The Laryngoscope

Letter to the Editor

In Response to: In Reference to *Anosmia and Ageusia: Common Findings in COVID-19 Patients*

Dear Editor:

We would like to thank Dr. Lechien and colleagues for their valuable comments[1] on our article.[2] We are pleased that our communication has aroused such great interest in the scientific community and raised attention to chemosensitive disorders as pivotal symptoms in coronavirus disease 2019 (COVID-19) patients.

Our analysis only included patients with polymerase chain reaction (PCR)-confirmed severe acute respiratory syndrome coronavirus 2 infection on nasopharyngeal swab. The anamnestic data were collected from medical records by several colleagues who worked in the COVID-19 triage departments of northern Italy hospitals. As stated in the article, we were sure that this frequency was underestimated because specific chemosensitive anamnesis had not been performed, and patients, especially those with serious disease, tend to under–self-report these symptoms.

We immediately began to objectively evaluate patients with psychophysical tests, collecting over 450 cases.[3–5] The analysis of this case series revealed a chemosensitive disorders frequency consistent with that reported by Lechien et al.[6] in their anamnestic study. 74.2% of patients reported olfactory and gustatory disorders during the course of the infection. However, the 30.3% of patients who did not report taste and smell disturbances showed mild hyposmia on psychophysical tests. Moreover, patients who self-reported isolated dysfunctions of smell or test then objectively presented associated hyposmia or hypogeusia in 32.3% and 22.7% of the cases, respectively. For this reason, interview studies may underestimate the frequency of these disorders.

We agree with Lechien and colleagues that the peculiar absence of associated rhinitis symptoms should be emphasized. This feature differentiates the clinical presentation of chemosensitive dysfunctions in COVID-19 patients from the olfactory disorders associated with common flu.[2,7]

After publication of this first report, we had the opportunity to deepen the topic of the pathogenesis of chemosensitive disorders based on the objective results of the psychophysical tests and the functional recovery rate over time.[8] The relative frequency of neurological symptoms and the tendency to spontaneous regression of the disorders would exclude an invasion of the central nervous system with neuronal death. In our opinion, olfactory and gustatory alterations are more likely due to viral damage on the olfactory support cells (i.e., substentacular cells, basal cells) and on the taste buds receptors, which are in fact rich in angiotensin-converting enzyme 2 receptors.[8] However, the pathogenesis of chemosensitive dysfunctions as well as their long-term prognosis are still far from being fully elucidated.

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