

Assessment of Liver Stiffness and Fibrosis in Metabolic Dysfunction Associated Steatotic Liver Disease (MASLD) Patients in Abu Dhabi

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Aim: The study was performed at an outpatient Diabetes Centre. Screening for MASLD is recommended in individuals with obesity, metabolic syndrome, or persistently elevated liver enzymes. We compared Shear Wave Elastography (SWE)- on GE LOGIC E9 derived estimates of liver fibrosis and Fibrosis-4 (FIB-4) score in individuals at high clinical risk for MASLD.

Methods: Liver ultrasound (US) with SWE was performed in 395 individuals (145 (37.7%) female, age 46.7±11.8 years, 261 (66.1%) type 2 diabetes, 19 (4.8%) prediabetes, 115 (29.1%) normal glucose tolerance) identified at high risk of MASLD by their primary physician. SWE was interpreted according to the Society of Radiologists Consensus Statement. Liver steatosis was graded according to standardized US criteria. The FIB-4 index was calculated according to AN ONLINE CALCULATOR-. Missing values were imputed as the population mean. SWE assessment quality was adequate (IQR < 30% of median) in 386 cases.

Results:

US-assessed liver steatosis was undetectable in 9 (2.3%), mild in 60 (15.5%), moderate in 219 (56.7%) and severe in 98 (25.3%) individuals. The estimated FIB-4 score identified high risk in six (1.6%) individuals, indeterminate risk in 130 (33.7%) and low risk in 250 (64.8%). Liver stiffness estimates were normal in 69 (17.9%) participants, ruled out advanced chronic liver disease (cACLD) in 313 (81.1%) were not highly suggestive of cACLD in four individuals.

Conclusions:

Liver steatosis was detected in 97.7% of individuals who underwent US screening. The FIB-4 INDEX(-) appeared to overestimate the risk of fibrosis in this patient cohort, with none of the six individuals assessed at high risk having evidence of cACLD by SWE criteria (Table 1). The use of SWE to assess individuals considered at increased clinical risk of MASLD is supported.

Table 1: Comparison between SWE-determined and FIB-4 Index estimated advanced chronic liver disease risk (cACLD)

	cACLD risk by ARFI criteria			
FIB-4 Index	Normal	Rules out cACLD	Intermediate	Highly suggestive of cACLD
Low	53	197	0	0
Indeterminate	15	111	4	0
High	1	5	0	0