

## LETTER TO THE EDITOR

**Oral candidiasis in non-severe COVID-19 patients: call for antibiotic stewardship**

Dear Editor,

Bacterial/fungal coinfection is a suggested aetiological theory for the COVID-19-related oral manifestations that may trigger overprescribing of broad-spectrum antibiotics for COVID-19 patients, especially for the ones who experience a longer course of the infection. Rigorous reporting of the clinical scenarios of fungal complications such as oropharyngeal candidiasis (OPC) could cause life-threatening candidemia that may help in understanding the on-going pandemic and the potential role of dentists in frontline teams<sup>1,2</sup>. Therefore, we aim to describe a non-severe COVID-19 case with oral candidiasis according to the CARE guidelines<sup>3</sup>.

A 47-years-old female patient sought teleconsultation at our private dental clinic (Gharbia, Egypt) due to the appearance of painful white patches on the dorsal surface of the tongue and on the palate. Her medical history revealed that she used to take oral *levothyroxine* (Eltroxin) for mild hypothyroidism, and she was free of other underlying conditions, including cardiovascular disorders and diabetes mellitus.

Two weeks before the consultation, the patient suffered from a sore throat, generalised myalgia and fatigue with intermittent fever; therefore, she underwent a polymerase chain reaction (PCR) testing for SARS-COV-2 which yielded a positive result. During the following days, she experienced dry coughing without other respiratory symptoms, and her computed tomography (CT) scan was clear. Three days after the PCR testing, the patient started to experience anosmia and amblygeusia, which lasted until the end of her infection course. A few days later, burning sensation and mild tongue pain provoked by eating and speaking emerged.

Multivitamins and corticosteroids were prescribed by her physician since her infection was confirmed. While no improvement of her general health condition was observed, the physician added different types of antibiotics, including *azithromycin* (Zithromax), *linezolid* (Averozolid) and *ceftriaxone* (Xoraxon) to her treatment protocol. The prolonged use of

antibiotics is believed to have led to worsening her oral manifestations.

On intraoral examination, multiple medium-sized pseudomembranous structures were detected with white plaques scattered over the dorsal surface of the tongue causing glossitis; and over the hard palate, thus, resembling OPC. A classic marker for this disease is the ability to easily wipe off the white plaques with gauze, leaving behind an erythematous surface which was also reported. The investigated patient consented to use her clinical and laboratory results for academic purposes while concealing her identifying personal data.





Heretofore, only one cohort of 53 hospitalised COVID-19 cases with OPC was reported where cardiovascular diseases and diabetes were the most common underlying conditions in addition to other risk factors such as old age, ICU admission, lymphocytopenia, broad-spectrum antibiotics and corticosteroids. Overall, broad-spectrum antibiotics usage was the most common risk factor as it occurred in 92.5% of the OPC cases<sup>2</sup>.

A recent systematic review revealed an extensive prescription of antibiotics for COVID-19 cases (72%) while there was a lack of evidence on the association between SARS-COV-2 and respiratory bacterial/fungal coinfection. Our findings support the call to action made by Rawson et al. for urgent development of appropriate stewardship interventions specific for the COVID-19 pandemic<sup>4</sup>.

In conclusion, our case gives an account of the possibility of a potentially life-threatening opportunistic oral infection that had been caused by empirical broad-spectrum antibiotics prescription in a moderate COVID-19 case; and it also supports the involvement of dental practitioners among the interdisciplinary teams dealing with severely ill COVID-19 patients in ICUs<sup>5</sup>.

**Conflict of Interest**

The authors declare that there is no conflict of interest.

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