




Editorial I

Otorhinolaryngologists and Coronavirus Disease 2019 (COVID-19)

Geraldo Pereira Jotz¹ Richard Louis Voegels² Ricardo Ferreira Bento²

¹Morphological Sciences Department, Instituto de Ciências Básicas da Saúde (ICBS), Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre, RS, Brazil

²Otorhinolaryngology and Ophthalmology Department, Faculdade de Medicina, Universidade de São Paulo (USP), São Paulo, Brazil

Int Arch Otorhinolaryngol 2020;24(2):e125–e128.

In December 2019, Wuhan City, the capital of Hubei province in China, became the center of an outbreak of pneumonia of unknown etiology. By January 7, 2020, Chinese scientists had isolated a novel coronavirus: severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; previously known as 2019-nCoV), from patients with viral pneumonia (COVID-19).^{1,2}

Due to the Public Health Emergency of International Importance declared by the World Health Organization (WHO) on January 30, 2020, caused by SARS-CoV-2 and the confirmation of the first cases of COVID-19 in Brazil (2 confirmed cases in the state of São Paulo by February 29, 2020), the Brazilian Association of Otorhinolaryngology and Cervico-Facial Surgery (Associação Brasileira de Otorrinolaringologia e Cirurgia Cervico-Facial, ABORL, in Portuguese) made a public announcement to guide otorhinolaryngologists in care protocols in their offices.³

Coronaviruses are a relatively common family of respiratory viruses and the second most frequent cause of common cold after rhinoviruses. In the recent decades, they have been related to more serious outbreaks, such as severe acute respiratory syndrome (SARS) in 2002 and Middle East respiratory syndrome (MERS) in 2012.³

There are seven identified coronaviruses that affect humans. The most common are α coronavirus 229E and NL63 and β coronavirus OC43 and HKU1, the viruses responsible for the SARS-CoV and MERS-CoV outbreaks respectively. Recently, a novel coronavirus has been identified, which was initially named 2019-nCoV and then SARS-CoV-2 on February 11, 2020, as it was found to be genetically related to SARS-CoV. The disease caused by the new coronavirus was named COVID-19.³

In practice, the healthcare system cannot sustain an uncontrolled outbreak, and stronger containment measures are now the only realistic option to avoid the total collapse of the intensive care unit (ICU) system. Hence, over the last 2 weeks, clinicians have continuously advised authorities to augment containment measures.⁴

While regional resources are currently at capacity, the central Italian government is providing additional resources, such as transfer of critically ill patients to other regions, emergency funding, personnel, and ICU equipment. The goal is to ensure that an ICU bed is available for every patient who requires one. Other healthcare systems should prepare for a massive increase in ICU demand during an uncontained outbreak of COVID-19.⁴

Vaccine development and research into medical treatment for COVID-19 are under way, but results are many months away. Meanwhile, the pressure on the global healthcare work force continues to intensify. This pressure takes two forms: the first is the potentially overwhelming burden of illnesses that stresses the capacity of health systems, and the second is the adverse effects on healthcare workers, including the risk of infection.⁵

Many healthcare workers have conditions that elevate the risk of severe infection or death if they become infected with SARS-CoV-2; hence, organizations will need to decide whether such workers, including physicians, should be redeployed away from the highest risk sites. It is not possible to entirely eliminate the risk, but prudent adjustments may be warranted. New sites may need physician and nurse expertise, including telemedicine services, patient advice lines, and augmented telephone triage systems.⁵

Address for correspondence
Geraldo Pereira Jotz, MD, PhD,
Morphological Sciences
Department, Instituto de Ciências
Básicas da Saúde (ICBS),
Universidade Federal do Rio
Grande do Sul (UFRGS), Avenida
Paulo Gama 110–Farroupilha,
Porto Alegre, RS, 90040-060,
Brazil
(e-mail: geraldo.jotz@terra.com.br).

DOI <https://doi.org/10.1055/s-0040-1709724>.
ISSN 1809-9777.

