Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Letter to the editor

Head and neck cancer surgery in COVID-19 pandemic in Northern Italy

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Dear Editor,

The Coronavirus disease 2019 (COVID-2019) pandemic represents a great challenge both in itself and for time-sensitive diseases [1]. In particular, treatments for cancer patients could not be postponed. Surgery for head and neck tumors consists of high risk procedures because surgeons operate on possible locations of SARS-CoV-2, such as the upper respiratory tract. Its mucous membranes could harbor the virus and/or be the entry point of the virus into the human body [1,2]. Therefore, personal protective equipment is mandatory for otorhinolaryngologists and other healthcare workers dealing with head and neck cancer patients.

In our tertiary referral center in Turin, an endemic area of SARS-CoV-2 infection in Northern Italy, 19 head and neck cancer patients underwent surgery within two month from the beginning of the lockdown in Italy (10th March − 10th May 2020). In these two months all otorhinolaryngological procedures were suspended, except for time-sensitive surgery (i.e. emergencies and tumours). Since our oncologic activity was partially reduced because of reallocation of human and physical resources (nurses, physicians, hospital beds) to COVID-19 patients, a selection of head and neck cancer patients was performed. Subjects with dysplasia underwent an outpatient follow-up and surgery was scheduled after the end of lockdown, except for disease progression. Phone calls for pre-triage about COVID-19 symptoms and possible contacts were performed some days before hospitalization for all patients selected for surgery. Then, they underwent detection of SARS-CoV-2 viral nucleic acid assays by real-time reverse transcriptase-polymerase chain reaction (RT-PCR) in nasopharyngeal swabs and a chest X-ray 24–48 h before hospitalization.

All hospital staff and the patients wore a surgical mask. A KN95 mask was worn under the surgical mask in the operating room by anesthetists, surgeons, and instrumentalist nurses. Moreover, they wore protective glasses or face shields. No relatives could visit the patients during hospital stay. Daily phone calls were performed to inform patients' relatives.

Clinical characteristics of the patients are reported in Table 1. Mean age was 66.36 years. Previous radiotherapy was reported by one patient. All the patients underwent head and neck surgery under general anesthesia, as described in Table 2. Two out of 19 patients did not undergo major surgery with cancer removal, but only tracheostomy because of insufficient respiratory space (hypopharyngeal cancer with laryngeal involvement), prior to chemoradiation.

Fortunately, no positive SARS-CoV-2 swab or chest X-ray suspect for COVID-19 was detected before hospitalization. One patient developed fever during hospital stay (5% of the cases). He had undergone total laryngectomy for thyroid carcinoma recurrence with laryngeal involvement. The time between surgery and fever onset was ten days. He did not develop other COVID-19 symptoms or surgical complications. Nasal and tracheal swab were collected. A positive result in SARS-CoV-2 RT-PCR was found on the tracheal swab. Then, he was transferred to a COVID-19-dedicated hospital ward until recovery and discharge (15 days after positive swab).

The outbreak of COVID-19 has rapidly spread globally since being identified as a public health emergency of major international concern and then declared a pandemic by the World Health Organization. Otolaryngologists are at very high risk of SARS-Cov-2 infection as they cope with the upper respiratory tract, that is the main reservoir of SARS-CoV-2 [3]. Aerosolization of the SARS-CoV-2 may be extremely high during sinonasal and upper airway procedures, particularly when powered instruments are employed [4,5].

Cancer patients are more susceptible to infection than subjects without cancer. Indeed, malignancy and anticancer therapy can determine an immunosuppressive state [6]. Cancer patients have an estimated twofold increased risk of COVID-19 than the general population [3]. Head and neck cancer surgeons should balance infection risk with patient care. Surgical treatment delays significantly increase the risk of recurrence and reduce overall survival [7]. Thus, otorhinolaryngologists have to triaging patient care and balancing their decisions with the safety of themselves and support staff.

In our hospital, we performed RT-PCR for SARS-CoV-2 in nasopharyngeal swabs and a chest X-ray before hospitalization in our cancer patients. However, despite preoperative negative tests, one patient (5% of all cases) had a positive swab ten days after surgery. Since relatives could not see the patient and all healthcare workers wore a surgical mask, the possibility of a preoperative false negative swab remained. Indeed, sensitivity and specificity of PCR by viral swab are imperfect [8,9]. The false negative rate of nasopharyngeal swab is reported to be about 20% [10,11]. Our results suggest that adequate personal protection equipment must be used not only during high risk procedures, such as head and neck surgery, but also in post-operative care. The aim

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Table 1
Clinical characteristics.

	Number of subjects (%)
Sex	
Male	15 (79)
Female	4 (21)
Alcohol consumption	
Yes	4 (21)
No	15 (79)
Smoke	
Current smoker	5 (26)
Former smoker	6 (32)
No	8 (42)
Comorbidities	
Systemic hypertension	11 (57)
Cardiovascular diseases	6 (31)
Diabetes mellitus	3 (16)
Chronic obstructive pulmonary disease	1 (5)
Obesity	2 (11)
Tumor site	
Nasal cavity and paranasal sinuses	1 (5)
Oral cavity	3 (16)
Oropharynx	5 (26)
Hypopharynx	1 (5)
Larynx	5 (26)
Parotid gland	2 (11)
Thyroid	2 (11)

Table 2
Treatment.

	Number of subjects (%)
Endoscopic ethmoidectomy and maxillectomy	1 (5)
Partial glossectomy	2 (11)
Retromolar trigone cancer resection	1 (5)
Partial pharyngectomy	4 (21)
Laser cordectomy	1 (5)
Partial laryngectomy	3 (15)
Total laryngectomy	2 (11)
Total thyroidectomy	1 (5)
Total parotidectomy	2 (11)
Tracheostomy	2 (11)
Concomitant neck dissection	12 (63)

is to protect patients as well as surgeons and hospital staff from COVID-19 while providing healthcare during the pandemic [4].

In conclusion, head and neck cancer surgery is a high risk procedure for COVID-19. Attention should be paid during all the hospital stay, not only in the operating room. Possibility of SARS-CoV-2 false negative at pre-operative evaluation in asymptomatic subjects should not let guard down in the post-operative time.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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