

ultrasonography and transient elastography, respectively. Dual-energy X-ray absorptiometry (DXA) were performed to assess fat mass index (FMI), visceral adipose tissue (VAT) and android-to-gynoid (A/G) ratio. Data are reported as median (IQR) or n (%); $p < 0.05$ was considered significant

Results: 141 participants were enrolled, 32(22.7%) had hepatic fibrosis. Age was 62.0(55.0–68.0) years, and 118(83.7%) were women. Adiposity parameters were waist-to-height ratio (WtHR) 0.66 (0.59–0.71); abdominal circumference (AC) 105.0(94.4–114.1) cm; fat mass index (FMI) 13.94 (10.50–17.20) kg/m²; VAT 1784 (1203–2430) cm³; and A/G 1.13 (1.04–1.23). The prevalence of obesity (BMI ≥ 30 kg/m²), high FMI (> 14 kg/m²), and A/G > 1 was 45 (31.9%), 52(36.9%), and 130(92.2%) respectively. The groups with and without fibrosis were compared. Age and sex were similar between groups. Those with fibrosis had significantly higher WtHR, AC, VAT, trunk fat mass, android fat mass, and total fat mass. (Table 1).

Conclusions: This study shows that central and visceral adiposity are significantly linked to liver fibrosis. These findings are measured by DXA, an accurate method, and are supported by simple and cost-effective clinical measures such as WtHR and AC.

Conflict of interest: None

Table1. Clinical and body composition characteristics

Variable	General Population n = 141	Without Fibrosis n = 109	With Fibrosis n = 32	p-value
Age	62.0 (55.0–68.0)	62.0 (55.0–67.0)	65.0 (57.0–70.0)	0.063
Abdominal Circumference	105.0 (94.4–114.1)	103.0 (93.5–113.5)	110.15 (101.7–118.25)	0.029
Waist-to-Height Ratio (WtHR)	0.7 (0.6–0.7)	0.65 (0.59–0.71)	0.69 (0.64–0.75)	0.029
Arm Fat Mass (kg)	3.4 (2.7–4.5)	3.27 (2.49–4.44)	4.0 (3.19–4.75)	0.072
Leg Fat Mass (kg)	9.3 (7.1–12.8)	9.24 (6.41–12.82)	9.65 (8.22–12.60)	0.269
Trunk Fat Mass (kg)	19.2 (14.5–24.3)	18.47 (14.33–23.09)	22.76 (18.88–26.35)	0.020
Fat Mass Ratio (Trunk-to-Leg Fat Mass)	1.2 (1.1–1.4)	1.2 (1.07–1.35)	1.27 (1.07–1.38)	0.806
Android Fat Mass (kg)	3.3 (2.5–4.4)	3.2 (2.4–4.1)	3.84 (3.05–4.67)	0.047
Gynoid Fat Mass (kg)	5.2 (3.8–6.3)	4.85 (3.49–6.35)	5.46 (4.66–6.44)	0.102
Total Fat Mass (kg)	33.5 (25.8–42.0)	32.46 (24.51–41.06)	37.81 (30.91–45.66)	0.043
Android-to-Gynoid Fat Ratio (A/G Ratio)	1.1 (1.0–1.2)	1.13 (1.04–1.24)	1.13 (1.04–1.22)	0.681
Fat Mass Index (FMI) (kg/m ²)	13.9 (10.5–17.2)	13.78 (9.82–16.84)	15.1 (12.73–17.86)	0.104
Visceral Adipose Tissue Volume (cm ³)	1784.0 (1203.0–2430.0)	1504.0 (1171.0–2364.0)	2055.5 (1570.0–2598.25)	0.026
Visceral Adipose Tissue Mass (g)	1683.0 (1135.0–2292.0)	1419.0 (1068.0–2231.0)	1939.0 (1488.75–2451.75)	0.025

Legend: Values are presented as median (interquartile range). Bold p-values indicate statistical significance ($p < 0.05$).

