QJM: An International Journal of Medicine, 2023, 91–92

https://doi.org/10.1093/qjmed/hcac044
Advance Access Publication Date: 15 February 2022
Letter to Editor

LETTER TO EDITOR

Response to: Glycemic control and COVID-19 outcomes: the missing metabolic players

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We thank Dr Rohan Magoon for his comments and insight in response to our recent original article 'Short- to long-term prognosis of glycemic control in COVID-19 patients with type 2 diabetes', in which we concluded that the management and control of blood glucose has a positive impact on short- and long-term prognosis of coronavirus disease 2019 (COVID-19).[1] We coincide with his opinion that incorporation of the metabolic factors could enhance the lucidity and robustness of our findings.

The complex interplay of diabetes, obesity and COVID-19 has been debated for a long time and has come to different conclusions.[2–5] In most studies, both diabetes and obesity have shown deleterious effects on host immunity and act as high-risk factors for COVID-19,[5] although a Mendelian randomization study reported that obesity, but not Type 2 diabetes (T2D), was a primary risk factor of COVID-19 hospitalization.[6] An international, multicenter retrospective meta-analysis identified that diabetes and overweight/obesity were independent, nonadditive risk factors for in-hospital severity of COVID-19.[7] An ecological study in 2457 municipalities in Mexico revealed that diabetes and obesity were independently associated with the mortality rate of COVID-19.[8] Recently, a nationwide study of 134 209 adult inpatients with COVID-19 in France also revealed that diabetes and obesity were independent risk factors for invasive mechanical ventilation and in-hospital death of COVID-19.[9] Actually, it's very difficult to address this paradox, not to mention exploring the full metabolic factors, in such a local observational study with hundreds of

Submitted: 5 February 2022

sample size. These questions require consortium studies with extensive international cooperation and large sample sizes, like the international BMI-COVID consortium and COVIDIAB, an international group of leading diabetes researchers is establishing a Global Registry of COVID-19-related diabetes. Huoshenshan Hospital and Taikang-Tongji Hospital are two emergency field hospitals established during the COVID-19 outbreak in Wuhan, China.[10–12] All the COVID-19 patients were admitted between 12 February and 10 April 2020, and no physical measurement and blood lipid data were collected. T2D is highly heterogeneous internally, and the current study focuses on the effect of glycemic control on short- to long-term prognosis of COVID-19 with T2D. The design is reasonable considering the important role of T2D in prognosis of COVID-19. Further well-designed randomized controlled trials are warranted to explore the role of full metabolic factors in prognosis of COVID-19.

Funding

The present study was funded by Outstanding Youth Science Foundation of Chongqing (cstc2020jcyj-jqX0014), Chongqing Talents: Exceptional Young Talents Project (CQYC202005003) and the Science Foundation for Outstanding Young People of the Army Medical University (grant to Prof X.M. and L.L.). The funders had no role in study design, data collection and analysis, decision to publish or preparation of the manuscript.

Conflict of interest. None declared.

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