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Letter

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Letter: Hepatic Fibrosis and Steatosis in Metabolic Syndrome (J Obes Metab Syndr 2022;31:61–9)

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Nonalcoholic fatty liver disease has a worldwide prevalence of 25%, which includes diseases ranging from steatosis to steatohepatitis, and has a bidirectional association with metabolic syndrome (MetS).[1] Although a few studies have investigated the association between liver fibrosis and MetS, their findings have been controversial. A recent cohort study of a large patient-centered medical home found that a heavy burden of MetS components was associated with high or indeterminate risk for advanced fibrosis when noninvasive indices were used.[2] The results of studies evaluating fibrosis confirmed by liver biopsy were different. MetS was not significantly related to advanced liver fibrosis in biopsy-proven metabolic dysfunction-associated fatty liver disease patients[3] and MetS was not associated with hepatic fibrosis among individuals with hereditary hemochromatosis.[4]

Gangireddy et al.[5] reported useful findings in an article entitled "Hepatic fibrosis and steatosis in metabolic syndrome." In analysis using National Health and Nutrition Examination Survey (NHANES) data, 26% of the participants had steatosis; 7.5% had fibrosis; and 3.3% had fibrosis without steatosis. The adjusted odds ratios were 4.12 for steatosis, 3.34 for fibrosis, and 2.67 for fibrosis without steatosis in participants with MetS compared to those without. The strength of Gangireddy et al.'s study[5] is that it was population-scale study conducted in the United States. It also has some strengths in that hepatic fibrosis and steatosis were evaluated through liver ultrasound. However, as mentioned in the paper, the fact that hepatic fibrosis and steatosis were not evaluated by liver biopsy is one limitation, and it is necessary to consider a method to address this weakness. Another limitation is that noninvasive indices were not used. By using hepatic fibrosis and steatosis indices such as fatty liver index[6] and fibrosis-4 index[7] instead of or in addition to liver ultrasound, which was employed only during specific years of the NHANES dataset, the study period could be significantly extended, and a large-scale evaluation of the general population would be possible.

Nevertheless, as a study targeting the general population in the United States, Gangireddy et al.'s study[5] is meaningful and proves a relationship between hepatic fibrosis and steatosis and MetS. Therefore, further detailed analysis using noninvasive or invasive methods is needed to determine the direct association between hepatic fibrosis and steatosis and MetS. In addition, multi-ethnic-group studies would give us more concrete data regarding the impact of MetS on hepatic fibrosis and steatosis and improve the generalizability of these findings across various populations.

CONFLICTS OF INTEREST

The author declares no conflict of interest.

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