The median (IQR) age was 60 years (53-63 years), MELD-Na 17 (15-21), creatinine 0.75 mg/dl (0.6-0.8) albumin 3.1 g/dl (2.9-3.1), INR 1.54 (1.4-1.75) and bilirubin 2.6 mg/dl (1.4-1.7). Child-Pugh scores were A/B/C 13%/58.7%/28.3% respectively. No differences in baseline characteristics were found between the groups. Notably, there was a significant improvement in LFI (median; IQR) in the intervention group (Figure 1) after 8 weeks LFI 3.74 (3.37-3.97) with LFI -0.86 vs. control group LFI 4.15 (3.94-4.23) with LFI -0.02, p=0.007) and after 12 weeks (intervention group 3.73 (3.31-4.11) with LFI -0.87 vs. control group LFI 4.14 (4.06-4.50) with LFI -0.03, p=0.023).

Conclusions: In this interim analysis nutritional and physical therapy improves LFI. This is the first randomized controlled trial with positive results in listed patients with cirrhosis.

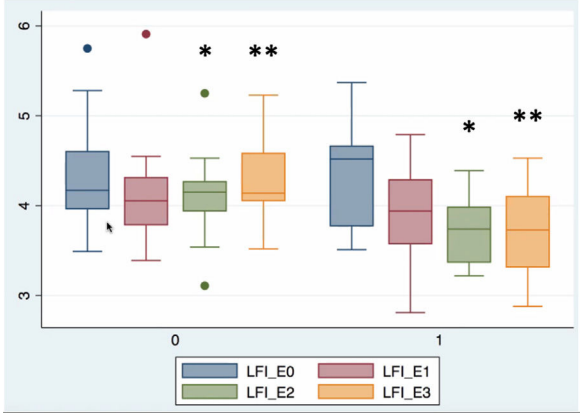

Figure 1. LFI of control group (0) and intervention group (1). LFI_E0: Baseline LFI; LFI_E1: LFI after 4 weeks; LFI_E2: LFI after 8 weeks. LFI_E3: LFI after 12 weeks.

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O-18 DIFFERENCES IN BODY COMPOSITION OF MAFLD PATIENTS ACCORDING TO BODY MASS INDEX AND METABOLIC PROFILE

Eva Juárez[1], Iván López[1], Karen Bernal[2], Alain Velázquez[1], Andrea Maldonado[1], Martha Helena Ramos[1], Misael Uribe[1], Graciela Castro[1]

[1] *Unidad de Investigación Traslacional, Médica Sur, Ciudad de México, México*
[2] *Facultad de Ciencias de la Salud, Universidad Anáhuac México, Ciudad de México, México*

Introduction and Objectives: Body composition (BC) has been linked to liver steatosis. The aim of this study is to describe differences in BC in MAFLD patients.

Materials and Methods: Liver steatosis was evaluated by controlled attenuation parameter, patients were classified according to body mass index (BMI) and definitions of MAFLD in five groups: G1: <25kg/m2-non-MAFLD; G2: <25kg/m2-MAFLD; G3: 25-30kg/m2-MAFLD; G4:>30kg/m2-MAFLD and metabolically healthy (<3 metabolic abnormalities) (MH) and G5: >30kg/m2-MAFLD and metabolically unhealthy (MU). BC was assessed by bioelectrical impedance obtaining measurements of resistance; reactance; phase angle; percentages of fat; total body water (TBW%); intracellular and extracellular water (ICW%, ECW%) and skeletal muscle mass (SMM%). Differences in BC was analyzed by Kruskall-Wallis test. Continuous data showed as median and IQR.

Results: 140 patients were included (G1 n=30; G2 n=24; G3 n=30; G4 n=26; G5 n=30). 56.4% (n=79) were male with median of age of 49 [41- 55] years. Overweight/obese MAFLD patients showed significant lower resistance and reactance levels (p0.05). According to vectorial analysis, chaquexia was observed in 18.4% (n=7) of patients in G4 and 15.8% (n=6) in G5 patients. Fat% was higher in patients of G5 (MU) than G2 (34.3[29.8-40.4], p=0.02) and G3 (35[31.1-38.3], p=0.01). Obese MAFLD patients showed lower TBW%, ICW% and ECW% (p0.001). (Figure). SMM% was lower in MU obese patients (29.1[26.3-31.1]) compared to healthy controls (33.4[29.3-36.8], p=0.006) and overweight patients (32[29.7-34.4], p=0.02). Phase angle did not show significant differences.

Conclusions: Overweight/obese MAFLD patients shows BC abnormalities in comparison with healthy controls and lean MAFLD patients. Resistance, reactance, body water and skeletal muscle mass are significant lower in both metabolically healthy/unhealthy obese patients. Changes could be explained for the sarcopenia and fat-muscle interchange and no necessary for the presence of metabolic abnormalities.

