

# Dental Treatment in Cancer Patients during the COVID-19 Pandemic

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*Tratamento Odontológico em Pacientes com Câncer durante a Pandemia de Covid-19*

El Tratamiento Dental en Pacientes con Cáncer durante la Pandemia de Covid-19

Adriele de Freitas Neiva Lessa<sup>1</sup>; Alice Muglia Tomaz da Silva Amancio<sup>2</sup>; Lucas Alves da Mota Santana<sup>3</sup>; Maria Cássia Ferreira de Aguiar<sup>4</sup>

## INTRODUCTION

The outbreak of the current coronavirus pandemic occurred in Wuhan, in China and quickly spread exponentially worldwide<sup>1</sup>. The novel coronavirus (2019-nCoV), vector responsible for the severe acute respiratory syndrome coronavirus 2 – Sars-CoV-2, belongs to a family of single-stranded RNA virus known as *Coronaviridae*<sup>2</sup>. Phylogenetically, this new species shares similarities with other coronavirus as MERS-CoV and Sars-CoV, both responsible for respiratory syndromes<sup>3</sup>. The etiology of Sars-CoV-2 remains uncertain, however, this family virus is known for being zoonotic, that is, transmitted by animal to human beings<sup>4</sup>.

The common pathways of transmission of the coronavirus disease 2019 - COVID-19 include direct transmission (cough, sneezing and inhalation of droplets) and transmission by direct contact (contact with oral, nasal pathways and ocular mucosa)<sup>5,6</sup>. Recent observations suggest that asymptomatic patients and patients in incubation period are also carriers of Sars-CoV-2, becoming source of transmission like the symptomatic patients<sup>7,8</sup>. Unfortunately, so far, there is no vaccine or specific pharmacologic treatments and the only alternative available is the supplementation of oxygen to symptomatic patients<sup>9</sup>. As odontology is an area with close contact with the patient's airways (mouth and nose), the dentist-surgeon appears at the top of the professionals with high odds of COVID-19 infection<sup>10</sup>. Sars-CoV-2 is a highly infectious agent with capacity of propagating by the air, through droplets (by coughing, sneezing of infected patients and saliva) or transmitted by several procedures that produce aerosol, saliva or blood of

the patient<sup>11,12</sup>. Added to this its high resistance capacity in the environment with viability varying from hours to days<sup>13</sup>. In this scenario, of high odds of infection by the caregiver and team, the American Dental Association<sup>14</sup> advises to perform only emergency dental procedures and postpone elective treatments<sup>15</sup>.

However, there is a group of patients, the cancer patients who, in despite all the adversity of the moment, needs dental care and follow up. This group in special is more susceptible to infection than individuals without cancer because of its systemic immunosuppression condition caused by the tumor and oncologic treatment as chemotherapy or surgery<sup>16</sup>. In the study conducted by Liang et al.<sup>17</sup> with 18 patients it was observed that patients with cancer can have increased risk for COVID-19 and, subsequently worse prognosis. Consequently, the objective of the present article is to discuss the main measures that can be adopted by buccal health professionals who ensure safe and proper assistance to oncologic patients during the pandemic.

## DEVELOPMENT

So far, protocols with COVID-19 guidance addressing dental treatment in patients with cancer are unknown, especially in the head and neck region. It is known that these patients can present some particularities and develop correlated complications from the anticancer therapy as mucositis, opportunistic bacterial and fungicide infections and alteration of the salivary flow<sup>18</sup>. Overall, this saliva is more viscous and sticky and, together with dysphagia, can make deglutition difficult, compelling these patients to use alternatives as towels to absorb this saliva, further to the

<sup>1</sup> Dentist-Surgeon and Investigator of Hospital of Cancer of Muriaé. Doctorate Student in Stomatology by the Federal University of Minas Gerais (UFMG). Belo Horizonte (MG), Brazil. Orcid iD: <https://orcid.org/0000-0003-4784-2881>

<sup>2</sup> Biologist. Post-doctorate in Immunology by the National Institute of Health (NIH). Investigator of Hospital of Cancer of Muriaé. Muriaé (MG), Brazil. Orcid iD: <https://orcid.org/0000-0003-1098-8799>

<sup>3</sup> Dentist-Surgeon. Master in Odontology Clinic by the Federal University of Sergipe (UFS). Department of Odontology of UFS. Aracaju (SE), Brazil. Orcid iD: <https://orcid.org/0000-0002-8261-1504>

<sup>4</sup> Dentist-Surgeon. Head of the Department of Clinical, Pathology and Surgery. Full Professor of UFMG. Belo Horizonte (MG), Brazil. Orcid iD: <https://orcid.org/0000-0001-5134-3466>

**Address for correspondence:** Adriele de Freitas Neiva Lessa. Rua São Jerônimo, 132, apto. 502 - Sagrada família. Belo Horizonte (MG), Brazil. CEP 31035-490. E-mail: [drineiva@hotmail.com](mailto:drineiva@hotmail.com)



use of nasoenteral probes<sup>19,20</sup>. Situations that can facilitate the viral propagation, since, as reported recently, saliva can be the reservoir of elevated viral load for Sars-CoV-2 and works as potential vehicle of propagation of the pathogen to the odontology team members, the patients and the work environment<sup>12,15</sup>.

