SVOA Dentistry

ISSN:2753-9172

ScienceVolks Open Access

Mini Review

Oral Manifestations in Patients with SARS-COV-2 Infection: A Brief Review

Délia Figueiredo Carvalho*

Affiliation:

Federal University of Bahia, Brazil

***Corresponding Author:** Délia Figueiredo Carvalho, Dentist, Health Manager, Federal University of Bahia, Brazil*

***Received:** December 30, 2020 **Published:** March 09, 2021*

Abstract:

COVID 19, a severe acute respiratory disease caused by the SARS-COV-2 RNA virus, has been studied simultaneously with the advancement of clinical cases, based on the evidence found. The symptoms related to the oral cavity are: dysgeusia / hypogeusia, hemodynamic disorders, orofacial skin lesions, xerostomia and possible changes in the oral mucosa. The most affected patients are those with comorbidities and the immunosuppressed. This literature review addresses the main oral lesions found in patients infected with SARS-COV-2, in some clinical case reports. Because there is an expressive viral load of SARS-COV-2 in the oral cavity of infected patients, the symptoms and types of identification are clinically associated with COVID19.

***Keywords:** Oral manifestations by SARS-VOC-2; COVID-19; ACE2 receivers*

Does COVID19, a severe acute respiratory syndrome that occurs through infection with coronavirus2 (SARS-COV-2), present oral manifestations?

Introduction

COVID19 has immune-dependent clinical development. The symptomatic response and the progress of gravity vary depending on the host. The patient may have symptoms such as fever, headache, dizziness, migraine, cough, dyspnoea, dysgeusia / hypogeusia, anosmia / hyposmia, muscle damage, hemodynamic disorders, diarrhea, abdominal pain, altered state of consciousness, stroke, ataxia, convulsions, skin lesions, orofacial skin lesions, xerostomia and possible lesions in the oral mucous membranes.

Vulnerable patients with comorbidities such as arterial hypertension, diabetes, cardiovascular diseases, lung diseases, chronic kidney diseases and the immunosuppressed have been the most severely affected by covid19, leading to a significant number of deaths, caused by covid19.

Technical notes for guidance and service protocols were developed by the health regulatory agencies, in Brazil and worldwide. In oral health, the protocols determined urgent and emergency care, with enhanced biosafety for professionals and patients.

Methodology:

The research was carried out in a qualitative narrative literature review, to search for oral manifestations in patients infected with SARS-COV-2 and directed to the diagnosis of the cases found.

As search base of publications, were used: Google academic, VHL, PUBMED, Scielo, and lectures in videoconferences, which developed the studied theme.

Discussion:

The studies are focused on SARS-COV-2 infection, some still as control cases, others as systematic studies, in search of an effective treatment, or even preventive measure, through vaccines. The evidence related to the oral manifestations of covid19 are still insufficient and are at the bottom (base C) of the pyramid of evidence from studies related to SARS-COV-2. There are published case reports covering three to seven clinical cases of patients infected with SARS-COV-2, which is still precarious for confirmation of results.

Taking into account that oral manifestations by viruses are very similar, those found and cited can be related to SARS-COV-2 or to viruses that also have oral manifestations: Herpes Simplex (HSV 1 and 2); Chickenpox Zoster (VZH _HHV3); Epistein-Barr virus (EBV-HHV-4); Cytomegalovirus (CMV-HHV-5); Hand and Mouth Disease (Coxsuckies virus A and B, DMPB / Herpangina); Paramyxovirus (related to measles).

SARS-COV-2, a RNA virus, has Spike proteins in its external structure, which are extensions that bind to ACE2 receptors (angiotensin 2-converting enzyme). These receptors are distributed on the surfaces of various tissues in the body, including the oral mucosa. The highest incidence of the ACE2 receptor is in the mucosa of the tongue (back), gums and salivary glands. The TMPRSS2 receptor (serine transmembrane protease 2) binds to SARS-COV-2 in the endotheliums, carrying out the bipartition of Spike protein and cell invasion. The high concentration of ACE2 receptors on the back of the tongue justifies the symptoms of dysgeusia / hypogeusia, so often cited in patients with a confirmed diagnosis for COVID19.

The most frequent orofacial lesions in viral infections are aphthous ulcers, rashes, enanthema, vesicles, pustules, ulcerations and enanthema being the most common in lesions associated with viruses, regardless of which type of virus.

The evidence of oral and orofacial lesions is not being evaluated in its incidences, because depending on the stage of respiratory failure that the patient presents at the time of admission, the immediate installation of mechanical respirators does not predispose to the evaluation of the oral cavity. The clinical diagnosis of oral manifestations has not been carried out, and therefore, the propaedeutic study does not find a database and notifications for the conclusion.

In the identified oral lesions, a differential diagnosis is necessary, with identification of the type of virus present. Complementary exams (biopsies, and / or cytology) and AG / AC (serological, PCR and saliva exam) should be performed, seeking to determine the association of the lesions with SARS-COV-2.

The macroscopic lamias, resulting from the anatomical pathological examination, do not identify the type of virus that causes it, but if immunohistochemical stains are performed, the final and etiological diagnosis will be defined. Some oral manifestations, such as erythema multiforme, which are caused by adverse reactions to medications or adverse reactions due to contact with the virus, need to be distinguished from oral viral lesions. Oral viral lesions are concentrated on keratinized mucous membranes, while adverse reactions occur on the lips, which can extend throughout the oral cavity, and are usually associated with target-type lesions on the skin.