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O-19 IMPLICATIONS OF GLYPHOSATE ON NON-ALCOHOLIC FATTY LIVER DISEASE IN MICE

Guilherme Romualdo[1], Letícia Cardoso[1], Bruno Cogliati[2], De-Xing Hou[3], Luís Fernando Barbisan[1]

[1] *Botucatu Medical School - Department of Pathology, São Paulo State University (UNESP), Botucatu, Brasil*
[2] *School of Veterinary Medicine and Animal Science - Department of Pathology, University of São Paulo (USP), São Paulo, Brasil*
[3] *Faculty of Agriculture - Department of Food Science and Biotechnology, Kagoshima University, Kagoshima, Japón*

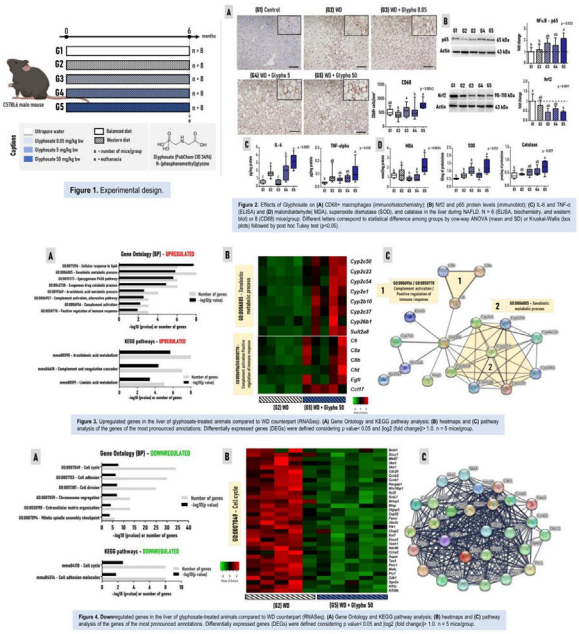
Introduction and Objectives: Non-alcoholic fatty liver disease (NAFLD) affects ~25% of the world's population, presenting a multi-axis pathogenesis closely related to westernized dietary (WD) patterns, and to metabolic comorbidities. In addition to WD, individuals are frequently exposed to crops and dairy products presenting glyphosate (Glypho) residues, the most used broad-spectrum herbicide worldwide. This study aimed to evaluate whether chronic Glypho exposure promotes WD-induced NAFLD.

Materials and Methods: Male C57BL/6J mice were fed WD (chow containing 20% lard, 0.2% cholesterol, 20% sucrose, and high sugar solution with 23.1/18.9 g/L of D-fructose/D-glucose), and received glyphosate (0.05, 5 or 50 mg/kg/day) by gavage (5 × /week) for six months. Doses were below/within the regulatory limits (Acceptable Daily Intake or No Observed Adverse Effect Level).

Results: Glypho did not promote WD-induced obesity, hypercholesterolemia, and glucose intolerance, as this herbicide did not exert major effects on WD-induced hepatic macro/micro vesicular steatosis and perivascular fibrosis. Nonetheless, Glypho at the higher dose (50 mg) exerted the most pronounced effects on enhancing CD68+ macrophage density, p65 (NF-B), TNF-, and IL-6 protein levels in the liver. Furthermore, this dose also decreased hepatic Nrf2 levels, while enhanced lipid peroxidation in the liver and adipose tissue. The hepatic RNASeq analysis revealed that Glypho at 50 mg upregulated 212 genes, while downregulated 731 compared to WD counterpart. Glypho upregulated genes associated to "xenobiotic metabolic process" (Cyp2c37, Cyp2c23, Cyp2c54, Cyp2b10, Cyp2c50, and Cyp2e1), directly involved in oxidative stress, as well as "positive regulation of immune response"-related mRNAs (Egfr, Ccl7, Cfd, C6, C8a, and C8b).

Moreover, Glypho downregulated key “cell cycle”-related genes (as Mki67 and Cdk1).

Conclusions: In essence, our results are innovative on demonstrating that Glypho – in a dose within the regulatory limits – impaired the hepatic inflammation/redox dynamics at the morphological, biochemical and transcriptomic levels.



