Results: Eighty-nine patients with hepatic cirrhosis participated, 54 women (60.7%) with 53 ± 7.9 years of age and 8.3 ± 3.4 years of schooling. 57 patients (64.0%) and 64 FCP-positive (71.9%) were PHES-positive. MHE (PHES and CFF positive) was detected in 53 patients (59.6%). 29 MHE patients and 10 patients with cirrhosis agreed to do the perceptual tests. P100 latency of the visual potential was quantified lower in patients with MHD 113 ± 9 milliseconds than in cirrhotic 94 ± 14 milliseconds.

Conclusions: Patients with MHE showed slowness in early perceptual processes that preceded cognitive processes.

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Sarcopenia as a predictor of risk of minimal hepatic encephalopathy in patients with liver cirrhosis

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Introduction and Objective: Sarcopenia, defined as loss of muscle mass and strength, and minimal hepatic encephalopathy (MHE), alter the quality of life and prognosis of patients with cirrhosis. Ammonia plays a key role in the pathogenesis of MHE and has been associated with decreased muscle mass and strength. However, the relationship between sarcopenia and MHE is not well defined. The objective of this study was to determine their relationship and identify predictors of MHE.

Materials and Methods: Prospective study, including 96 patients with compensated cirrhosis diagnosed by transitional elastography. The presence of MHE and sarcopenia was determined by a critical flicker frequency test and standard from the European Working Group EWGSOP2. Muscle mass and strength were determined by electrical bioimpedance and a handgrip dynamometer. Functional capacity was evaluated by a Short Physical Performance Battery (SPPB), performing linear logistic regression analysis to identify predictors of MHE. The trial was approved by the research ethics committee, and informed consent was obtained.

Results: Of the ninety-six patients with cirrhosis, 61 (64%) and 35 (36.5%) were diagnosed with MHE and sarcopenia, respectively. In the multivariate analysis, the SPPB rating (R 0.521, 95% CI 0.85-2.54, p=<0.001) and grip strength (R 0.314, 95% CI 0.024-0-50, p=0.032) showed the highest predictive value for MHE. (Table 1 and Figure 1).

Conclusions: Decreased handgrip strength and SPPB score were significant predictors of MHE. Early nutritional intervention and physical rehabilitation could reduce the risk of developing EHM in patients with cirrhosis.

Funding: Donation by the volunteer ladies of the Hospital General de México "Dr. Eduardo Liceaga."

Declaration of interest: The authors declare no potential conflicts of interest.

	Men (*n* =47)	Women (*n* =49)	*p score*
Age years (x̄, DE)	49.6 ±10.3	54.6 ±12.3	0.032 ¥ *
Years of education (x̄, DE)	8.28 ±3.2	8 ±4.1	0.748 ¥
Elastography (kPa) (x̄, DE)	39.0 ±23.1	21 ±13.9	<0.001 ¥ ***
Child-Pugh-Turcotte pts (x̄, DE)	7.43 ±2.0	6.5 ±1.9	0.316 ¥
MELD-Na pts (x̄, DE)	16.35 ±6.1	13.9 ±4.7	0.048 ¥ *
ETIOLOGY (n,%)			
Alcoholic hepatopathy	29 (61.7)	8 (16.3)	<0.001 €
Hepatitis C virus	10 (21.3)	17 (34.7)	0.144 €
MAFLD/NASH	5 (10.6)	11 (22.4)	0.121 €
COMORBILIDADES (n,%)			
DM type 2	15 (31.9)	19 (38.8)	0.482 €
Hypertensión	4 (14.8)	7 (23.3)	0.416 €
COMPOSICIÓN CORPORAL (x̄, DE)			
IMC kg/m^2	27.1 ±5.2	24.8 ±4.0	0.013 ¥ *
Height cm	166 ±7.2	153.3 ±7.5	<0.001 ¥ ***
Weight kg	75.1 ±17.8	58 ±10.0	<0.001 ¥ ***
SACROPENIA AND FUNCTIONAL CAPACITY EVALUATION (x̄, DE)			
SPPB score (pts)	10.38 ±2.0	8.8 ±3.0	0.006 ¥ **
Walk test 4 m (seg)	5.3 ±7.0	5.3 ±5.2	0.943 ¥
Chair stand (seg)	12.6 ±4.9	14.5 ±4.3	0.040 ¥ *
muscle mass (kg)	26.9 ±11.3	16.7 ±6.7	<0.001 ¥ ***
Handgrip strenght (kg)	28.8 ±7.0	17.1 ±4.8	<0.001 ¥ ***
Flicker (Hz) (x̄, DE)	36.1 ±5.9	38.1 ±6.1	0.113 ¥

