

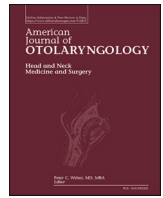


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# American Journal of Otolaryngology–Head and Neck Medicine and Surgery

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## The role of nasal immunoglobulins in the recovery of olfactory function in COVID-19 patients

### ARTICLE INFO

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#### Dear editor,

We read the paper of Maiorano et al. [1] that has the merit to investigate whether there are significant correlations between clinical and laboratory parameters and the persistence of chemosensory disorders in coronavirus disease 2019 (COVID-19) patients. According to the high prevalence of persistent severe olfactory dysfunctions at 6 months [2], the identification of these risk factors remains essential for selecting patients who need to undergo specific therapy in order to avoid long-term morbidity. The authors found a significant positive correlation between persistent olfactory dysfunction and the presence (and not the level) of viral ribonucleic acid (RNA) in the nasopharyngeal swab. Unlike the other previously published studies [3,4], Maiorano et al. [1] used a direct method of quantification of viral RNA. Unlike the cycle threshold, this method eliminates the bias introduced by possible incorrect sampling, increasing the reliability of the results [5]. With the same methodology, but using psychophysical tests and with a longer observation period, we did not find significant associations between viral RNA levels and duration of olfactory dysfunction (OD) [6].

Interestingly, authors investigated the correlation between duration of OD and serum IgG levels but they did not find significant association. Authors reported that this finding was unexpected since higher IgG titres should correspond to more effective responses to the infection and, theoretically, less severe and lasting symptoms. In a recent study [7], we similarly did not find significant correlation between persistence of OD and serum IgG levels. A strong and significant inverse correlation was instead detected with nasal and salivary IgG levels. Although IgG is often considered as a systemic antibody, it is increasingly recognized that it is also produced at the mucosal level and can participate in mucosal immune response [8]. Interestingly, in COVID-19 serum and nasal IgG levels do not have a direct correlation and, on the contrary, it seems that patients with severe disease had higher serum antibody levels whilst nasal antibodies were higher in milder disease [9]. On this basis it is therefore not so surprising that Maiorano et al. did not find significant correlation between serum IgG and severity or duration of OD. On the contrary, the inverse association between local IgG levels and duration

of OD may suggest a role for antibodies in the control of viral replication [10] and prevention of epithelial damage which however should be clarified by future studies.

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#### Ethical approval

N/A.

#### Informed consent

N/A.

#### Declaration of competing interest

None declared.

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