

## Title Page

**Full title:** Lessening COVID-19 healthcare burden in dental practice via rapid serological tests.

**Running title:** Tackling COVID-19 healthcare burden in dentistry.

**Authors names and affiliations:** Daniel Cohen Goldemberg<sup>1\*</sup>, Andreia Cristina de Melo<sup>1</sup>, Livia Cristina de Melo Pino<sup>2</sup>, Héli-ton Spindola Antunes<sup>1</sup>, Jair Carneiro Leão<sup>3</sup>, Stephen Porter<sup>4</sup>.

1 – National Cancer Institute of Brazil, Rio de Janeiro, Brazil (INCA).

2 – Medical School of Valença (UNIFAA), Rio de Janeiro, Brazil.

3 – Federal University of Pernambuco, Recife, Brazil (UFPE).

4 – University College London (UCL), Eastman Dental Institute, NIHR University College London Hospitals, Biomedical Research Centre, London, United Kingdom.

**Corresponding author:** Daniel Cohen Goldemberg. Telephone: +5521988167978; Fax numbers: +552132076650 and +552122597751; e-mail address: daniel.cohen@inca.gov.br.

### Present permanent address:

Clinical Research Coordination

National Cancer Institute

COPQ/INCA

Rua André Cavalcanti, 37 - 5º andar-Anexo

Centro - Rio de Janeiro - RJ - Brazil

CEP: 20231-050

**Key words:** COVID-19, dentistry, oral medicine, cancer, serology

This article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the [Version of Record](#). Please cite this article as [doi: 10.1111/ODI.13543](https://doi.org/10.1111/ODI.13543)

This article is protected by copyright. All rights reserved

DR DANIEL COHEN GOLDEMBERG (Orcid ID : 0000-0002-0089-1910)

DR JAIR CARNEIRO LEAO (Orcid ID : 0000-0001-8303-2291)

Article type : Letter to the Editor

Title: Lessening COVID-19 healthcare burden in dental practice via rapid serological tests

Letter to the Editor

It is known that dental surgeons play an important role with regards to oral cancer awareness, early diagnosis and control, especially taking into account that oral medicine specialists have a very meticulous vision of discrete lesions that might represent potentially malignant disorders of the oral cavity (Abadeh *et al*, 2019). Any loss of their activity in a COVID-19 lockdown scenario will worsen care for such a high risk group of patients. Perhaps dentists, with all healthcare staff, can play a new role to lessen COVID-19 healthcare burden.

In low- and middle-income countries, like Brazil, rare diseases such as mucosal melanomas are diagnosed in advanced stages in a similar manner as high-income countries (Cohen Goldemberg *et al*, 2020). Nevertheless, tongue malignancy, the most common location of oral cancer, still presents as a low-income country disease, being usually first detected in advanced stages in socioeconomically disadvantaged groups (Cohen Goldemberg *et al*, 2018). It is likely that this situation will be further compounded by the SARS-CoV-2 pandemic. There

will be less opportunity for such individuals to seek professional help as they may be at particular risk of virus acquisition, by having to shield themselves or others and/or oncological services will have lessened greatly in view of the need for clinicians to help with the management of patients infected with SARS-CoV-2 (Meng *et al*, 2020). In addition, patients already receiving immunosuppressive therapies for a number of cancers run the risk of acquisition of SARS-CoV-2 and/or having an advancing of their cancers if therapy is unable to be maintained (Gosain *et al*, 2020). Lessening the likely spread of SARS-CoV-2 might however, all be it, only slight, reduce the likelihood of such a scenario.

In our view, dentists and other oral health care providers have a pivotal role in helping the massive and necessary testing for SARS-CoV-2 in the clinical practice. This could be a game changer in order to minimize the chances of a second wave of the disease with catastrophic consequences resembling what happened in the early twentieth century, during the “Spanish” influenza pandemic. It is now clear that countries that managed to have a higher test capacity of patients for COVID-19, including the Republic of Korea, Germany and New Zealand managed to minimize the lockdown enforcement measures and the collapse of their healthcare system.