x̄ Mean ±DE, x̃ median (IQR), ¥ T Student independent samples, € Chi square
* Statistically significant difference in grade p=<0.05
** Statistically significant difference in grade p=<0.01
*** Statistically significant difference in grade p=<0.001

Table 1. Demographic distribution by frequencies, difference in means and proportions of subjects with liver cirrhosis by gender (n=96).

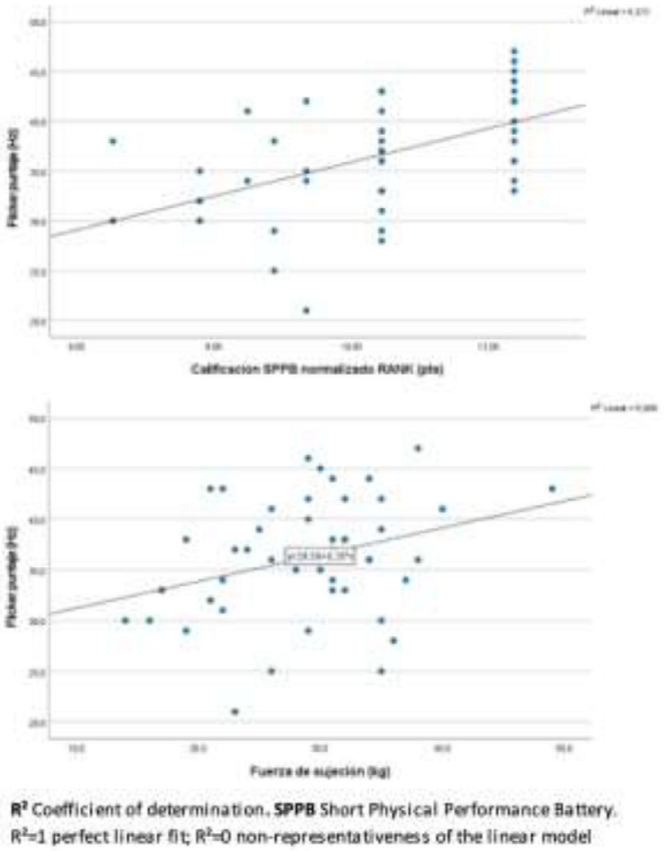

Figure 1. Simple dispersion diagram. Logistic regression analysis. SPPB and handgrip score associated with Flicker score.
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Prevalence of liver fibrosis determined by non-invasive methods in patients with metabolic disorders at the *Centro Medico Nacional 20 de noviembre*

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Introduction and Objective: This study aimed to determine the prevalence of liver fibrosis through non-invasive methods in patients with metabolic disorders.

Materials and Methods: Observational, cross-sectional, and retrospective analytical study. Laboratory results and images of patients diagnosed with metabolic alterations in the *CMN 20 de Noviembre* will be collected.

Results: Among the results obtained, we found that the prevalence of fibrosis was 18.1%, and hepatic steatosis was 59.8%.

Discussion: ALT, C-peptide, and insulin levels were significantly higher in the group with fibrosis. When the variables were dichotomized, an OR of 2.91 (95% CI 1.099 − 7.73) was found for ALT >38.5; Insulin > 17.75, the OR was 3.199 (95% CI 1.20 − 8.5); and for C-peptide > 945 OR 4.049 (95% CI 1.42 − 11.51). The albumin level was significantly lower in this group p = 0.041, with an OR 0.29 (95% CI 0.104 − 0.815), so a value greater than 4.35 represents a protective factor. The NALFD score and FIB4 showed a weak positive correlation with the measurements made with the Fibroscan®.

