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## Journal of Infection

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## Letter to the Editor

**Letter in response to article in journal of infection:  
“Clinical characteristics of 345 patients with coronavirus  
disease 2019 in Japan: A multicenter retrospective study”**



We read with great interest the study by Ishii M et al., in which hyperuricemia was deemed a novel risk factor for COVID-related death.<sup>1</sup> In this study, severity was defined as the need for oxygen supplementation. Respiratory failure is indeed the most important pathology that contributes to the severity of COVID-19. Obesity is associated with restrictive breathing patterns and reduced lung volumes and is a risk factor for acute respiratory distress syndrome.<sup>2</sup> Furthermore, it is also reported as an independent risk factor for the severity of COVID-19.<sup>3,4</sup> We have previously reported that the association of hypertension, diabetes, and ethnicities, all of which that correlate to obesity, with the severity of COVID-19 and H1N1 may be confounded by obesity to a considerable extent.<sup>5</sup> Hyperuricemia and obesity are known to be significantly correlated. Although multiple regression analysis showed that hyperuricemia is an independent risk factor for COVID-related death, the analysis did not include obesity or body mass index as an explanatory variable. Therefore, to truly show that hyperuricemia is a novel risk factor for COVID-related death, a multiple regression analysis including obesity as an explanatory variable is warranted.

**Declaration of Competing Interest**

None.

**References**

1. Ishii M, Terai H, Kabata H, Masaki K, Chubachi S, Tateno H, et al. Clinical characteristics of 345 patients with coronavirus disease 2019 in Japan: a multicenter retrospective study [published online ahead of print, 2020 Sep 10]. *J Infect* 2020. doi:10.1016/j.jinf.2020.08.052.
2. Simonnet A, Chetboun M, Poissy J, Raverdy V, Noulette J, Duhamel A, et al. High prevalence of obesity in severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) requiring invasive mechanical ventilation. *Obes Silver Spring* 2020;28(7):1195–9. doi:10.1002/oby.22831.
3. Petrilli CM, Jones SA, Yang J, Rajagopalan H, O'Donnell L, Chernyak Y, et al. Factors associated with hospital admission and critical illness among 5279 people with coronavirus disease 2019 in New York City: prospective cohort study. *BMJ* 2020 369:m1966. Published 2020 May 22. doi:10.1136/bmj.m1966.
4. Docherty AB, Harrison EM, Green CA, Hardwick HE, Pius R, Norman L, et al. Features of 20 133 UK patients in hospital with covid-19 using the ISARIC WHO clinical characterisation protocol: prospective observational cohort study. *BMJ* 2020 369:m1985. Published 2020 May 22. doi:10.1136/bmj.m1985.
5. Miyazawa D. Why obesity, hypertension, diabetes, and ethnicities are common risk factors for COVID-19 and H1N1 influenza infections [published online ahead of print, 2020 Jun 24]. *J Med Virol* 2020. doi:10.1002/jmv.26220.

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