Diabetes, nonalcoholic fatty liver disease and obesity: What is the link?

Dear Editor,

We had the opportunity to read an interesting study by Saran Mohit *et al.*[1] that describes the correlation between diabetes, nonalcoholic fatty liver disease (NAFLD), and obesity in the Indian population. India is regarded as the world's capital of diabetes. The diabetic population in the country is close to hitting the alarming mark of 69.9 million by 2025 and 80 million by 2030.[2] With such alarming rates of prevalence, it is the need of the hour to study the disease and its associations closely to decipher prevention control strategies. Clinicians have long known that there is a direct epidemiological correlation between obesity and diabetes, as well as obesity and NAFLD.[3,4]

NAFLD and type 2 diabetes mellitus (T2DM) frequently coexist and work in cohesion to raise the risk of unfavorable (hepatic and extrahepatic) clinical outcomes.[5] However, the causal relationship between the three variables is still unknown and has not been quantified. The authors explored this grey area by conducting a retrospective, observational study with the groups designed as Group A: NAFLD with T2DM and Group B: NAFLD without T2DM.

The patients' anthropometric (age and gender), biochemical (BMI), and demographic characteristics were evaluated in the study (serum ALT, AST, albumin, serum triglycerides, and platelet count) and were scored based on the generated data using the NAFLD fibrosis score, BARD score, and APRI score.

Most NAFLD patients with diabetes were between the ages of 51 and 60, whereas those without the disease were between 41 and 50. In older individuals, there was a statistically significant link between having diabetes and having NAFLD (P value < 0.05). NAFLD and T2DM co-existence may lead to an increase in hepatic fibrosis and mortality. The authors recommend that, to a large extent, the noninvasive fibrosis scoring system, NFS, can be trusted to assess the likelihood of fibrosis and design efficient diagnostic, therapeutic, and preventive treatments. The other two noninvasive tests, BARD and APRI, cannot be used exclusively to confirm the level of fibrosis severity.

However, it is still unclear if NAFLD is a consequence of diabetes or whether it caused diabetes, leaving the question of causation open. A review by Amedeo Lonardo *et al.* also emphasizes that the relationship between T2DM and NAFLD is more complex than previously thought.[6] Future studies now have a very intriguing question to consider. The connection between type 1 diabetes mellitus (T1DM) and NAFLD is another area worth exploring. With the trend of obesity increasing in T1DM, the chances of NAFLD progression in such patients should also be studied.

These investigations will aid in determining the cause and likelihood of diabetic patients getting fibrosis, which will help design protocols for treatment and prevention.

Stringent diabetic control strategies and proper weight reduction programs should be adopted to halt the progression of NAFLD.

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Conflicts of interest

There are no conflicts of interest.

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