Conclusions: The determination of liver fibrosis did not correlate through the different non-invasive methods, so it would be best to establish non-invasive liver-specific markers in patients with metabolic disorders and steatohepatitis for the diagnosis of liver fibrosis; since the necessary and accurate diagnostic tools that meet the criteria of efficacy, accuracy, and reliability are not available.

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Prevalence of fibrosis and steatosis determined by transition elastography and controlled attenuation parameter (fibroscanâ) in diabetic patients

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Introduction and Objective: Younossi ZM *et al.*have recently reported a higher prevalence of fatty liver disease associated with metabolic dysfunction (MAFLD) in diabetics (55.5%) versus the general population (25%); however, in Mexico, the prevalence of steatosis and fibrosis related to MAFLD in patients with type 2 diabetes (DM2) is not precisely known. This study aimed to determine the prevalence of hepatic fibrosis and steatosis by transition elastography and controlled attenuation parameter (CAP) using the FibroScanâ equipment in patients with DM2.

Materials and Methods: Observational, descriptive, transversal study included patients who attended the outpatient clinic for DM2 diagnosis between August- 2018 and May- 2022 and who underwent FibroScanâ to determine the absence/presence and degree of fibrosis and steatosis. The following were excluded: patients with risky alcohol consumption, Hepatitis B/C, any type of liver disease or previously diagnosed cirrhosis, and consumption of additional drugs to those for MS. Descriptive statistics were used and the prevalence of steatosis and fibrosis determined by Fibroscanâ was estimated.

Results: 183 patients, 64.3% women, mean age 56.1±10.2 years. According to BMI, 81.4% were also overweight/obese (36.6% overweight, 27.2% grade-I obesity, 12.2% grade-II obesity, and 5.4% grade-III obesity). 53.8% also met the criteria for MS. 71.3% had glycosylated hemoglobin, of which 41.6% were out of the target (HbA1c >7.0). Regarding the degree of fibrosis, we found: F4= 29.1%, F3= 6.9%, F2= 4.6%, F1= 2.3% and F0= 57.1%. Regarding the steatosis degree, we found: S3= 23.4%, S2=18.3%, S1=11.7% and S0= 9.7%. Regarding adherence to treatment, we found poor adherence in 39.0%, good adherence in 61.0% and 6.5% of patients were not determined.

Conclusions: The prevalence of steatosis and fibrosis associated with MAFLD is high in Mexican diabetic patients.

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The usefulness of 3 different points of the liver to evaluate fibrosis by transitional elastography

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Introduction and objective: The degree of liver fibrosis is diagnosed, among other studies, with transition elastography; it is known that liver injury is heterogeneous, so underdiagnosing the degree of fibrosis when performing the survey at a single point may be possibly described in a standard way. This study aimed to evaluate the sensitivity of transition elastography at three different points to determine its performance.

Materials and Methods: Patients with liver disease were included; transition elastography was performed at three different points, point A at the site indicated by the manufacturers; point B, an intercostal space downwards; and point C, an intercostal space upwards; descriptive and inferential statistics were performed.

Results: One hundred nine patients were evaluated, 64 men (59%) and 45 women (41%) average age of 52.6. Paired t-tests were run between the three different combinations (K1 vs. K2, K1 vs. K3, and K2 vs. K3). For all these tests, the value of $p>0.05$, no statistically significant differences were found between the measurements. Correlation tests were performed between the same combinations, finding a value of $p<0.05$ for the three, which means that the observations are correlated. ROC curves were constructed. It can be seen that in all 6 cases, the ROC curve is close to the ideal values. Figures 1 and 2.

Conclusions: For the diagnosis of fibrosis, there is no difference between the three points in the same organ, even though the liver injury is heterogeneous.

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