LETTER TO THE EDITOR

WILEY

In response: Diabetes is a risk factor for the progression and prognosis of COVID-19

Abstract

The article cited does not differentiate between Type I and Type II diabetes. More information is needed to properly assess risk.

KEYWORDS

COVID, diabetes, risk

I read with interest your recent publication diabetes is a risk factor for the progression and prognosis of COVID-19.[1] The authors document worse outcomes in patients with COVID-19 and "diabetes," and suggest "intensive attention should be paid to patients with diabetes." Unfortunately, the article lacks significant data, making application of its results impossible.

First, there is no mention of whether the patients included in the study had Type I or Type II diabetes, two completely different diseases. The authors state 29.2% took insulin before admission; 100% of type I diabetics require insulin and 27% of those with type II disease need this medication,[2] suggesting either there was a mix in their study, or that all the patients had the latter. In addition, there is a solitary reference to type: "Type 2 diabetes is viewed as a chronic, low-grade inflammatory disease caused by long-standing immune system imbalance." This perhaps suggests *all* the patients had type 2 disease. Type I diabetes is an autoimmune disease characterized by an antibody-mediated attack on islet cells. Type 2, as referenced in the manuscript, has increased release of inflammatory factors and chemokines.[1,3] Thus, both are conditions which might plausibly be associated with the overblown immune response which bodes for worse outcome from COVID-19 infection. However, the reader is left guessing as to the type(s) of diabetics included in the manuscript.

Differentiating the type of diabetes in their patients is critical. A total of 90%-95% of diabetics are type 2,[4] and these patients will thus be seen (and potentially adversely affected by COVID) more frequently. But type I patients are much younger, and older age is a prognosticator for poor outcome with COVID infection.[5] Physicians might otherwise dismiss young patients with infections; knowing which young patients are actually at high risk might lead to earlier interventions.

Next, despite a plethora of included laboratory findings, the authors do not furnish glucose levels, at or preceding admission. Do the worsened COVID outcomes only apply to those with poor glycemic control (which would be suggested by high glucose levels at admission)? Or are the immune responses cited above responsible, regardless of tight regulation?

In conclusion, the authors' recommendations in the manuscript are too broad. We realize patient numbers are small, but knowing the type of diabetes and patients' glucose control at admission would dramatically help physicians apply these recommendations to diabetics with COVID-19 and thus would help them provide better care.

Charles D. Blanke

Knight Cancer Institute and Department of Medicine, Oregon Health and Science University, Portland, Oregon

Correspondence

Charles D. Blanke, Knight Cancer Institute and Department of Medicine, Oregon Health and Science University, 2611 SW 3rd Ave, MQ280, Portland OR 97201, USA.
Email: blankec@ohsu.edu

ORCID

Charles D. Blanke https://orcid.org/0000-0002-6493-7834

REFERENCES

1. Guo W, Li M, Dong Y, et al. Diabetes is a risk factor for the progression and prognosis of COVID-19. *Diabetes Metab Res Rev.* 2020;e3319. https://doi.org/10.1002/dmrr.3319.
2. https://www.cdc.gov/diabetes/basics/diabetes.html. Accessed April 10, 2020.
3. Shu CJ, Benoist C, Mathis D. The immune system's involvement in obesity-driven type 2 diabetes. *Semin Immunol.* 2012;24(6):436-442.
4. https://bit.ly/2xjKnOF. Accessed April 10, 2020.
5. Severe outcomes among patients with coronavirus disease 2019-United States, February 12–March 16, 2020. *Morb Mortal Wkly Rep.* 2020;69:343-346.