

## Smell and taste dysfunction during the COVID-19 outbreak: a preliminary report

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**Summary.** In late December 2019, in Wuhan (China), health authorities reported several clusters of pneumonia of unknown cause, subsequently attributed to a novel coronavirus, identified as Severe Acute Respiratory Syndrome-Coronavirus 2. Anosmia and dysgeusia have been reported as particular symptoms.<sup>4,5</sup> Notably, these sensory symptoms seem to have a peculiar trend, such as usually precede the onset of respiratory symptoms. So, they have been defined as “sentinel” symptoms. We presented a series of COVID-19 patients. Anosmia and dysgeusia frequently preceded respiratory complaints. Anosmia and dysgeusia seem to be short-lived and self-resolving in COVID-19, thus a neurotoxic effect swiftly disappearing and/or cytopathic damage could be hypothesized similarly to other viral infections. ([www.actabiomedica.it](http://www.actabiomedica.it))

**Key words:** COVID-19, anosmia, dysgeusia, respiratory symptoms

Sir,

In late December 2019, in Wuhan (China), health authorities reported several clusters of pneumonia of unknown cause, subsequently attributed to a novel coronavirus, identified as Severe Acute Respiratory Syndrome-Coronavirus 2 (1). Due to the rapid worldwide spread of the outbreak, the World Health Organization declared that Coronavirus Disease-19 (COVID-19) was a global pandemic (2). Italy has been the first European country involved and has now the highest number of infected and dead patients. Vukkadala and colleagues provided a review to implement practical strategies (3).

The main symptoms are fever, dry cough, dyspnea, myalgia, and headache. However, anosmia and dysgeusia have been reported as particular symptoms (4,5). Notably, these sensory symptoms seem to have a peculiar trend, such as usually precede the onset of respiratory symptoms. So, they have been defined as “sentinel” symptoms. In this regard, the European Rhinologic Society advised that patients with sudden

onset loss of smell should be considered to be COVID-19 positive ([www.europeanrhinologicsociety.org](http://www.europeanrhinologicsociety.org)). However, smell and taste dysfunction usually disappear before the end of COVID-19. This particular characteristic is very dissimilar to anosmia consequent to another viral infectious rhinitis: in fact, some patients experience irreversible anosmia.

Based on this background, we would present a preliminary report concerning a series of patients visited in Puglia in a primary care setting. The nasopharyngeal and oropharyngeal swab was performed in 89 patients. Real-time PCR was positive in 72 (81%) subjects. Therefore, only the 72 COVID-19 patients were analyzed. The mean age was 49.7 years (range 19-70 years), 39 males and 33 females. The main symptoms were fever (86%), cough (80%), breathlessness (47%), weakness (40%), headache (22%), myalgia (18%), nausea/vomiting (15%), diarrhea (11%), nasal congestion (7%). At present, 35 (49%) patients had clinical resolution; in these patients, the mean duration of symptoms was 22 days (range 8-29 days). Concerning sensory symptoms, isolated anosmia was perceived in 8

(11%), isolated dysgeusia in 18 (25%), and 34 (47%) patients reported both anosmia and dysgeusia; 12 (17%) patients had no sensory symptoms. The sensory symptoms preceded respiratory symptoms in 45 (75%) patients. The mean latent period between smell and taste dysfunction and the onset of respiratory symptoms was 2.8 days (range 1–4 days). Sensory symptoms completely disappeared in 22 (37%) patients, partially in 20 (33%), and unchanged in 18 (30%). The mean duration of sensory symptoms lasted 16.1 days (range 7–22 days). Of course, these data are still preliminary. Indeed, a large study is ongoing.

Smell dysfunction is a common symptom in patients with nasal disorders, including infectious and inflammatory disease, mainly sustained by type 2 inflammation (6). Hypo/anosmia may be perceived also in patients with other problems, such as metabolic and neurologic diseases (7,8).

Anosmia and dysgeusia seem to be short-lived and self-resolving in COVID-19, thus a neurotoxic effect swiftly disappearing and/or cytopathic damage could be hypothesized similarly to other viral infections (9). More experience should answer to these unmet needs.

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**Conflict of interest:** Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article

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