Considering Brazil is an upper middle income country with severe diseases presenting as those of low income countries (Cohen Goldemberg *et al*, 2018), it is hard to imagine the impact of lack of testing but indeed, it could be catastrophic, particularly in lower income countries. Infection control measures in the dental practice include not only PPEs, constant environmental disinfection and safety admission strategies but an additional anamnesis step which includes questions related to the risk of presenting the novel coronavirus, including contact with known carriers of the disease (Odeh *et al*, 2020).

Dentists, together with medical doctors, may help with the widespread use of rapid serological tests for every patient they see at their practices to investigate their serological status (Hoffman *et al*, 2020), especially now that it is known that cross-immunity could be conferred by different common cold coronaviruses (Grifoni *et al*, 2020). This is obviously no immunity passport, but has the potential to help determine what patients do require the more complex RT-PCR for SARS-CoV-2.

This strategy could improve the efficiency of identifying infectious individuals, reduce costs and help provide a picture of the highly underreported incidence of the novel coronavirus (Lau *et al*, 2020) – particularly in countries where serological and virological testing of large communities is challenging. Asymptomatic carriers seem to facilitate the rapid dissemination of SARS-CoV-2 and in turn generate large numbers of patients who run the risk of severe disease that require complex and expensive care (Li *et al*, 2020). In a short space of time, while there have been strong hints that agents such as dexamethasone or remdesivir may lessen the progression of disease, there is no evidence that a vaccine for SARS-CoV-2 will be available in the near future. Thus, now is the time to instigate policies that will maximise the identification of infected and protected individuals. It might not help with the present pandemic – but could make a difference if a second global outbreak becomes suspected. Lessening the presence of SARS-CoV-2 helps everyone – and would be perhaps especially important for these patients with, or at risk of, cancer.

Author's Disclosure or Potential Conflicts of Interest: all authors declare there is no conflict of interest related to the present letter.

#### References

- Abadeh A, Ali AA, Bradley G, Magalhaes MA (2019). Increase in detection of oral cancer and precursor lesions by dentists: Evidence from an oral and maxillofacial pathology service. *J Am Dent Assoc* **150**: 531–539.
- Cohen Goldemberg D, de Araújo LHL, Antunes HS, de Melo AC, Santos Thuler LC (2018). Tongue cancer epidemiology in Brazil: incidence, morbidity and mortality. *Head Neck*.
- Cohen Goldemberg D, de Melo AC, de Melo Pino LC, Thuler LCS (2020). Epidemiological profile of mucosal melanoma in Brazil. *Sci Rep* **10**: 1–7.
- Gosain R, Abdou Y, Singh A, Rana N, Puzanov I, Ernstoff MS (2020). COVID-19 and Cancer: a Comprehensive Review. *Curr Oncol Rep* **22**: 53.

Accepted Article

Grifoni A, Weiskopf D, Ramirez SI, *et al* (2020). Targets of T cell responses to SARS-CoV-2 coronavirus in humans with COVID-19 disease and unexposed individuals. *Cell*.

Hoffman T, Nissen K, Krambrich J, *et al* (2020). Evaluation of a COVID-19 IgM and IgG rapid test; an efficient tool for assessment of past exposure to SARS-CoV-2. *Infect Ecol Epidemiol* **10**.

Lau H, Khosrawipour V, Kocbach P, *et al* (2020). Internationally lost COVID-19 cases. *J Microbiol Immunol Infect*.

Li R, Pei S, Chen B, *et al* (2020). Substantial undocumented infection facilitates the rapid dissemination of novel coronavirus (SARS-CoV2). *Science* **493**: 489–493.

Meng L, Hua F, Bian Z (2020). Coronavirus Disease 2019 (COVID-19): Emerging and Future Challenges for Dental and Oral Medicine. *J Dent Res* **99**: 481–487.

Odeh ND, Babkair H, Abu-Hammad S, Borzangy S, Abu-Hammad A, Abu-Hammad O (2020). COVID-19: Present and Future Challenges for Dental Practice. *Int J Environ Res Public Heal* 2020, Vol 17, Page 3151 **17**: 3151.