

# Predictors of High Cardiovascular Risk Among Nonobese Patients with Type 2 Diabetes and Non-Alcoholic Fatty Liver Disease in a Chinese Population [Letter]

Quan Lu, Yuanmei Lin, Zhengming Li

Department of Endocrinology and Metabolism, the Guangxi Academy of Medical Sciences, the People's Hospital of Guangxi Zhuang Autonomous Region, Nanning, Guangxi, 530021, People's Republic of China

Correspondence: Zhengming Li, Email qyy\_zmli@163.com

## Dear editor

Ruan S team recently published paper entitled “Predictors of High Cardiovascular Risk Among Nonobese Patients with Type 2 Diabetes and Non-Alcoholic Fatty Liver Disease in a Chinese Population” in Diabetes Metabolic Syndrome and Obesity.<sup>1</sup> Admittedly, non-alcoholic fatty liver disease (NAFLD) distinguished by hepatic insulin resistance plays a vital role in the adverse cardiovascular outcomes of type 2 diabetes mellitus (T2DM). We congratulate them on their findings.

This study explored cardiovascular risk factors in nonobese patients with T2DM. All participants were divided into two groups: NAFLD and non-NAFLD. The NAFLD patients were further grouped based on the ultrasound attenuation parameter (UAP) tertiles. According to multivariate logistic regression analysis, they concluded that age, systolic blood pressure, atherogenic index of plasma (AIP), and low-density lipoprotein cholesterol (LDL-C) are independent risk factors for cardiovascular outcomes in nonobese individuals with T2DM and NAFLD.

Although we greatly appreciate this work, the study design needs further improvement to obtain more convincing conclusions. Firstly, according to the latest expert consensus,<sup>2</sup> compared to NAFLD, metabolic dysfunction-associated fatty liver disease (MAFLD) may be a more suitable name, especially in patients with T2DM. Secondly, the indicators ( $P < 0.1$  in univariate analysis) such as FBG ( $P = 0.098$ ), Cr ( $P = 0.091$ ), and liver stiffness measurement (LSM) ( $P = 0.057$ ) in Table 3 are closely related to the prognosis of diabetes in real-world clinical practice,<sup>3</sup> which should be included in further multivariate regression analysis. Otherwise, it will result in the loss of useful information. Thirdly, absence of information on participant thyroid function. Hashimoto thyroiditis, subclinical hypothyroidism, hyperthyroidism, and even low triiodothyronine syndrome are a crucial risk factor for cardiovascular disease.<sup>4</sup> Fourthly, absence of information regarding therapeutic regimens for T2DM. Participants in this study have had diabetes for 5–7 years (see Table 1). Per guidelines,<sup>5</sup> treatment schedules benefiting cardiovascular for SGLT-2i and GLP-1RA should already be conducted, which will definitely affect the study's findings.

In short, only by addressing the above issues can research results be more trustworthy.

## Disclosure

The authors report no conflicts of interest in this communication.

## References

1. Ruan S, Yuan X, Liu J, et al. Predictors of high cardiovascular risk among nonobese patients with type 2 diabetes and non-alcoholic fatty liver disease in a Chinese population. *Diab Metab Syndr Obes*. 2024;17:493–506. doi:10.2147/DMSO.S441641
2. Eslam M, Newsome PN, Sarin SK, et al. A new definition for metabolic dysfunction-associated fatty liver disease: an international expert consensus statement. *J Hepatol*. 2020;73(1):202–209. doi:10.1016/j.jhep.2020.03.039
3. Liao Y, Liu L, Yang J, et al. Analysis of clinical features and identification of risk factors in patients with non-alcoholic fatty liver disease based on Fibro Touch. *Sci Rep*. 2023;13(1):14812. doi:10.1038/s41598-023-41596-2
4. Jabbar A, Pingitore A, Pearce SHS, et al. Thyroid hormones and cardiovascular disease. *Nat Rev Cardiol*. 2017;14(1):39–55. doi:10.1038/nrcardio.2016.174
5. Davies MJ, Aroda VR, Collins BS, et al. Management of hyperglycemia in type 2 diabetes, 2022. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). *Diabetes Care*. 2022;45(11):2753–2786. doi:10.2337/dci22-0034

Dove Medical Press encourages responsible, free and frank academic debate. The content of the Diabetes, Metabolic Syndrome and Obesity 'letters to the editor' section does not necessarily represent the views of Dove Medical Press, its officers, agents, employees, related entities or the Diabetes, Metabolic Syndrome and Obesity editors. While all reasonable steps have been taken to confirm the content of each letter, Dove Medical Press accepts no liability in respect of the content of any letter, nor is it responsible for the content and accuracy of any letter to the editor.

### Diabetes, Metabolic Syndrome and Obesity

Dovepress

### Publish your work in this journal

Diabetes, Metabolic Syndrome and Obesity is an international, peer-reviewed open-access journal committed to the rapid publication of the latest laboratory and clinical findings in the fields of diabetes, metabolic syndrome and obesity research. Original research, review, case reports, hypothesis formation, expert opinion and commentaries are all considered for publication. The manuscript management system is completely online and includes a very quick and fair peer-review system, which is all easy to use. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <https://www.dovepress.com/diabetes-metabolic-syndrome-and-obesity-journal>

<https://doi.org/10.2147/DMSO.S464017>