



COMMENT ON PIETROPAOLO ET AL.

# Incidence of an Insulin-Requiring Hyperglycemic Syndrome in SARS-CoV-2-Infected Young Individuals: Is It Type 1 Diabetes? Diabetes 2022;71:2656–2663

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We read with great interest the study by Pietropaolo et al. (1), who investigated the incidence of type 1 diabetes in patients with coronavirus disease 2019 (COVID-19). Using a large, global population database, the TriNetX COVID-19 Research Network, they found that the incidence of type 1 diabetes among COVID-19 patients <30 years of age is not greater than that for a non-COVID-19 age-, sex-, and BMI-matched population (1). They also raised concerns about the possible confounding effect of an asymptomatic or a diabetic/prediabetic state in patients with COVID-19. In addition, we have other concerns about an important confounding factor, corticosteroid.

For hospitalized patients with COVID-19, administration of systemic corticosteroid is recommended as the standard of care (2). However, systematic use of corticosteroid could be associated with several adverse events, such as possible corticosteroid-induced diabetes, which can be caused by corticosteroid-induced insulin resistance in the liver, adipocytes, and skeletal muscle, and the direct deleterious effects on insulin secretion (3–5). Although several important confounding factors, such as age, sex, and BMI, were adjusted for in study by Pietropaolo et al. (1), the researchers did not evaluate the effect of corticosteroid. In addition to corticosteroid, hyperglycemia and diabetes have

been reported to be associated with several medications, such as thiazide diuretics,  $\beta$ -blockers, antipsychotics, and statins. Therefore, we suggest that further analysis after adjusting for the effect of these medications is needed to clarify the role of severe acute respiratory syndrome-coronavirus 2 itself on the development of diabetes.

**Duality of Interest.** No potential conflicts of interest relevant to this article were reported.

## References

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