Ear, Nose & Throat Journal
1–3

DOI: 10.1177/0145561320948995
journals.sagepub.com/home/ear
SAGE

A "Forward Triage" Model in Telemedicine for Head and Neck Oncological Patients During the COVID-19 Era

Alessia Lambertoni, MD[1], Giacomo Gravante, MD[1], Paolo Battaglia, MD[1,2], Mario Turri-Zanoni, MD[1,2], Paolo Castelnuovo, MD, FACS, FRCS(Ed)[1,2], and Apostolos Karligkiotis, MD[3]

Keywords
COVID-19, telemedicine, telehealth assistance, head and neck, oncological patients

Introduction

Coronavirus Disease 2019 (*COVID-19*) has profoundly impacted on health care system worldwide. Massive concentration of resources in the assistance of affected patients has led to an unprecedented need to differentiate an "urgent" from a "deferrable" clinical situation, through careful triage regulating patients' access to medical services.[1] In this perspective, head and neck oncological patients (HNOPs) represent a unique population and determining their clinical priority might be difficult, both for challenges related to their cancer treatments and immunological fragility.[2]

In this scenario, Telemedicine[3] plays a key role in delivering virtual care for HNOPs reducing hospital access and thus Otolaryngological clinical procedures potentially conditioning viral transmission[4]; moreover, COVID-19-positive health care providers, in quarantine, are able to distantly take care of patients[1]; lastly, overcrowding in medical centers as well as costs for antiseptic materials and personal protective equipment are both reduced.[5,6]

Among all the available information and communication technologies,[5] videoconference technology enables to have a distant observational assessment of patient's condition.

Discussion

Head and neck oncological patients require a well-scheduled follow-up program after curative treatments, both on oncological disease monitoring and care management. Patients who previously received oncological radical surgery, unable to preserve organ function (eg, total laryngectomy, mandibulectomy, glossectomy, etc), face demanding individual problems about social isolation and psychological burden, swallowing disorders or dysphagia, stoma care and respiratory distress, neck mobility, and status of voice (in case of voice prosthesis holder).

In this context, telemedicine appears to be a reliable tool available to Otorhinolaryngologist, in order to distantly guarantee a proper surveillance.[1,7] Thus, we propose a strategic model designed on 4 definite parameters, aimed rationally to evaluate patients who actually need a face-to-face medical examination rather than a virtual consultation (Figure 1).

In our daily clinical practice, we adhere to this model and multidisciplinary a team evaluate each week the eligibility criteria for each case. Once established that a given patient fits telemedicine criteria (Figure 1), we provide a video physical assessment, educating about stoma care, swallowing rehabilitation, or any other functional disorder. Speech barrier might be successfully overcome thanks to caregivers. Radiological surveillance is remotely performed, excluding any sign of disease persistence/recurrence and confirming the stationary oncological status.

[1] Division of Otorhinolaryngology, Department of Biotechnology and Life Sciences, University of Insubria-Varese, ASST Sette Laghi, Ospedale di Circolo e Fondazione Macchi, Varese, Italy
[2] Department of Biotechnology and Life Sciences, Head and Neck Surgery & Forensic Dissection Research center (HNS&FDRc), University of Insubria, Varese, Italy
[3] Division of Otorhinolaryngology, Department of Surgical Specialties, ASST Sette Laghi, Ospedale di Circolo e Fondazione Macchi, Varese, Italy

Received: July 01, 2020; revised: July 19, 2020; accepted: July 21, 2020

Corresponding Author:
Alessia Lambertoni, MD, Division of Otorhinolaryngology, Department of Biotechnology and Life Sciences, University of Insubria-Varese, ASST Sette Laghi, Ospedale di Circolo e Fondazione Macchi, Via Guicciardini 9, 21100, Varese, Italy.
Email: alessia.lambertoni@gmail.com

