

## SELF-REPORTED SUDDEN ONSET HYPOSMIA: AN EARLY PRESENTATION OF SARS COV-2 INFECTION

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**Article Info:** Received 10 November 2020; Accepted 11 December 2020

**DOI:** <https://doi.org/10.32553/ijmbs.v4i12.1552>

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**Conflict of interest:** No conflict of interest.

### Abstract

The present outbreak of COVID-19 started in December 2019 in Wuhan, a city in Hubei province in China. The World health organization labeled the disease a global pandemic on March 11, 2020. The disease is caused by a virus called severe acute respiratory coronavirus-2 (SARS CoV-2). The individuals may remain asymptomatic or present with symptoms of infection. The common presenting symptoms include but are not limited to fever, dry or productive cough, malaise. Contrary to the typical clinical presentation of COVID-19, the patients may present with non-specific symptoms of olfactory or gustatory origin. The olfactory symptoms include hyposmia or anosmia. Physicians may be vigilant to screen and isolate patients with sudden onset hyposmia or anosmia, an early indication of infection that will minimize person-to-person transmission and will contain the virus spread.

**Keywords:** COVID-19, SARS CoV-2, Hyposmia, Anosmia, Physician.

### Introduction

In December 2019, many cases of pneumonia of unknown cause were reported in the Wuhan city of Hubei province of China. Latter on the virus identified for the disease was severe acute respiratory syndrome coronavirus 2 (SARS CoV-2). The disease was labeled by the World Health Organization (WHO) as COVID-19 and declared a pandemic on March 11, 2020. The pandemic affects millions globally and as of December 7, 2020, the worldwide confirmed infections in total are over 66 million in 191 countries/regions and the US alone has confirmed cases over 14 million and is the world's leading country in terms of infections<sup>1</sup>.

The infection may remain asymptomatic or the symptoms range from mild, moderate to severe that may be fatal. Besides the common presenting symptoms of COVID-19, the infected individuals may present with atypical symptoms such as olfactory or gustatory that was not recorded from China at the start of the pandemic but later were reported across different countries.<sup>2-4</sup> Herein, we report a patient with hyposmia followed by anosmia as an early presentation in a young patient with SARS CoV-2 infection.

### Case Presentation:

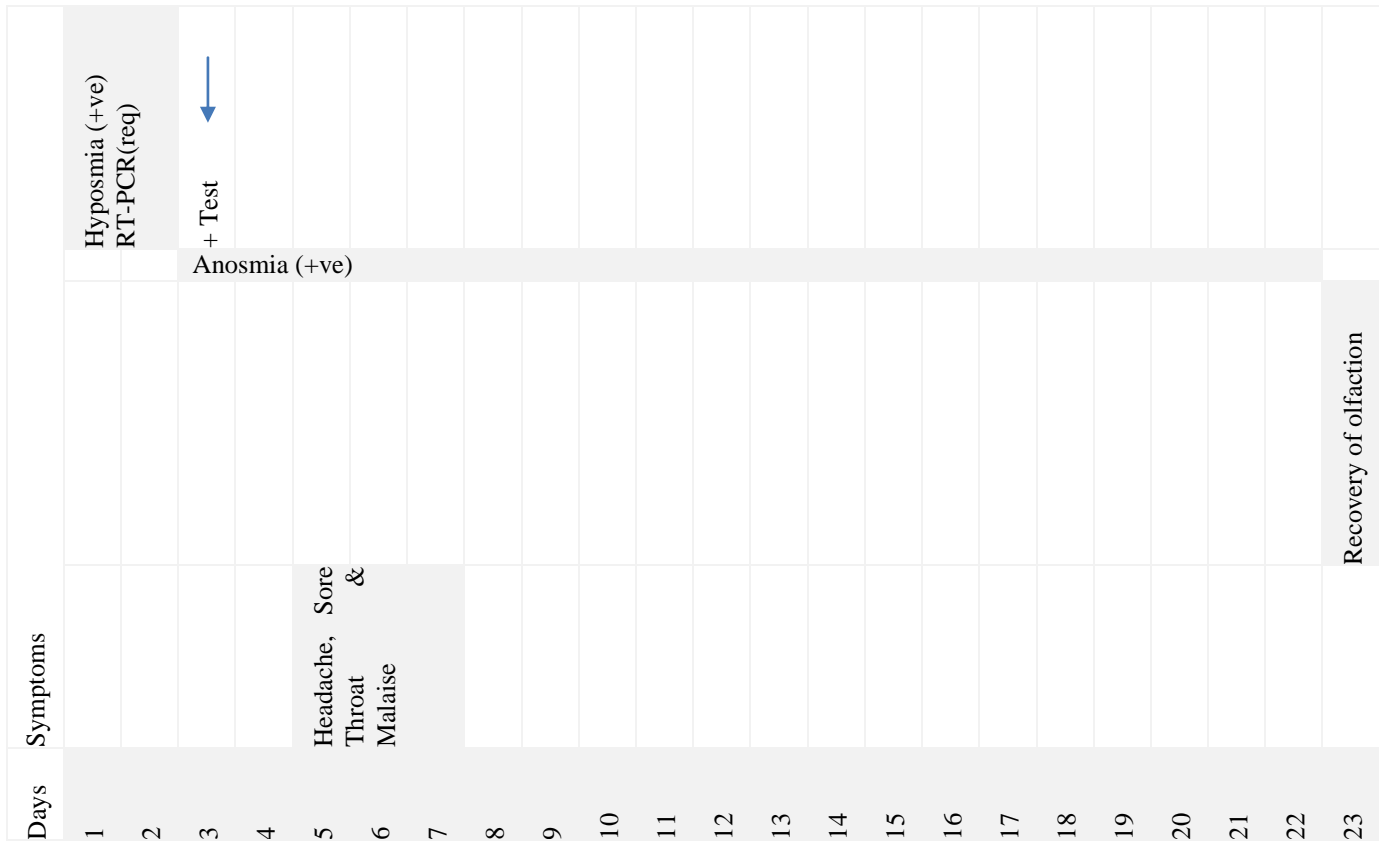
A 29 years old otherwise healthy female presented to primary care with a history of distorted smell while she was cooking last night's meal. The patient gives no history of any other symptoms like fever cough etc. The patient, a mother of a child aged 4years while her husband is on service abroad. There is a history of her brother's visit to her home four days ago. A detailed clinical evaluation of

