Reply to letter on Acute-onset smell and taste disorders in the context of COVID-19: a pilot multicentre polymerase chain reaction based case-control study

Á. Beltrán-Corbellini<sup>a</sup>
J. L. Chico-García<sup>a</sup>
J. Martínez-Poles<sup>b,c</sup>, F. Rodríguez-Jorge<sup>a</sup> and A. Alonso-Cánovas<sup>a</sup>

<sup>a</sup>Department of Neurology, University Hospital Ramón y Cajal, Madrid, <sup>b</sup>Department of Neurology, Hospital La Luz, Madrid, and <sup>c</sup>Neurological Disorders Study Group, Institute for Sanitary and Biomedical Research Clínico San Carlos (IdISSC), University Hospital Clínico San Carlos, Madrid, Spain

Correspondence: A. Beltran-Corbellini, Secretaría de Neurología, Hospital Universitario Ramón y Cajal. Ctra. de Colmenar, Km 9, N 100, 28034. Madrid, Spain. (tel.: +0034 913368000; e-mail: beltran\_corbellini@hotmail.com).

doi:10.1111/ene.14359

Received: 19 May 2020 Accepted: 19 May 2020

## Dear Editor,

We thank our colleagues for their constructive discussion on our recently published study [1]. Regarding prevalence, indeed, growing literature yields a variable frequency of loss of smell (LOS) in COVID-19 patients that may hypothetically be due to differences in the location and amount of viral load, to the different immune response between younger mild-symptomatic outpatients (higher prevalence) and more severely affected inpatients (lower prevalence) [1,2] and to the variable methods of measurement.

Likewise, there may be a mismatch between self-reported and objective LOS, both over- and under-estimation [3]. Standardized objective measurements are necessary for an accurate description of the syndrome, but we believe selfreported LOS analysis is very relevant, and pragmatically more useful in a real-life setting.

As for the low prevalence and/or lack of association of nasal obstruction with LOS, several previous reports [2,4] agree with our findings, suggesting that it is likely that olfactory neuroepithelium damage is responsible for this sensory loss. Certainly, further investigation is warranted to confirm this [5].

Finally, we agree that we assumed a recall bias regarding our historical control sample of influenza. Unfortunately, during the maximum incidence of COVID-19, there were not enough truly reliable SARS-CoV-2 polymerase chain reaction negative patients nor admissions for other respiratory infections in our centres.

## DISCLOSURE OF CONFLICT OF INTEREST

The authors declare no financial or other conflicts of interest.

## References

- Beltrán-Corbellini Á, Chico-García JL, Martínez-Poles J, *et al.* Acute-onset smell and taste disorders in the context of COVID-19: a pilot multicentre polymerase chain reaction based case–control study. *Eur J Neurol* 2020; 27: 1738–1741.
- Yan CH, Faraji F, Prajapati DP, Ostrander BT, DeConde AS. Self-reported olfactory loss associates with outpatient clinical course in COVID-19. *Int Forum Allergy Rhinol* 2020; 10: 821–831.
- Lechien JR, Cabaraux P, Chiesa-Estomba C, et al. Objective olfactory testing in patients presenting with sudden onset olfactory dysfunction as the first manifestation of confirmed COVID-19 infection. *Medrixv* 2020; 18. https://doi.org/10.1101/2020.04.15. 20066472
- Lechien JR, Chiesa-Estomba CM, Place S, et al. Clinical and epidemiological characteristics of 1,420 European patients with mild-to-moderate coronavirus disease 2019. J Int Med 2020. https://doi. org.10.1111/joim.13089. [Epub ahead of print]
- Vaira LA, Salzano G, Fois AG, Piombino P, De Riu G. Potential pathogenesis of ageusia and anosmia in COVID-19 patients. *Int Forum Allergy Rhinol* 2020. https://doi.org/10.1002/alr.22593. [Epub ahead of print]

ĸ