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O-20 EFFECTS OF ISOCALORIC AND NEGATIVE CALORIE BALANCE EXERCISE ON SERUM LEVELS OF INSULIN-LIKE GROWTH FACTOR TYPE 1 IN SUBJECTS WITH INITIAL AND ADVANCED FATTY LIVER

María Jesús Fuenzalida[1], Francisco Barrera[1], Hermann Mies[1], Valeria Correa[1], Francisca Allendes[1], Nancy Solis[1], Vanessa Oyarzún[1], Luis Antonio Díaz[1], Marco Arrese[1], Juan Pablo Arab[1], Daniel Cabrera[1], Felipe Contreras[1], Santiago Riquelme[1], Catterina Ferreccio[1], Laura Andrea Huidobro[1], María De Los Ángeles Spencer[1], Macarena Garrido[1], Jennifer Loyola[1], Paola Correa[1], Felipe Sobarzo[1], Paula Silva[1], Cristian Herrera[2], Franco Godoy[1]

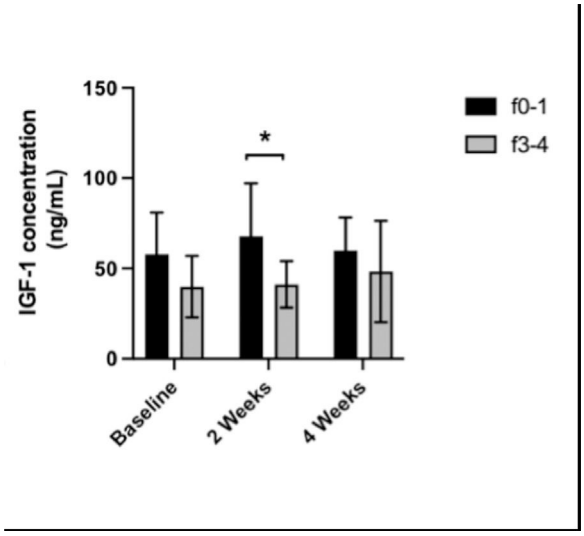
[1] *Gastroenterología, Pontificia Universidad Católica de Chile, Santiago, Chile*
[2] *Centro Avanzado para Enfermedades Crónicas, Pontificia Universidad Católica del Maule, Santiago, Chile*

Introduction and Objectives: Insulin-like growth factor 1 (IGF-1) is a hepatokine that has a protective effect on fatty liver. Previous studies in healthy subjects suggest that isocaloric exercise (with neutral caloric balance) would increase serum levels of IGF-1. This study aimed to evaluate the effect of moderate isocaloric exercise (ICBE) and negative caloric balance exercise (NCBE) on serum levels of IGF-1 in subjects with initial and advanced (F3-4) MAFLD (Metabolic Associated Fatty Liver Disease).

Materials and Methods: Prospective trial in postmenopausal women undergoing supervised and standardized exercise at moderate intensity (1 hour, 3 times per week). The study includes subjects with initial MAFLD (F0-2 Fibroscan <8 kPa) and advanced MAFLD (F3-4, Fibroscan >8 kPa). The protocol consisted of an initial two-week period of ICBE (with nutritional supplement) followed by two weeks of NCBE (without supplement). Using the t-student test for paired samples, the change was analyzed pre vs. post-protocol, and the comparison between groups used the analysis for unpaired samples.

Results: We recruited 27 subjects (20 non-advanced MAFLD and 7 advanced MAFLD). We demonstrated that: (1) Exercise did not significantly increase IGF-1 levels in MAFLD; (2) There was a tendency for subjects with initial MAFLD to have higher IGF-1 levels than subjects with advanced MAFLD before and after exercise, which became significant after 2 weeks of exercise (F0-2 67.9 + 6.4 (ng/mL) versus F3-4 41.2 + 5.3 (ng/mL), p 0.047); and (3) There were no significant differences in IGF-1 levels between ICBE and NCBE (figure 1).

Conclusions: Subjects with advanced MAFLD tend to have lower IGF-1 levels than subjects with initial MAFLD, which becomes significant after 2 weeks of exercise. This suggests that the response to exercise in terms of changes in hepatokines (IGF-1) varies depending on the stage of the disease.



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O-21 NUTRITIONAL SUPPLEMENTATION WITH MEXICAN FOODS, OPUNTIA FICUS INDICA, THEOBROMA CACAO, AND ACHETA DOMESTICUS IMPROVED GUT-LIVER AXIS IN A MAFLD MICE MODEL.

Rebeca Rosas[1], Ana Soledad Sandoval[1], Ángel Omar Vázquez[1], Ricardo de la Rosa[1], Jonathan Samael Rodriguez[1], Rebeca Escutia[1], Arturo Santos[2], Juan Armendáriz[1]

[1] *Health Sciences Center, University of Guadalajara, Institute of Molecular Biology in Medicine, Guadalajara, México*
[2] *Tecnologico de Monterrey, School of Medicine and Health Sciences, Guadalajara, México*

Introduction and Objectives: Metabolic-associated fatty liver disease (MAFLD) is the most common liver disease worldwide, several studies have shown that gut microbiota had a strong impact in MAFLD developing. This study aimed to evaluate the effect of a supplementation with a mixture of Mexican foods (MexMix): nopal, cacao and cricket on gut-liver axis.