

## Oral Health Care of a Covid-19 Patients in Airforce Central Hospital Indonesia

Purnama Jaya<sup>1</sup>, Ngudiarto<sup>2</sup>, Hendri Susanto<sup>3</sup>

<sup>1</sup>Oral Medicine Specialist, Airforce Central Hospital Yogyakarta, Indonesia

<sup>2</sup> Internal Medicine Specialist, Airforce Central Hospital Yogyakarta, Indonesia

<sup>3</sup>Department of Oral Medicine, Faculty of Dentistry, Universitas Gadjah Mada, Yogyakarta, Indonesia

Correspondence should be addressed to Hendri Susanto, [drghendri@ugm.ac.id](mailto:drghendri@ugm.ac.id)

Received: April 29, 2021; Accepted: May 17, 2021; Published: May 24, 2021

### **ABSTRACT**

Covid-19 may have variety manifestations in oral cavity. Xerostomia, dysgeusia, taste disturbance may be the most oral change found in Covid-19 patients. Moreover, oral infection such as oral candidiasis may be also found in oral cavity in Covid-19 patients. The oral candidiasis in Covid-19 may be caused by the immune suppression of Covid-19. The management of oral candidiasis in Covid-19 may require attention since the management may be delayed and may give a life-threatening complication. Hence, it needs oral health care from the dentist or oral medicine specialist who enable to diagnose and give the appropriate treatment to oral candidiasis.

### **KEYWORDS**

COVID-19; Oral manifestation; Oral Candidiasis

### **INTRODUCTION**

Covid-19 pandemic declared by WHO on February 2020 and followed by the first infection case on March 2020 in Indonesia [1]. Over that time the Covid-19 infections in Indonesia continuously escalated with a fast dissemination throughout the country. Having labelled as one of the life-threatening diseases mainly for infection affecting lungs, this disease also demonstrated a range variation of non-specific syndrome including the one found manifested in oral environment [2-5]. Xerostomia, dysgeusia, and anosmia were common reported signs [6,7].

It is still debatable whether the oral manifestations of COVID-19 is due to the primary infection of these viruses or whether it is merely direct systemic effect or secondary

to the infection such as drugs-associated effect. One thing for sure that the SARS Cov-2 as the etiologic microorganism of COVID-19 infection has the capability to attach and infect epithelial cells layering the salivary gland which potential to modify quality and quantity of the secreted saliva [8].

Changing in saliva quality and quantity will led to dysbiosis in oral environment with the end outcome trigger other opportunistic infections such as candidiasis. In oral cavity, fungal infections have long been known as immune - suppressed indicator and have been reported on either symptomatic of asymptomatic COVID-19 patients [2,6]. Hence, the role of dentist especially the oral medicine specialist became significant not only to confirm the oral candidiasis as COVID-19 manifestation but also

**Citation:** Purnama Jaya, Oral Health Care of a Covid-19 Patients in Airforce Central Hospital Indonesia. Case Rep Dent Sci 2(2): 42-45.

to be involved in managing the disease since oral candidiasis may transform to a life-threatening condition for COVID-19 patient [9]. Therefore, the oral health care management should address prevention of the oral opportunistic infection to grow into more serious complication.

This article reporting oral health management of COVID-19 complicated with oral manifestation of candida infection implemented in The Indonesia Air Force Central Hospital.

### **CASE REPORT**

A 37-year-old male came to the air force central hospital with chief complaints of fever, sore throat, cough, dyspnea, and diarrhea. Medical history revealed diagnosis of bronchitis. He also has had history of recent visiting other city which was also had high number COVID-19 patients. General clinical examination demonstrated normal blood pressure, pulse, respiration rate and oxygen saturation of 99%. Real time Polymerase Chain Reaction (RT-PCR) nasopharyngeal swab test was positive for COVID-19 infection. He was admitted to the air force hospital for two months and on treatment of omeprazole 40 mg/day, vitamin C & E, paracetamol 500mg/8hrs, azithromycin 500mg/day, oseltamifir 75mg BID, Chloroquin 500mg BID, N Acethyl cystein, cetirizine/day, codein 10mg/8hrs, Amino fluid (Intravenous) & D5% (Intramuscular). Moreover, he also on treatment with Alprazolam 0.5 mg/day, levofloxacin 500 mg/day, Dexamethason 4mg/12hrs, Ambroxol/8hrs, Nugalmin/8hrs, hexamer 2mg/12hrs, Mecobalamin, Neulin, and Depacote 250 mg.

Laboratory test subsequently performed with result of Neutrophil Leukocyte Ratio (NLR) and Absolute Lumphocyte Ratio (ALC) were above normal range, Other observed variables were in normal range.

Furthermore, extra oral and head observation revealed no abnormality while, intraoral examination uncovered

whitish pseudomembranous layer on the dorsum of tongue, with irregular shape and can be scrapped off leading to suspicion of oral candidiasis (Figure 1). The working diagnosis then confirmed by the result of potassium hydroxide preparation (KOH) examination. Patients hence treated with Nystatin suspension 4-5 times daily along with fluconazole 150 mg once a day and supporting with oral hygiene improvement. After 1.5 months treated using antifungal, the lesion was disappeared (Figure 2).



