

LETTER TO THE EDITOR

# Why Italian ENT physicians should be aware of SARS-CoV-2

## *Perchè gli specialisti ORL italiani devono stare in guardia contro SARS-CoV-2*

Sara Torretta<sup>1,2</sup>, Lorenzo Maria Gaini<sup>1</sup>, Lorenzo Pignataro<sup>1,2</sup>

<sup>1</sup> Department of Otolaryngology and Head and Neck Surgery, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milan, Italy; <sup>2</sup> Department of Clinical Sciences and Community Health, University of Milan, Italy

KEY WORDS: SARS-CoV-2, coronavirus, infection, otolaryngology, ENT, emergency

PAROLE CHIAVE: SARS-CoV-2, coronavirus, infezione, otorinolaringoiatria, otorinolaringoiatri, emergenza

Dear Editor,

at this time our country is perturbed by the outbreak of the so-called severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), which is imposing our government and health authorities to adopt stringent measures in order to control the disease and limit its diffusion.

This condition has been declared by the WHO the sixth public health international emergency after H1N1 in 2009, polio in 2014, Ebola in 2014 in West Africa, Zika and Ebola in 2019 in the Democratic Republic of Congo.

Since the emergence of this new infection in December 2019 in China, it rapidly diffused to other countries, with the development of new infectious foci in Lombardy and Veneto at the end of February 2020. At the time of writing, more than 101,900 cases have been confirmed worldwide with more than 3,700 new cases developing in the last 24 hours<sup>1</sup>. Italy is currently the first among the most affected European countries, with about 4,630 cases and more than 770 new cases detected in the last 24 hours (of 07 March 2020)<sup>1</sup>.

Epidemiological observations suggest a constant increase in the daily number of global cases (both in China and outside it), with a decreasing trend in new cases in China but not in other countries.

Angiotensin-converting enzyme 2 (ACE2; which is mainly located on type I and type II alveolar cells in the human lungs) was found to be the receptor for SARS-CoV-2, and it has been estimated that the binding capability of SARS-CoV-2 is 10-20 times greater compared to that of SARS-CoV<sup>2</sup>. The binding of ACE2 would result in protein hyper-expression responsible for alveolar damage and exert the development of pathologic systemic events.

Despite the possible animal-to-human transmission previously suggested, it is now largely accepted that most cases result from human-to-human transmission by means of droplets or direct contact with a median incubation period of 3 days<sup>3</sup>.

In addition, there is actually evidence for SARS-CoV-2 transmission by asymptomatic carriers<sup>4</sup>. While SARS-CoV-2 has been detected in patient stools and on environmental surfaces<sup>5</sup>, transmission by an fecal-oral route and through inanimate objects remains unclear. A supposed hospital-related transmission has been estimated to occur in more than 40% of cases<sup>3</sup>. In this regard, the

Received: March 9, 2020

Accepted: March 11, 2020

### Correspondence

**Sara Torretta**

Department of Clinical Sciences and Community Health, Università degli Studi di Milano, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, via F. Sforza 35, 20122 Milano, Italy  
Tel. +39 02 50320245. Fax +39 050320248  
E-mail: sara.torretta@unimi.mi.it

### Funding

None.

### Conflict of interest

The Authors declare no conflict of interest.

**How to cite this article:** Torretta S, Gaini LM, Pignataro L. Why Italian ENT physicians should be aware of SARS-CoV-2. Acta Otorhinolaryngol Ital Epub 2020 Mar 31. <https://doi.org/10.14639/0392-100X-N0738>

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non-negligent rate of cases detected among physicians and healthcare personnel is of particular concern <sup>6</sup>. Among infected healthcare workers in China, Dr. Li Wengliang was an ophthalmologist who contracted SARS-CoV-2 from an asymptomatic patient with glaucoma in early January and died one month later. In addition, Chinese state media confirmed the death of Dr. Liang Wudong, a 62-year-old ENT specialist at Hubei Xinhau Hospital in Wuhan after having treated patients infected by SARS-CoV-2.

Some reports suggest that transmission from patients with subclinic infection may occur by aerosol inoculation of droplets and other infected secretions into mucous membranes of the conjunctiva and the airways <sup>7</sup>. Clinical manifestations include fever, cough, dyspnoea, myalgia, headache and diarrhea <sup>3,8</sup>. Upper airway manifestations such as rhinorrhoea and sore throat may also occur (and reported, respectively, in about 4% and 17% of cases) <sup>3,8</sup>. It may be speculated that in some cases milder features commonly described after influenza-like infections such as hyposmia, dyssomnia and hypogeusia may be present as well.

Some ophthalmologists recently posed attention to the risk of cross-infection between patients and physicians during ophthalmologic evaluations <sup>9</sup>. On the basis of these considerations, the risk of contamination of healthcare workers seems to be particularly increased for ENT physicians for several reasons. The first is related to the fact that patients need to remove a face mask in order to undergo objective clinical assessment and that clinicians are placed in close proximity to them. In addition, some clinical maneuvers (oropharyngeal inspection, nasopharyngeal and laryngeal fibre endoscopy) elicit the dispersion of aerosol particles during cough and sneezing.

Under these circumstances, the systematic resort to appropriate personal protective equipment (PPE) including gloves, medical masks, goggles or a face shield, and gowns as recently pointed out by the WHO <sup>10</sup> and their correct use are points of crucial importance especially for ENT physicians. In particular, ENT specialists should specifically adhere to the equipment recommended for aerosol-generating procedures performed on SARS-CoV-2 patients during each examination: i.e. N95 or FFP2 standard or equivalent

respirator, gown, gloves, eye protection and apron. We need to remember that the use of gloves does not replace the need for frequent and appropriate hand washing.

Given the absence of specific antiviral treatments, strategies aimed at achieving epidemic control of SARS-CoV2 infection (including improving individual protection) are the only effective measures presently available. Greater awareness from healthcare personnel at increased risk of transmission, including ENT physicians, is also advisable in order to reduce the rate of cross-infection. There is an extremely urgent need for the national diffusion of these preventive strategies and adequate training of medical personnel.

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