Copyright © 2020 by Thieme Revinter
Publicações Ltda, Rio de Janeiro, Brazil

License terms



While healthcare workers often accept an increased risk of infection as part of their chosen profession, they often exhibit concern about family transmission, especially involving family members who are elderly, immunocompromised, or have chronic medical conditions. While the US Center for Disease Control and Prevention (CDC) and Occupational Safety and Health Administration provide clear recommendations, it is evident that more is required to optimize safety in the current environment.⁵

In line with the current positions of the WHO and the CDC, the Brazilian Academy of Rhinology (Academia Brasileira de Rinologia, ABR, in Portuguese) advises to avoid the use of systemic corticosteroids for the treatment of patients with influenza-like symptoms during the COVID-19 pandemic. Regarding the use of topical nasal corticosteroids, current evidence shows no harm, and its use can be continued in patients who were already using this medication chronically. However, due to the lack of conclusive studies on COVID-19 and extrapolating the consequences of systemic corticosteroid treatment, the ABR advises that the chronic use of topical nasal corticosteroids be maintained and continue to be indicated, and in the occurrence of fever or other symptoms suggestive of flu, the physician may consider its temporary discontinuation. As for the use of topical nasal corticosteroids in acute viral infections, there are conflicting recommendations from the American (2016) and European (2020) guidelines; therefore, the ABR advises that the use of topical nasal corticosteroids in acute viral conditions should be avoided in the context of COVID-19. The ABR recommends not performing nasal or nasal sinus surgery during the COVID-19 pandemic. In cases of urgent or extremely necessary surgery, we suggest performing a test to identify the presence of SARS-CoV-2 with another test 24 hours later. In patients with COVID-19 or when it is impossible to perform the test, the use of a surgical gown with personal protective equipment (PPE) and powered air-purifying respirator is recommended. On March 20, 2020, the Brazilian Federal Council of Medicine (Conselho Federal de Medicina, CFM, in Portuguese) recommended canceling appointments, examinations, and elective surgical procedures due to the COVID-19 pandemic. The CFM also warned that if it is not possible to cancel the procedures, the physicians can perform them provided that they comply with the determinations of the local authorities and technical director of the service, as well complying with the recommended hygiene, individual protection, and contact restriction protocols.⁶

Our colleagues in Iran have reported that at least 20 ear, nose, and throat (ENT) specialists are currently hospitalized with COVID-19, with 20 more in isolation at home. They are only testing people who have been admitted to the hospital; thus, the 20 specialists at home are not confirmed cases, but they have classic symptoms. A previously healthy 60-year-old facial plastic surgeon died from COVID-19 3 days ago. A young, otherwise healthy ENT chief resident had a short prodrome, rapidly decompensated, and died. The deceased was not tested for the presence of SARS-CoV-2, but all his colleagues and faculty believe the cause of death was COVID-19.⁷ For this reason, otolaryngologists and head and neck

surgeons should take special precautions in the diagnostic and therapeutic manipulation of the upper airways and digestive tract to avoid contamination.

Beyond caring for individual patients, oncology clinicians will face the heavy reality of rationing care. As the pandemic progresses, there will come a point when channeling a large amount of resources to an individual patient will be in direct conflict with the greater social good. If an oncology patient with late-stage disease or with comorbid health conditions such as heart or lung dysfunction acquires COVID-19 and requires mechanical ventilation, the prognosis is likely to be very poor. According to a recent retrospective study from Wuhan, China, only 1 one patient survived among 32 who were seriously ill with confirmed COVID-19 and required mechanical ventilation.⁸ Thus, we believe it is imperative to have proactive end-of-life and palliative care discussions with cancer patients who may become infected with COVID-19. Although these practices should be a part of routine oncology care, such discussions with all cancer patients have become even more vital in these times. It is our duty to not only educate but also provide resources to help patients make decisions regarding treatment during this period of uncertainty. With dwindling resources, oncologists must also consider carefully what treatments are most likely to be successful, symptom-relieving, or lifesaving, and consider those patients likely to get the greatest benefit from treatments. Proactive discussions surrounding these challenging decisions should occur among disease-specific groups, medical ethicists, and palliative care teams.⁹

Reports indicate that the SARS-CoV-2 virus particles are in extremely high concentrations in the nasal cavity and nasopharynx, and can be a significant source of transmission.¹⁰

This characteristic property of the virus places healthcare professionals who examine and manipulate these areas at particular risk. Otolaryngologists and their surrounding staff are especially vulnerable to viral transmission directly through mucus, blood, and aerosolized particles when examining or operating in these areas. There is evolving evidence from China, Italy, and Iran that otolaryngologists are among the groups with the highest risk of contracting the virus while performing upper airway procedures and examinations if not using proper PPE. This dilemma puts otolaryngologists in a difficult situation when presented with patients with time-sensitive and emergent problems that require surgery.¹⁰

The Brazilian Association of Laryngology and Voice (Academia Brasileira de Laringologia e Voz, ABLV, in Portuguese), concerned about the damage caused by COVID-19 and following the same line of warnings issued by other scientific societies around the world, such as the American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS), made some recommendations related to endoscopic examinations of the upper airways and digestive tract, which include nasal video-endoscopy, video-laryngoscopy, video-laryngostroboscopy, video-nasofibro-laryngoscopy, and swallowing video-endoscopy. It is worth mentioning that otorhinolaryngologists and head and neck surgeons are the medical specialties most exposed to contact with this virus due to their frequent

manipulations of the upper airways and digestive tract, both in out- and inpatients. The recommendations below are especially valid for communities with a high prevalence of COVID-19:

