

Impact of COVID-19 on otolaryngology in Italy: a commentary from the COVID-19 task force of the Young Otolaryngologists of the Italian Society of Otolaryngology

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Abstract. – OBJECTIVE: The ongoing pandemic of coronavirus disease 2019 is having a dramatic effect on most medical disciplines. Otolaryngology Head and Neck Surgery is one of the most engaged disciplines, and otolaryngology specialists are facing a radical change of their role and daily activities that will have severe impact on the return to the ordinary. In this paper, the COVID-19 Task Force of the Young Otolaryngologists of the Italian Society of Otolaryngology comment on the changes that occurred for otolaryngology in Italy during the pandemic. Changes include organizational rearrangement of Otolaryngology Units, with merges and closures that affected a significant portion of them; reallocation of otolaryngology personnel, mainly to COVID-19 wards; reduction of elective clinical and surgical activity, that was mainly limited to oncology and emergency procedures; and execution of screening procedures for SARS-CoV-2 among healthcare providers and patients in otolaryngology units in Italy.

Key Words:

SARS-CoV-2, COVID-19, Otolaryngology Head and Neck Surgery, Italy.

Introduction

The ongoing pandemic of coronavirus disease 2019 (COVID-19) has spread rapidly worldwide since the first cases in Wuhan, China¹. Italy has been one of the most affected countries for number of cases per 100.000 inhabitants and deaths².

The classic symptoms of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) infection include cough, breathing difficulties and fever, sometimes associated or preceded by anosmia and dysgeusia^{3,4}; this made otolaryngology one of the most engaged disciplines, and otolaryngology specialists were often involved in the man-

agement and assistance of COVID-19 patients with a radical change of their role and daily activities^{5,6}.

Recently, the COVID-19 Task Force of the Young Otolaryngologists of the Italian Society of Otolaryngology Head and Neck Surgery administered via email to the Directors of all Otolaryngology Units in Italy a questionnaire composed of 28 items focused on the changes occurred during the pandemic for A) unit rearrangement and personnel reallocation, B) clinical and surgical activity, C) personnel and patient screening for SARS-CoV-2. The questionnaire was returned by more than 50% of Italian Otolaryngology Units spread all over the country, offering a trustworthy picture of the situation in Italy that was commented in this article.

Otolaryngology Unit Rearrangement and Personnel Reallocation

The responses to the questionnaire consistently indicated that, during the pandemic, most Otolaryngology Units in Italy were merged into other units, they faced a reduction of beds, or were temporarily closed or converted into COVID-19 wards. This was consistent with reports from other disciplines that reported similar results^{7,8}. Interestingly, although the SARS-CoV-2 infection had a different impact on northern, central and southern Italy, the changes occurred homogeneously in all Otolaryngology Units, showing a nationwide attention to the pandemic and to the potential effects on the population.

Otolaryngology specialists working in Italian Hospitals underwent reallocation and changes in their shifts. Most of them were reallocated to other units, mainly to COVID-19 wards; furthermore, in most cases alternate work shifts were applied to reduce the number of physicians on duty at the same time in accordance with the reduced activity of the unit. Strong efforts were made either to strengthen hospital's organization in response to COVID-19 pandemic either to protect specialists if not involved.

Changes in Ordinary Clinical and Surgical Otolaryngology Activity

Dramatic changes occurred in ordinary clinical and surgical activity of Otolaryngology Units in Italy. Non-urgent outpatient procedures, elective surgery and clinical exams have been temporarily suspended to limit virus diffusion and reallocate staff, while national and local regulations allowed only the execution of emergency and oncologic clinical and surgical procedures.

Responses from Otolaryngology Units across our country testified a reduction of nearly 90% for outpatient visits and surgical procedures, while oncology and emergency procedures were stable or only slightly reduced. While the reduction of outpatient and elective surgery procedures was largely expected, the slight reduction in emergency and oncology procedures might be explained by the reduction of hospital beds considering the Otolaryngology Units rearrangement abovementioned, healthcare staff reduction and reallocation and the effects of the lockdown that reduced iatrogenic conditions (such as odontogenic abscesses following dental treatments) and traumatic events⁹. Due to an unpredictable high admission of patients in Intensive Care Units during the first weeks of the pandemic, many operating rooms were closed or converted in intensive care beds. Tracheostomy in COVID-19 positive patients has certainly been a main surgical topic in many Otolaryngology Units^{10,11}.

SARS-CoV-2 Contagion Among Otolaryngology Specialists and Patients

The questionnaire allowed investigation of the diffusion of screening procedures for SARS-CoV-2 among healthcare providers and patients in Otolaryngology Units in Italy. As expected, the majority of the Units performed COVID-19 screening procedures for both patients and healthcare workers, and all the Units arranged screening procedures for inpatients scheduled for surgery.