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NON-INVASIVE ASSESSMENT OF STEATOHEPATITIS AND LIVER FIBROSIS IN THE POPULATION AT RISK FOR METABOLIC STEATOTIC LIVER DISEASE

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Introduction and Objectives: The overall global prevalence of metabolic dysfunction-associated steatotic liver disease (MASLD) is 30%, with a higher prevalence in Latin America (44.4%). Metabolic dysfunction-associated steatohepatitis (MASH) is a spectrum of MASLD that can progress to advanced fibrosis, cirrhosis, hepatic decompensation and hepatocellular carcinoma. Non-invasive tests (NITs) can help identify and monitor the progression of MASH, as well as predict the risk of liver-related outcomes.

To evaluate the association between steatohepatitis, liver fibrosis and progression predictors using non-invasive tests in the population at risk for MASLD.

Materials and Methods: A prospective observational study based on the analysis of cross-sectional data from adults in a tertiary hospital who provided informed consent. Inclusion criteria were age between 18 and 75 years and the presence of type 2 diabetes, obesity or metabolic syndrome. The NITs used were FIB 4 index, ultrasonography Fatty Liver Index (FLI), transient elastography and shear wave elastography. Data were analyzed using R and were submitted to the non-parametric Mann-Whitney or Wilcoxon tests. A significant level of 5% was adopted.

Results: This study included 131 patients. Of these, 81 (61.8%) had steatohepatitis (FLI ≥ 4), 35 (26.7%) significant fibrosis (F ≥ 2) and 17 (12.9%) advanced fibrosis (F ≥ 3). Gamma-glutamyl transferase (GGT) was the only serum biomarker with a statistically significant correlation with both steatohepatitis ($p = 0.01582$) and significant fibrosis ($p = 0.0217$). Data are described in table1.

Conclusions: GGT was significantly associated with the presence of steatohepatitis and significant fibrosis, suggesting that GGT may serve as an additional marker to alert clinicians to the presence of MASH and fibrosis.

Conflict of interest: None

	Total Population	No Fibrosis	Fibrosis	p value
Total	131	96	35	-
Baseline characteristics of the participants				
Age, years (median/IQR)	64 (57–69.5)	63 (56.7–69)	66 (58–71)	0.1159
Sex, female (N - %)	108 (82.4)	77 (80.2)	31 (88.5)	0.3932
Alcohol consumption (N - %)				0.0546
Abstaining	79 (60.3)	53 (55.2)	26 (74.2)	
< 10 g/day	36 (27.4)	29 (30.2)	7 (20)	
> 10 g/day	9 (6.8)	9 (9.3)	0	
Anthropometric measurements				
BMI (median - kg/m ²)	31.5	31	33.3	0.1705
Waist circumference (median - cm)	103.25	102	110	0.1234
Hip circumference (median - cm)	105.5	104.5	108.5	0.1737
Waist-to-height ratio	65.14	64.8	66.9	0.185
Laboratory and imaging-based parameters (median/IQR)				
AST (U/L)	21 (18–28)	20 (17–27)	26 (20–35)	0.002392
ALT (U/L)	22 (16–29.5)	21 (15–27.2)	28 (20–42)	0.002341
Platelets (10 ³ /mm ³)	239 (196.5–281)	245 (199.7–280)	221 (174–292.5)	0.3625
GGT (U/L)	33 (24–55.2)	32 (24–43)	53 (27–72)	0.0217
Ferritin (ng/mL)	129.87 (71.5–255)	139 (78–277.4)	97 (56.1–156.2)	0.06386
CRP (mg/dL)	0.43 (0.24–0.83)	0.43 (0.24–0.73)	0.45 (0.28–0.87)	0.6687
Fibroscan (kPa)	5.5 (4.7–6.8)	5.1 (4.5–5.9)	9.1 (7.8–13.2)	< 0.001
2D-SWE (kPa)	5.4 (4.4–6.8)	5 (4.1–5.7)	7.4 (6.6–10.1)	< 0.001
US-FLI (kPa)	5.5 (4–7)	5 (3–7)	6 (4.2–7)	0.1274
FIB-4	1.19 (0.87–1.69)	1.17 (0.86–1.58)	1.34 (0.94–2)	0.03868
FIB-4 Classification (N - %)				0.05654
Low FIB-4	73 (55.7)	57 (59.3)	16 (45.7)	
Indeterminate FIB-4	45 (34.3)	33 (34.3)	12 (34.2)	
High FIB-4	13 (9.9)	6 (6.2)	7 (20)	

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