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LETTER TO THE EDITOR

Metabolic dysfunction-associated fatty liver disease and low muscle strength: A comment

Masood Muhammad Karim, Amna Subhan Butt

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Masood Muhammad Karim, Department of Gastroenterology, The Aga Khan University Hospital, Karachi 74800, Sindh, Pakistan

Amna Subhan Butt, Department of Medicine, Aga Khan University Hospital, Karachi 74800, Pakistan

Corresponding author: Amna Subhan Butt, FCPS, MBBS, MSc, Associate Professor, Department of Medicine, Aga Khan University Hospital, Stadium Road, Karachi 74800, Pakistan. amna.subhan@aku.edu

Abstract

The diagnosis of non-alcoholic fatty liver disease (NAFLD) and metabolic dysfunction-associated fatty liver disease only on the basis of laboratory parameter score such as Hepatic Steatosis Index which includes liver enzymes, gender, basal metabolic index, and presence of diabetic mellitus is not sufficient to exclude other causes of deranged liver enzymes especially medications and autoimmune related liver diseases. As the guideline suggests ultrasound is the preferred first-line diagnostic procedure for imaging of NAFLD, as it provides additional diagnostic information and the combination of biomarkers/scores and transient elastography might confer additional diagnostic accuracy and evident from previous similar studies too.

Key Words: Non-alcoholic fatty liver disease; Metabolic dysfunction associated fatty liver disease; Low muscle strength; Hepatic Steatosis Index; Letter to the editor

Core Tip: Combining imaging modalities along with laboratory parameter-based scores increases the diagnostic yield of non-alcoholic fatty liver disease, and helps in the exclusion of the other secondary causes.

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TO THE EDITOR

We found the article by Lee *et al*[1] compelling as the article addressed an important aspect of metabolic dysfunction-associated fatty liver disease (MAFLD), which has emerged as an emerging pandemic and a major public health issue worldwide, particularly in Asian countries[1-4]. In this study, the author emphasized the significant yet underexplored link between muscle strength and MAFLD.

However, in the current study, the diagnosis of MAFLD was based on the "Hepatic Steatosis Index" (HSI), a score consisting of non-invasive laboratory parameters. While the HSI demonstrated the highest sensitivity and specificity at 93% and 92%, respectively, there is still a possibility of missing approximately 7%-8% of patients (equivalent to 1400 patients) with MAFLD in the context of this study[5].

Moreover, HSI is calculated as HIS = 8 × [alanine aminotransferase (ALT)/aspartate aminotransferase (AST) ratio] + basal metabolic index (+ 2, if female; + 2, if diabetes mellitus). According to this formula deranged liver enzymes (AST and ALT) due to any concomitant cause can result in false positive results when other causes were not ruled out especially medication and autoimmune-related liver injuries which were not excluded in this study.

Furthermore, the European Association Society for Liver Diseases guideline suggests ultrasound as the preferred first-line diagnostic procedure for imaging of MAFLD, as it provides additional diagnostic information. However, the combination of biomarkers/scores with transient elastography might confer additional diagnostic accuracy[6].

In a similar European study about the association between fatty liver disease and low muscle mass by Rigor *et al*[7], the ultrasound abdomen was used to screen patients with fatty liver disease. Additionally, another recent Korean population-based study by Seo *et al*[8] also measured hepatic steatosis based on Fibro scan.

In our opinion, using imaging modalities such as ultrasound abdomen or fibroscan along with laboratory parameter-based scores could have not only increased diagnostic yield but also helped in the exclusion of the other secondary causes.

FOOTNOTES

Author contributions: Karim MM and Butt AS designed research and performed research (literature review); Karim MM wrote the letter; Butt AS revised the letter.

Conflict-of-interest statement: Both authors have no conflict of interest to disclose.

Country/Territory of origin: Pakistan

ORCID number: Masood Muhammad Karim 0000-0002-2513-7842; Amna Subhan Butt 0000-0002-7311-4055.

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