Therefore, it is advocated that nowadays it is imperative to conduct a proper anamnesis and safe dental care. Many patients can be Sars-CoV-2 positive and present minor to moderate symptoms or completely asymptomatic. For this reason, the patients must be treated in an isolate well ventilated room, or negatively pressurized avoiding agglomeration<sup>15,21</sup>. Currently, the protocols of clinical care have guided to conduct previous screening of these patients, including questions about the general health condition and physical exams as measuring body temperature<sup>12,15</sup>. Patients who present symptoms and signs compatible with flu-like, cough, fatigue, fever and shortness of breath must be referred to a hospital or emergency services<sup>12</sup>.

Further to these additional care, it is indispensable, for the dental treatment, to keep the same guidance applicable to the odontology treatment in general as the proper donning of the team, hands and environment hygiene<sup>12,21</sup>. Hands hygiene must be done with water and liquid soap or alcoholic preparation (70%). In addition to these initial measures, it is recommended the use of PPE – Personal Protective Equipment, among them, particles respirators as masks N-95 or standard masks PFF 2 because of the respiratory particulates that are the main pathways of Sars-CoV-2<sup>21</sup> transmission. Gloves, disposables aprons, caps, goggles and facial shields have the objective of protecting the skin and mucosa in contact with (potentially) infected blood or secretions<sup>8,12,21</sup>.

Intraoral inspection is mandatory for oncologic patients, most of all for ensuring the maintenance of the buccal health as hygiene, oral prophylaxis and plaque control. However, the regular antiseptic chlorhexidine used at the dental clinic has shown to be ineffective in fighting the viral agent. As Sars-CoV-2 is a coated-protein microorganism<sup>3</sup>, only alcoholic and oxidant solutions present significant microbicide action of solubilization as alcohol (70%), sodium hypochlorite (0.5%), and hydrogen peroxide (0.1%)<sup>13</sup>. Considering the germicide capacity of these substances and aware of the potential risk of infection through the salivary fluid and droplets dispersed in the mean, it is suggested the use of diluted hydrogen peroxide at 1% or povidone at 0.2% for 1-minute vigorous buccal rinse as antiseptic solution. These measures aim to reduce the salivary load of oral microorganisms, including its potential transportation. As an objection, avoid the continuous use of these substances, except in routine dental inspections<sup>12</sup>.

According to biosafety and sanitary control guidelines, dentist consultations are limited to urgency and emergency procedures<sup>12</sup>. In these situations, the use of equipment producing aerosol should be minimized. It is indicated also the use of high potency suction and if possible, with rubber dam isolation because is advantageous to cover the nose<sup>14,15</sup>. The use of high rotation ultrasonic instruments, hand devices and triple syringe must be avoided<sup>14</sup>.

Dental extractions can be necessary in some cases, overall by the fact that many of these patients are submitted to radiotherapy and chemotherapy. Because of this, it is important to emphasize that these treatments can influence directly the bone physiology and metabolism, turning them more susceptible to infection, and consequently, at great risk of osteoradionecrosis and osteonecrosis of the maxilla<sup>22</sup>. In these situations, give preference to absorbable sutures.

After the end of the dental procedure, it is recommended cleaning and disinfection of the environment with germicides solutions like ethanol (70%) and sodium hypochlorite (0.1%), because, if not performed correctly, the whole process can be compromised<sup>23-24</sup>. For doffing, the chronological sequence includes removal of gloves, goggles/facial shield, cloak and mask<sup>23-24</sup>. In this challenging scenario of COVID-19, according to Lopes et al.<sup>25</sup>, the virtual assistance to patients and health caregivers, mainly dentists, could help to prioritize the cases of great risk, avoid personal contact and helping to protect the resources during this troublesome period. Another topic that needs to be brought for discussion is the delay that can occur in the delivery of lab tests results (pathology) and imaging (panoramic radiography) since it is expected that many are working partially<sup>25</sup>. The current time is a multifactorial challenge, being necessary special attention for patients with cancer.

## CONCLUSION

Even with the COVID-19 pandemic and the challenges it offers to dental attention, specially the vulnerable groups, the consultation can be done, taking the necessary care and grounded in the right information. Therefore, it is extremely important to keep informed with qualified information and development of critical analysis to find the balance between the necessity of intervention and less exposure of oncologic patients to risk situations.

## CONTRIBUTIONS

Adrielle de Freitas Neiva Lessa contributed substantially for the conception and planning of the study; gathering, analysis and/or interpretation of the

data, wording and/or critical review. Alice Muglia Tomaz da Silva Amancio, Lucas Alves da Mota Santana and Maria Cássia Ferreira de Aguiar contributed for the gathering, analysis and/or interpretation of the data, wording and critical review. All the authors approved the final version to be published.

### DECLARATION OF CONFLICT OF INTERESTS

There is no conflict of interests to declare.

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