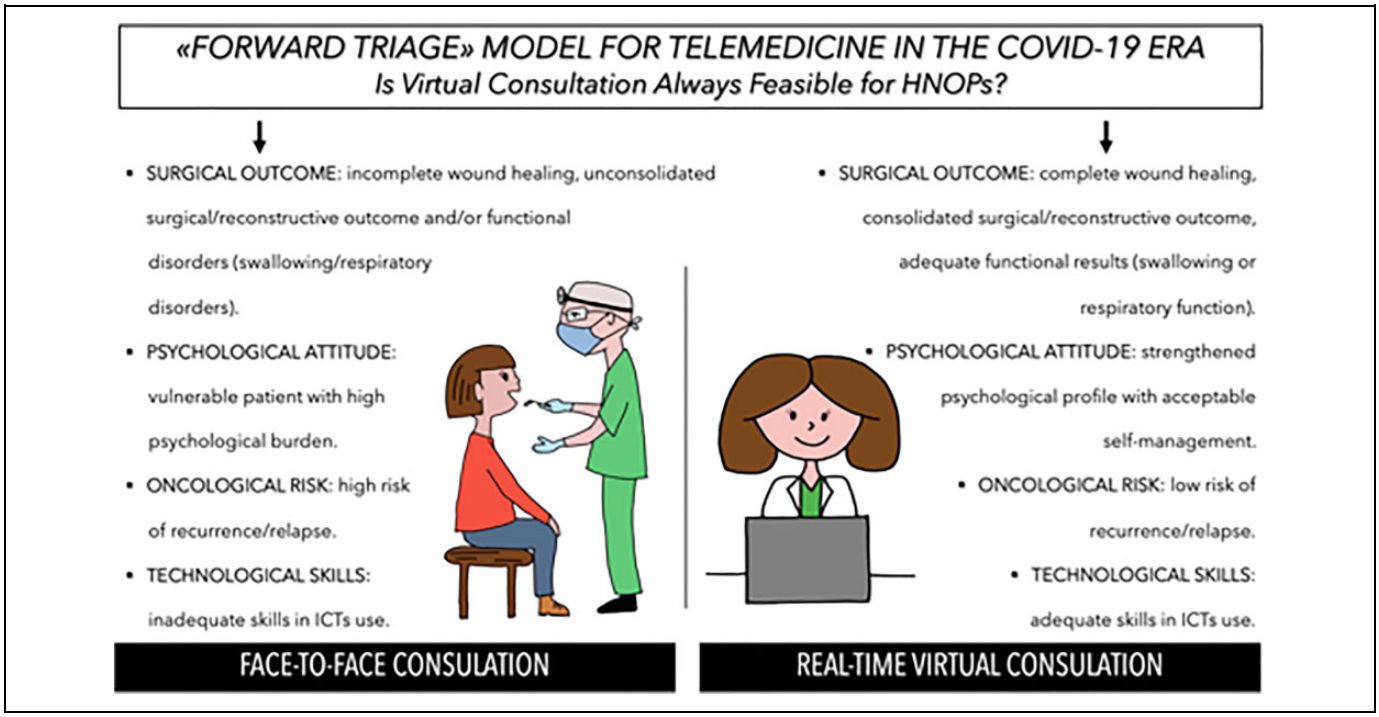

Figure 1. The "*Forward Triage*" model. The figure shows the "*Forward Triage*" model based on 4 well-defined parameters: surgical outcome, patient's psychological attitude, oncological risk, and technological skills. The left part of the figure refers to criteria (at least one) which address to a face-to-face evaluation; the right one refers to criteria which encourage virtual consultation. HNOPs indicates head and neck oncological patients; ICTs, information and communication technologies.

Despite being a useful instrument, telemedicine presents some limitations. Virtual assistance is not accessible to all and the quality of video consultation isn't comparable with face-to-face evaluation, although it seems not to significantly impact on clinical evaluation.[7] Moreover, patients' satisfaction should be investigated through dedicated questionnaire, in order to reveal their personal perspective. We adhere to this practice as well, submitting dedicated questionnaire and demonstrating, as reported in previous studies, that oncological patients feel gratified.[8] Furthermore, a well-structured telehealth system requires an adequate financial support. Lastly, telemedicine does not substitute a conventional direct physical examination at all, so that an oncological surveillance must be directly performed, even though less frequently.

Whenever a patient is considered an ideal candidate according to our model, telehealth could really improve patient's quality of life. The current pandemic represents an unprecedented scenario to promote a standardized use of telemedicine program and virtual health care.

Authors' Note

The data that support the findings of this study are available on request from the corresponding author, A.L. The data are not publicly available due to restrictions about information that could compromise the privacy of research participants. Informed consent was obtained from all individual participants included in the study. All authors consent to the publication of the manuscript. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Acknowledgments

A.L. and M.T-.Z. are PhD students of the "Biotechnologies and Life Sciences" Course at Università degli Studi of Insubria, Varese, Italy.

ORCID iD

Alessia Lambertoni https://orcid.org/0000-0002-2956-5895
Paolo Castelnuovo https://orcid.org/0000-0002-5184-6140

References

1. Moazzami B, Razavi-Khorasani N, Dooghaie Moghadam A, Farokhi E, Rezaei N. COVID-19 and telemedicine: Immediate action required for maintaining healthcare providers well-being. *J Clin Virol*. 2020;126:104345. doi:10.1016/j.jcv.2020.104345
2. Castelnuovo P, Turri-Zanoni M, Karligkiotis A, et al. Skull base surgery during the Covid-19 pandemic: The Italian skull base society recommendations. *Int Forum Allergy Rhinol*. 2020;10(8): 963-967. doi:10.1002/alr.22596
3. World Health Organization. *A Health Telematics Policy in Support of WHO's Health-For-All Strategy for Global Health Development: Report of the WHO Group Consultation on Health Telematics*, December 11-16, 1997; Geneva: World Health Organization; 1998.

4. Chauhan V, Galwankar S, Arquilla B, et al. Novel coronavirus (COVID-19): leveraging telemedicine to optimize care while minimizing exposures and viral transmission. *J Emerg Trauma Shock*. 2020;13(1):20-24. doi:10.4103/JETS.JETS_32_20
5. Vidal-Alaball J, Acosta-Roja R, Pastor Hernández N, et al. Telemedicine in the face of the COVID-19 pandemic. *Aten Primaria*. 2020;52(6):418-422. doi:10.1016/j.aprim.2020.04.003
6. Pollock K, Setzen M, Svider PF. Embracing telemedicine into your otolaryngology practice amid the COVID-19 crisis: an invited commentary. *Am J Otolaryngol*. 2020;41(3):102490. doi:10.1016/j.amjoto.2020.102490
7. Ward E, Crombie J, Trickey M, Hill A, Theodoros D, Russell T. Assessment of communication and swallowing post-laryngectomy: a telerehabilitation trial. *J Telemed Telecare*. 2009;15(5):232-237. doi:10.1258/jtt.2009.081204
8. Layfield E, Triantafillou V, Prasad A, et al. Telemedicine for head and neck ambulatory visits during COVID-19: evaluating usability and patient satisfaction. *Head Neck*. 2020;42(7):1681-1689. doi:10.1002/hed.26285