1. During the pandemic, the physicians should avoid conducting elective endoscopic examinations. They should make sure that the examination is absolutely necessary at the time and should not be postponed.
2. The physician should wear PPE, such as gloves, long-sleeved aprons (preferably waterproof and disposable), goggles, and N-95, PFF2, or superior masks. If the physician has an assistant in the room, they should also be properly protected. Goggles are essential because it is known that conjunctival contamination is possible.
3. The environment should be ventilated, allowing the dispersion of aerosols to the external environment.
4. The physician should consider the use of vasoconstrictors and topical anesthetics to reduce the chance of coughing or sneezing, which can generate aerosols that remain in suspension longer than droplets. Despite the uncertain epidemiological role, the feasibility of aerosolized transmission of SARS-CoV-2 has recently been demonstrated.
5. Physicians should change gloves after treating each patient and sanitize their hands with alcohol gel after the procedure.
6. Endoscopy should, if possible, be performed using video-documentation to maintain distance from the patient. Avoid direct visualization using the eyepiece.
7. The physician should avoid touching surfaces during the examination.
8. The physician should avoid companions in the room unless strictly necessary.
9. Material processing must follow the ABORL Operation Protocol (<https://www.aborlccf.org.br/imageBank/Manual-POP.pdf>) or high-level disinfection with immersion in disinfectant according to Resolution of the Collegiate Board of Directors (Resolução da Diretoria Colegiada, RDC, in Portuguese) No. 6, from March 1st, 2013.
10. The physician should use 70% alcohol, sodium hypochlorite solution, or other disinfectant indicated for this purpose to clean the entire surface near the patient and on equipment and bottles that may possibly be contaminated (anesthetic or decongestant bottles, for example).¹¹

The most frequently reported signs and symptoms of patients admitted to the hospital include fever (77–98%), cough (46–82%), myalgia or fatigue (11–52%), and shortness of breath (3–31%) at the onset of the illness.^{12–15} Among 1,099 hospitalized COVID-19 patients, fever was present in 44% at hospital admission, and it developed in 89% during hospitalization.¹⁶

Other less commonly reported respiratory symptoms include sore throat, headache, cough with sputum production, and/or hemoptysis. Some patients have experienced gastrointestinal symptoms, such as diarrhea and nausea, prior to developing fever and lower respiratory tract signs and symptoms. The fever course among patients with COVID-19 is not fully understood; it may be prolonged and intermittent. A limited number of reports describe identifi-

cation of asymptomatic or subclinical infection on the basis of detection of SARS-CoV-2 RNA or live virus from throat swab specimens of contacts of confirmed patients.^{17,18}

There is already good evidence from South Korea, China, and Italy that significant numbers of patients with proven COVID-19 infection developed anosmia/hyposmia. In Germany, it is reported that more than two thirds of confirmed cases have anosmia. In South Korea, where testing has been more widespread, 30% of patients testing positive have had anosmia as their major presenting symptom in otherwise mild cases.¹⁹ Future studies may certainly consolidate more clinical evidence of the presence of anosmia/hyposmia in the COVID-19 pandemic.

In view of the aforementioned information, clinical evidence and common sense should prevail in decision making.

Conflict of Interests

The authors have no conflict of interests to declare.