Interestingly, one out of five Otolaryngology Units that responded to the questionnaire dealt with physicians positive to SARS-CoV-2 swab, confirming that otolaryngology is among the most at-risk specialties during this pandemic. In fact, during an otolaryngology consultation, reflex acts are often evoked with the emission of aerosol particles directly to the doctor's face, with high potential for contamination¹². Furthermore, despite the importance of the use of personal protective equipment, during the otolaryngology examination the patient must remove the mask, exposing the doctor to possible infection, but also making himself more vulnerable. Moreover, surgical procedure in which ear, nose and throat are involved are at high risk of virus transmission to all personnel in the operating room¹². Fortunately, the increased awareness of the infection and of the means of contagion accumulated in the last period has improved everyday use of protections thus limiting this risk, which mostly occurred during the early stages of the pandemic.

Conclusions

COVID-19 pandemic had, so far, a dramatic impact on otolaryngology diagnostic and surgical activity. Such impact has been documented in detail and throughout the country by the recent COVID-19 Task Force of the Young Otolaryngologists of the Italian Society of Otolaryngology Head and Neck Surgery questionnaire, that confirmed a drastic reduction of the routine activity of Otolaryngology Units in Italy, with a significant impact on the service offered to patients. This situation will have an unpredictable impact on the otolaryngology activity in the next future, in which units will not be able to perform scheduled and new exams in a timely manner thus favoring the risk of diagnostic delays with severe impact on patients' health.

Conflict of Interest

The Authors declare that they have no conflict of interests.

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References

- 1) ZHU H, WEI L, NIU P. The novel coronavirus outbreak in Wuhan, China. *Glob Health Res Policy* 2020; 5: 6.
- 2) ONDER G, REZZA G, BRUSAFERRO S. Case-fatality rate and characteristics of patients dying in relation to COVID-19 in Italy. *JAMA* 2020. doi: 10.1001/jama.2020.4683. Epub ahead of print.
- 3) TIAN S, HU N, LOU J, CHEN K, KANG X, XIANG Z, CHEN H, WANG D, LIU N, LIU D, CHEN G, ZHANG Y, LI D, LI J, LIAN H, NIU S, ZHANG L, ZHANG J. Characteristics of COVID-19 infection in Beijing. *J Infect* 2020; 80: 401-406.
- 4) RALLI M, DI STADIO A, GRECO A, DE VINCENTIIS M, POLIMENI A. Defining the burden of olfactory dysfunction in COVID-19 patients. *Eur Rev Med Pharmacol Sci* 2020; 24: 3440-3441.
- 5) KOWALSKI LP, SANABRIA A, RIDGE JA, NG WT, DE BREE R, RINALDO A, TAKES RP, MÄKITIE AA, CARVALHO AL, BRADFORD CR, PALERI V, HARTL DM, VANDER POORTEN V, NIXON IJ, PIAZZA C, LACY PD, RODRIGO JP, GUNTINAS-LICHIUS O, MENDENHALL WM, D'CRUZ A, LEE AWM, FERLITO A. COVID-19 pandemic: effects and evidence-based recommendations for otolaryngology and head and neck surgery practice. *Head Neck* 2020 Apr 9. doi: 10.1002/hed.26164. Epub ahead of print.
- 6) TYSOME JR, BHUTTA MF. COVID-19: Protecting our ENT Workforce. *Clin Otolaryngol* 2020; 45: 311-312.
- 7) BRETHAUER SA, POULOSE BK, NEEDLEMAN BJ, SIMS C, ARNOLD M, WASHBURN K, TSUNG A, MOKADAM N, SARAC T, MERRITT R, PAWLIK TM. Redesigning a Department of Surgery during the COVID-19 Pandemic. *J Gastrointest Surg* 2020 Apr 28: 1-8. doi: 10.1007/s11605-020-04608-4. Epub ahead of print.
- 8) GLAUSER W. Proposed protocol to keep COVID-19 out of hospitals. *CMAJ* 2020; 192: E264-E265.
- 9) ARMOCIDA B, FORMENTI B, USSAI S, PALESTRA F, MISSONI E. The Italian health system and the COVID-19 challenge. *Lancet Public Health* 2020; 5: e253.
- 10) HEYD CP, DESIATO VM, NGUYEN SA, O'ROURKE AK, CLEMMENS CS, AWAD MI, WORLEY ML, DAY TA. Tracheostomy protocols during COVID-19 pandemic. *Head Neck*. 2020 Apr 24. doi: 10.1002/hed.26192. Epub ahead of print.
- 11) GOLDMAN RA, SWENDSEID B, CHAN JYK, LEWANDOWSKI M, ADAMS J, PURCELL M, COGNETTI DM. Tracheostomy management during the COVID-19 pandemic. *Otolaryngol Head Neck Surg* 2020; 28: 194599820923632.
- 12) BALAKRISHNAN K, SCHECHTMAN S, HOGIKYAN ND, TEOH AYB, McGRATH B, BRENNER MJ. COVID-19 pandemic: what every otolaryngologist-head and neck surgeon needs to know for safe airway management. *Otolaryngol Head Neck Surg* 2020: 194599820919751.