the patient under standard protocol revealed normal ranged vitals. Systemic examination was unremarkable. No abnormality was noted on oronasal examination except for the positive Q-Sticks Test. Basic laboratory workup was done and was within normal limits.

Considering the smell disorder as one of the early presentations of SARS CoV-2 infection, the RT-PCR requested and a nasopharyngeal swab taken on the same day with the advice of home isolation till the outcome of the test.

After two days the patient re-visited the clinic with a complete loss of smell and no other complaint. Counseling of the patient, done with the advice of a plan after the COVID-19 test. The same day latter the RT-PCR outcome shows a positive result. The patient was informed by call and advised for strict isolation and asked her for telehealth services if needed and requested for the test for her child but it was negative.

On day fifth, the patient called the primary care physician with a history of a mild headache, sore throat, malaise, and persistence of the loss of smell. The patient informed her brother's status that he has a positive COVID-19 test. Supportive care advised and asked for contact, in case other symptom arises. The patient was followed by telehealth for the next two weeks, with no other symptoms except persistence of the loss of smell. The patient was counseled and advised to wait for the improvement with time as the literature shows a complete recovery of a smell in most of the patients. The patient informed her doctor of the complete recovery of her symptoms and the full recovery of her smell power at the end of the third week of infection. The timeline of the patient's events is shown in figure-1.



**Figure 1: Timeline of events during SARS CoV-2 infection**

**Discussion:**

As the ongoing COVID-19 is an evolving situation and the number of infected patients is increasing constantly. Besides the common presentation, patients may present with atypical symptoms that may be olfactory or gustatory in origin and sudden in nature, and most commonly temporary. There is female predominance that is affected more than males<sup>5,6</sup> and our patient was also a young female.

The self-reported symptom of hyposmia is commonly sudden onset that was also seen in our patient. A study by Ragona et al<sup>7</sup>, which is in the pre-print phase also report a patient with sudden onset hyposmia. The presentation of olfactory dysfunction may be anomia or hyposmia followed by anosmia. There are reports of cases with anosmia in COVID-19 patient<sup>8,9</sup>.

The prevalence of olfactory dysfunction is as high as 61.2% and 85.6% respectively in the studies of Giacomellili<sup>6</sup> et al. and Gautier and Ravussian<sup>10</sup>. In a recent review and meta-analysis by Agyeman et al<sup>11</sup>, to estimate the olfactory and gustatory prevalence of patients with SARS CoV-2 infection, the pooled prevalence of olfactory dysfunction was 41.0% and gustatory as 38.2% (95% CI) respectively, indicating a high prevalence of these symptoms across the patients. The affected individuals commonly show complete recovery and the dysfunction is mostly temporary

as also seen in our patient with a complete recovery of smell sense<sup>12</sup>, also noted in our patient.

The presentation of patients with sudden onset olfactory dysfunction such as hyposmia/anosmia in the absence of any local or systemic abnormality warrant an early diagnostic test for SARS CoV-2 infection with more focus on contact tracing and quarantining in light of the established guidelines.

**Conclusion:**

Sudden onset hyposmia may be an early presentation of SARS CoV-2 infection. Clinicians should focus on detailed history coupled with an in-depth evaluation of the present to screen the SARS CoV-2 infected individuals in the early phase to prevent person-to-person transmission and thus curtail the virus spread.

**Consent:**

Written informed consent was taken from patients for publication of their data.

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