According to the Research Support Association, PBOCI (Brazilian Pediatric Dentistry and Integrated Clinic Research, vol.20, supl.1, 08/31/2020) in a published critical review: COVID-19 Pandemic: Oral repercussions and their possible impact on oral health:

“Several oral changes and injuries have been described as oral manifestations of COVID-19, such as dysgeusia, oral ulcers, petechiae, red macules, scaly gingivitis, among others. In addition, it can cause major systemic changes and predispose to opportunistic infections. As with other viral infections, oral manifestations, including dental abnormalities, can occur as a direct result of SARS-COV-2 infection. However, further studies are needed to guide and clarify possible oral changes that can cause major systemic changes and predispose to opportunistic infections. As with other viral infections, oral manifestations, including dental abnormalities, can occur as a direct result of SARS-CoV-2 infection”

According to the Atlas, Classification of the cutaneous manifestations of COVID-19: a rapid prospective nationwide consensus study in Spain, orofacial lesions of the types: ulcerations, enanthema and vesicles were mentioned as skin lesions associated with SARS-COV-2.

The article published in the WILEY journal, on 08/19/2020, of the department of oral and maxillofacial pathology of the Universidad Nacional Autónoma México, reports four cases of oral manifestations in patients infected with COVID19. The first reported case referred to the diagnosis of hemorrhagic bullous angina (HBA) lesion probably associated with COVID-19. In the second case, vascular disease was probably associated with COVID-19. The third case presented a hemorrhagic bullous angina lesion, probably associated with COVID-19, with remission of symptoms after 5 days. In the last and fourth clinical case, a diagnosis of mucosalized vasculitis, resulting from thrombosis associated with COVID-19, was determined.

In the article published in Oral manifestations in a patient with a history of asymptomatic COVID-19: Case report, of the International Journal of Infectious Diseases, on 08/27/2020, when reporting a clinical case of a patient infected with SARS-COV-2, asymptomatic, he defined the monitoring of this case through interdisciplinary online consultation, preventing patient / professional contamination and controlling the evolution of oral lesions.

Conclusion

This literature review addressed the main oral lesions found in patients infected with SARS-COV-2, in some clinical case reports. There is a significant viral load in the oral cavity of infected patients, which allows the examination for the diagnosis of COVID19 through saliva and which justifies dysgeusia, a characteristic symptom of SARS-COV-2 infection.

More systematic studies of oral manifestations in patients with COVID19 are needed to define the etiology: if associated with SARS-COV-2 or due to immunological deficiency during the course of the disease or adverse reaction to COVID19 treatment medications. The lack of data is attributed to the high transmissibility of the virus and the severity of the disease, which hinder the presence of a specialized professional on the front line of the pandemic. It is extremely important that differential diagnoses are carried out, between the types of viral infections with oral manifestations and oral manifestations by SARS-COV-2, through complementary exams, in the detected lesions.

References

1. Videoconference, 1st cycle of web conferences, University Center of Faculdades Metropolitanas Unidas (FMU), São Paulo, SP - Brazil. - Macucci, M.; Dentistry in times of pandemic COVID-19.

2. Fernandes, A. P. R.et al. Neurological and dental changes in COVID-19: A literature review. In: XXIX Academic Medical Congress of UNICAMP - Campinas - SP, 2020

3. Tapia, R. O. C.; Labrador, A J.L; Guimarães, D. M.; Valdez, L.H.M. Oral mucosal lesions in patients with SARS-CoV-2 infection. Report of four cases. Are they a true sign of COVID-19 disease? Wiley, DOI: 10.1111 / scd.12520 08/19/2020.

4. Hao Xu1, Liang Zhong1, Jiaxin Deng1, Jiakuan Peng1, Hongxia Dan1, Xin Zeng1, Taiwen Li1 and Qianming Chen. High expression of ACE2 receptor of 2019-nCoV on the epithelial cells of oral mucosa International Journal of Oral Science (2020) 12: 8.

5. Photographic Atlas, Spain: Classification of the cutaneous manifestations of COVID- 19: a rapid prospective nationwide consensus study in Spain with 375 cases *; British Journal of Dermatology (2020) 183, pp71–77.

6. Arduino, Paolo G; Conrotto, Davide; Broccoletti, Roberto. The outbreak of Novel Coronavirus disease (COVID-19) caused a worrying delay in the diagnosis of oral cancer in north-west Italy: The Turin Metropolitan Area experience.

7. Oral Dis: April 19, 2020. doi: 10.1111 / odi.13362.

8. PBOCI (Brazilian Pediatric Dentistry and Integrated Clinic Research, vol.20, supl.1, 08/31/2020). COVID-19 pandemic: Oral repercussions and their possible impact on oral health. ISSN 1983-4632.

9. Corchuelo, Jairo; Ulloa, Francisco C. Oral manifestations in a patient with a history of asymptomatic COVID-19: Case report. International Journal of Infectious Diseases 100 (2020) 154-157, 08/27/2020

10. J. Amorim dos Santos1, A.G.C. Normando, R.L.Carvalho da Silva, A.C. Acevedo1, G. De Luca Canto, N. Sugaya, A.R. Santos-Silva, and E.N.S. Guerra. Oral Manifestations.

Citation: Delia Figueiredo Carvalho. "Oral Manifestations in Patients with SARS-COV-2 Infection: A Brief Review". SVOA Dentistry 2:2 (2021) pages 71-73.