed greater visceral fat accumulation than females throughout the intervention period; when we adjust for body weight, males have a significantly higher proportion of visceral fat volume per unit of mass than females (fig. 1B).

During the dietary intervention, the mice showed a progressive increase in the NAS score, with females reaching a maximum score of 3 and males reaching 5 (fig. 1C).

Using the dimensionality reduction technique and the KNN classification boundary, it was possible to demonstrate that the animals are

grouped according to the progression of the disease but also grouped by sex (fig. 1D).

Conclusions: The progression of MAFLD showed different phenotypes in males and females. Using markers from body composition, liver and muscle fat fraction, it was possible to identify sex-dependent clusters that correlate with the liver damage progression. Our results suggest the need to identify diagnostic and progression markers of MAFLD differentiated by sex.



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P-30 NURSING EXPERIENCE IN THE ONLY ADULT-TO-ADULT LIVING DONOR LIVER TRANSPLANT PROGRAM IN COLOMBIA

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Conflict of interest: No

Introduction and Objectives: Fundación Cardioinfantil is the only healthcare institution (IPS) in Colombia registered at the national level to perform adult living donor liver transplants (THADV). The low availability of deceased donors and the high mortality rate on the waiting list motivated the creation of the program. Nursing plays a fundamental role in promoting and educating the living donor and their family, which is essential for the program's success.

To describe the nursing experience and evaluate the quality of education provided to living donors in the adult liver transplant program at Fundación Cardioinfantil, Colombia.

Patients / Materials and Methods: A descriptive observational study was conducted in the THADV program, which included the review of nursing education records of donors studied between 2017 and 2023. Quantitative and qualitative data were analyzed using R-Studio software to assess the understanding of the information, motivations for donating, and educational needs.

Results and Discussion: A total of 187 donors were studied. 97% adequately understood the education provided regarding anatomy, donation process, evaluation, and motivation. Only 3% of the donors studied required re-education. Among the donors studied, the male gender represented the highest percentage of donations at 51.87%. The median age was 31.9 years, and the most prevalent relationship was "son/daughter" at 59%. Lastly, the primary motivation for donating was love for a loved one and improving their quality of life.