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In response to: "Children with Newly Diagnosed Type 1 Diabetes Before and During the COVID-19 Pandemic"

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Dear Editor,

We would like to thank Mungmunpuntipantip and Wiwanitkit (1) for their interest in our study and for sharing their ideas. The authors have provided an insightful perspective on an abnormal immune response/inflammation or increased blood viscosity as a possible explanation for the association between type 1 diabetes (T1D)/diabetic ketoacidosis (DKA) and Coronavirus disease-2019 (COVID-19) by the relevant literature (2,3).

Several authors have suggested that COVID-19 can amplify an individual's risk of diabetes, primarily type 2 diabetes, months after the infection (4). People with a high body-mass index, a risk factor for type 2 diabetes already, had more than double the probability of developing diabetes after the infection. The risk of developing diabetes was also correlated with the severity of COVID-19. However, evidence on a link between COVID-19 and newly diagnosed T1D remains inconsistent. A recent study by van der Heide et al. (5), demonstrating the limits of pancreatic Severe acute respiratory syndrome-Coronavirus-2 (SARS-CoV-2) infection, challenged the proposition that targeting of beta cells by SARS-CoV-2 precipitates new-onset diabetes. Salmi et al. (6) showed that the increased rate of severe DKA at diagnosis during the pandemic was not a consequence of COVID-19 in children. Instead, similar to us, they suggested that it might be related to delays in diagnosis following changes in parental attitudes and access to healthcare. Additionally, we would like to emphasize that although we've found an increased frequency and severity of DKA in children with newly diagnosed T1D in the pandemic period compared to the pre-pandemic period, PCR tests were administered to only six patients with a history of contact, revealing no COVID-19-positive case in our study (7). Thus, we think that a definite interpretation of the hyperviscosity or an immune response induced by COVID-19 as a triggering factor for DKA development could not be made based solely on our findings.

In summary, our study has investigated the presenting characteristics of newly diagnosed T1D patients during the pandemic and compared them with the pre-pandemic period. Our findings justify the concerns of delays in T1D diagnosis, among other diseases during the pandemic period, probably due to hesitations in referring to hospitals. Furthermore, strategies and guidance should be provided to empower clinicians and patients to avoid DKA when possible. Finally, further studies are warranted to investigate the possible association of restricted pancreatic damage, immunologic alterations/inflammation, or increased blood viscosity with T1D/DKA and COVID-19, as suggested by Mungmunpuntipantip and Wiwanitkit (1).

Ethics

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