References

- 1 Phelan AL, Katz R, Gostin LO. The Novel Coronavirus Originating in Wuhan, China: Challenges for Global Health Governance. *JAMA* 2020. Doi: 10.1001/jama.2020.1097
- 2 Gorbalenya AE, Baker SC, Baric RS, et al. Severe acute respiratory syndrome-related coronavirus: the species and its viruses—a statement of the Coronavirus Study Group. *bioRxiv*. 2020.02.07.937862. doi: 10.1101/2020.02.07.937862. [preprint; published online, 2020, Feb 11]
- 3 Kosugi EM, Lavinsky J, Baptistella E, Roithmann R, Sant’Anna GD. 1st Technical Note for guidance to ENT doctors regarding the disease caused by the new Coronavirus (COVID-19) [Internet]. Brazilian Association of Otorhinolaryngology and Cervical-Facial Surgery (ABORL-CCF), Published Online 2020, Mar 03 [cited 2020 Mar 20]. Available from: https://www.aborlccf.org.br/seciao_detalhes.asp?s=51&id=4941
- 4 Grasselli G, Pesenti A, Cecconi M. Critical Care Utilization for the COVID-19 Outbreak in Lombardy, Italy: Early Experience and Forecast During an Emergency Response. *JAMA* 2020. Doi: 10.1001/jama.2020.4031
- 5 Adams JG, Walls RM. Supporting the Health Care Workforce During the COVID-19 Global Epidemic. *JAMA* 2020. Doi: 10.1001/jama.2020.3972
- 6 Brazilian Academy of Rhinology (ABR), Brazilian Association of Otorhinolaryngology and Cervical-Facial Surgery (ABORL-CCF). 4th Technical Note for guidance to otorhinolaryngologists regarding the disease caused by the new Coronavirus (COVID-19) [Internet]. Brazilian Association of Otorhinolaryngology and Cervical-Facial Surgery (ABORL-CCF), Published Online, 2020, Mar 22 [cited 2020 Mar 24]. Available from: https://www.aborlccf.org.br/seciao_detalhes.asp?s=51&id=5951
- 7 Patel ZM, et al. Warning from ENTs about COVID-19 in the upper respiratory tract [Internet]. *Pediatr ENT* [cited 2020 Mar 20]. Available from: https://www.reddit.com/r/medicine/comments/flunon/warning_from_ents_about_covid19_in_the_upper/
- 8 Zhou F, Yu T, Du R, Fan G, Liu Y, Liu Z, Xiang J, Wang Y, Song B, Gu X, Guan L, Wei Y, Li H, Wu X, Xu J, Tu S, Zhang Y, Chen H, Cao B. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. *Lancet*. 2020 Mar 11. pii: S0140-6736(20)30566-3. doi: 10.1016/S0140-6736(20)30566-3.
- 9 Ueda M, Martins R, Hendrie PC, et al. Managing Cancer Care During the COVID-19 Pandemic: Agility and Collaboration Toward a Common Goal. *J Natl Compr Canc Netw* 2020;1–4:1–4. Doi: 10.6004/jnccn.2020.7560

- 10 Position Statement AAO-HNS. Otolaryngologists and the COVID-19 Pandemic [Internet]. Published Online, 2020, Mar 23 [cited 2020 Mar 24]. Available from: <https://www.entnet.org/content/aao-hns-position-statement-otolaryngologists-and-covid-19-pandemic>
- 11 Brazilian Academy of Laryngology and Voice (ABLV), Brazilian Association of Otorhinolaryngology and Cervical-Facial Surgery (ABORL-CCF). 2nd Technical Note for guidance to otorhinolaryngologists regarding the disease caused by the new Coronavirus (COVID-19) [Internet]. Brazilian Association of Otorhinolaryngology and Cervical-Facial Surgery (ABORL-CCF), Published Online, 2020, Mar 17 [cited 2020 Mar 20]. Available from: https://www.aborlccf.org.br/secao_detalhes.asp?s=51&id=5946
- 12 Huang C, Wang Y, Li X, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet* 2020;395(10223):497–506. Doi: 10.1016/S0140-6736(20)30183-5
- 13 Wang D, Hu B, Hu C, et al. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus-infected pneumonia in Wuhan, China. *JAMA* 2020. Doi: 10.1001/jama.2020.1585
- 14 Chen N, Zhou M, Dong X, et al. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. *Lancet* 2020;395(10223):507–513. Doi: 10.1016/S0140-6736(20)30211-7
- 15 Holshue ML, DeBolt C, Lindquist S, et al; Washington State 2019-nCoV Case Investigation Team. First case of 2019 novel coronavirus in the United States. *N Engl J Med* 2020;382(10):929–936. Doi: 10.1056/NEJMoa2001191
- 16 Li Q, Guan X, Wu P, et al. Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. *N Engl J Med* 2020;382(13):1199–1207. Doi: 10.1056/NEJMoa2001316
- 17 Chan JF, Yuan S, Kok KH, et al. A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster. *Lancet* 2020;395(10223):514–523. Doi: 10.1016/S0140-6736(20)30154-9
- 18 Hoehl S, Rabenau H, Berger A, et al. Evidence of SARS-CoV-2 infection in returning travelers from Wuhan, China. *N Engl J Med* 2020;382(13):1278–1280. Doi: 10.1056/NEJMc2001899
- 19 Hopkins C, Kumar N. Loss of sense of smell as marker of COVID-19 infection [Internet]. The Royal College of Surgeons of England, Published Online, 2020, Mar 22 [cited 2020 Mar 24]. Available from: <https://www.entuk.org/sites/default/files/files/Loss%20of%20sense%20of%20smell%20as%20marker%20of%20COVID.pdf>