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Letter to the Editor

Letter to the editor in response to the article “COVID-19 and diabetes: Can DPP4 inhibition play a role?”



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ABSTRACT

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Dear Sir:

In recently published commentary, Iacobellis [1] reported potential role of dipeptidyl peptidase 4 (DPP4) in coronavirus disease 2019 (COVID-19) infected people with type 2 diabetes. Results reported by Ray et al. [2] on another coronavirus (human coronavirus Erasmus Medical Center (hCoV-EMC)) showed that antibodies directed against DPP4 inhibited hCoV-EMC infection of primary human bronchial epithelial cells. Also, Ray et al. reported that hCoV-EMC infection could not be blocked by DPP4 inhibitors such as vildagliptin, sitagliptin, and saxagliptin. Another placebo-controlled randomised clinical trial showed decrease in lymphocyte count among saxagliptin users [3].

Other than inactivating incretin hormones, DPP4 inhibitors have also other effects including those on immune system which may lead to increased infection risk [4]. A reduction of T-cell activity with DPP4 inhibition has been seen in vitro studies [5,6]. Even though meta-analysis by Yang et al. [7] showed that upper respiratory tract infections does not increase significantly with DPP4 inhibitor treatment, another study by Willemen et al. reported opposite [4]. In this

study infections were two times more frequently reported for DPP4 inhibitors compared with biguanides [4]. Overall, the immune response is impaired in patients with diabetes, and there is increasing evidence that DPP4 inhibitors may result in suppression of the immune system and may increase the risk of infections such as pneumonia [4,8–10]. Upper respiratory tract infections can eventually lead to a serious or life-threatening condition, such as epiglottitis or pneumonia [10], especially in persons with type 2 diabetes.

Even though the patients with type 2 diabetes are exposed to low grade chronic inflammation [1] which can cause an abnormal immune response, it is still unclear whether DPP4 has a potential role in COVID-19. So we mustn't run to presume that DPP4 inhibitors can reduce the risk of acute respiratory complications in type 2 diabetes with COVID-19 infection, and for now we need to distinguish DPP4 inhibition from DPP4 inhibitors until future studies show different.

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Declaration of Competing Interest

Author declare no conflict of interest.

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