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Letter to the Editor

Is blood glucose or obesity responsible for the bad prognosis of COVID-19 in obesity – diabetes?

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Sir,

We read with interest the paper on clinical outcomes in patients with COVID-19 and pre-existing type 2 diabetes [1]. In the COVID-19 pandemics, several patients are affected by co-morbidities such as cardiovascular diseases (CVD), diabetes, and obesity. The pathogenic mechanism is far from being understood, but recent evidence shows that the severity of SARS-CoV-2 infection is attributable, rather than to the virus itself, to pro-inflammatory cytokine storm and to exaggerated systemic inflammation, that trigger abnormal activation of coagulative cascade and thrombotic states [2]. A meta-analysis shows that patients with diabetes [DM] have an incidence of Covid-19 similar to patients without DM [3], but DM patients show a worse prognosis [1,4,5], mainly depending on hyperglycemia. If it were only a matter of metabolic control, the COVID-19 disease would not be different from previous viral SARS epidemics, in which diabetes was a risk factor for bad prognosis [6]. However, in these studies [1,4,5], body mass index (BMI) is not considered; when investigated, obesity was more prevalent than diabetes [7], and increasing evidence shows that obesity is itself a bad prognostic factor as to admission to intensive care units, invasive ventilation, and death [8,9]. Obesity shares pro-thrombotic and pro-inflammatory patterns with DM [8,9], and has profound mechanical effects on respiration [10]. Therefore, we speculate that BMI and BG play an additional or synergistic role in the bad prognosis of COVID-19 in DM. Intensifying the treatment of obese

patients, who are also diabetic, might be important in yielding a better prognosis.

Ethical statement

Does not apply.

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Authors contributions

AEP, LSL, DC, and FF participated equally in study design; antonio e pontiroli and lucia la sala performed literature search; all authors performed interpretation of data, and all authors contributed to writing the manuscript.

Declaration of Competing Interest

AEP, LSL, DC, and FF have no conflict of interest with the contents of this paper.

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