**Figure 1a & Figure 1b:** Pseudomembranous, Dorsal tongue.



**Figure 2:** Normal dorsal tongue after treatment for 1.5 months.

### **DISCUSSION**

COVID-19 demonstrated variety of oral manifestations. The most common COVID-19 associated symptoms were xerostomia, dysgeusia, and anosmia. Both dysgeusia and anosmia reposted as the early symptoms of Covid-19 [6]. Furthermore, several reports on COVID-19 cases also confirmed opportunistic infections such as oral candidiasis [2,6].

This current report described hospitalized COVID-19 patient treated in The Air force Central hospital Indonesia with oral candidiasis manifestation. The fungal infection was assessed by oral medicine specialist who consulted for the oral health issue by the Internist. Oral candidiasis indicated by marked pseudomembranous layer which easily be scrapped off leaving an erythematous area [10]. Confirmative diagnosis subsequently followed by the KOH assay which led to polyene (Nystatin suspension) and systemic fluconazole for 30 days. Both drugs are the first line of medication for oropharyngeal candidiasis [10]. Even though there is no official WHO guideline for specific treatment of COVID-19 infection-associated oral candidiasis but it hypothesized that the protocol might be followed management of oral candidiasis in HIV patients [9]. Moreover, the successful treatment of oral candidiasis not only depend on the given medications but more importantly by elimination of other local factors which might be predispose the opportunistic infection.

The medications provided to this patient was polyene (Nystation suspension) and systemic Azole (fluconazole). Both drugs are the first line of medication for oropharyngeal candidiasis [10], the medications for oral candidiasis were similar with oral candidiasis in HIV

patients [9]. The successful of treatment of oral candidiasis not only depend on medications that given to the patients but also supported by elimination of other local factors (oral health care) which may be predisposing for oral candidiasis [6,11]. A recent study reported that oral candidiasis may be found in Covid-19 after 8 days after treated in hospital. (9) This is similar with our patient which found oral candidiasis after several days treated in hospital.

Nevertheless, whether it is caused by systemic, local, or drug associated event, candidemia infection-associated COVID-19 have been reported as a life-threatening complication that might origin from the oral cavity [12]. The interdisciplinary approach management is urgent for a case as reported above.

### **CONCLUSION**

Oral candidiasis may be found in the COVID-19 patient. Diagnose and treatment of oral candidiasis must be provided immediately in conjunction with the COVID-19 therapy to prevent invasive candidiasis.

### **CONFLICT OF INTEREST**

There is no conflict of interest.

### **REFERENCES**

1. Djalante R, Lassa J, Setiamarga D, et al. (2020) Review and analysis of current responses to COVID-19 in Indonesia: Period of January to March 2020. *Progress in Disaster Science* 6: 100091.
2. Cruz Tapia RO, Peraza Labrador AJ, Guimaraes DM, et al. (2020) Oral mucosal lesions in patients with SARS-CoV-2 infection. 2020 Report of four cases. Are they a true sign of COVID-19 disease? *Special Care in Dentistry* 40(6): 555-560.
3. Carreras-Presas CM, Sánchez JA, López-Sánchez AF, et al. (2020) Oral vesicubullous lesions associated with SARS-CoV-2 infection. *Oral Disease* 27(Suppl 3): 710-712.
4. Corchuelo J (2020) Oral manifestations in a patient with a history of asymptomatic COVID-19: Case report. *International Journal of Infectious Diseases* 100:154-157.
5. Al-Khatib A (2020) Oral manifestations in COVID-19 patients. *Oral Diseases* 27(Suppl 3): 779-780.
6. Amorim dos Santos J, Normando AGC, Carvalho da Silva RL, et al. 2020 Oral mucosal lesions in a COVID-19 patient: New signs or secondary manifestations? *International Journal of Infectious Disease* 97: 326-328.
7. Vinayachandran D, Balasubramanian S (2020) Is gustatory impairment the first report of an oral manifestation in COVID-19? *Oral Diseases* 27 (Suppl 3): 748-749.

8. Mortazavi H, Rezaeifar K, Nasrabadi N (2020) Oral manifestations of coronavirus disease-19: A mini-review. *Open Access Macedonian Journal of Medical Sciences* 8(T1): 286-289.
9. Salehi M, Ahmadikia K, Mahmoudi S, et al. (2020) Oropharyngeal candidiasis in hospitalized COVID-19 patients from Iran: Species identification and antifungal susceptibility pattern. *Mycoses* 63(8): 771-778.
10. Agrawal A, Singh A, Verma R, et al. (2014) Oral candidiasis: An overview. *Journal of Oral & Maxillofacial Pathology* 18(4): 81-85.
11. Pedrosa da SM, Sipert CR, Nogueira FN (2020) Salivary Glands, Saliva and Oral Findings in COVID-19 Infection. *Brazilian Research in Pediatric Dentistry and Integrated Clinic* 20(Suppl 1): e0104.
12. Arastehfar A, Carvalho A, Nguyen MH, et al. (2020) COVID-19-Associated Candidiasis (CAC): An Underestimated Complication in the Absence of Immunological Predispositions? *Journal of Fungi* 6(4): 211.