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HEAD AND NECK CANCER: THE NEW SCENARIO IN THE PANDEMIC COVID-19 PERIOD

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Abstract – *Objective:* *The onset of the COVID-19 pandemic has led to a disruption of the routine clinical and surgical activities of the national health system, resulting in the accumulation of clinical cases and consequent delay in the management of the cancer patient. The prolongation of patient management processes due to the infectious risk collided with the inevitable progression of the disease from untimely interventions. Through this study, we offer our experience gained during the COVID-19 era in the management of oncological pathology through useful action plans and services for head and neck cancer.*

Materials and Methods: *A multicenter retrospective study through the analysis of the Otorhinolaryngology Units oncological databases of the University of Catania (Catania, Italy) and the Morgagni Pierantoni Hospital of Forlì (Forlì, Italy), was performed. We evaluated the oncological rates identified from April to September 2020 and compared with the precedents of the previous year.*

Results: *The surgical percentage reported for malignant oncological diseases went from 10.46% and 11.37% in 2019 to 32.7% and 34.01% in 2020 for the Hospitals of Catania and Forlì, respectively, despite the reduction of about 50% of general anesthesia for both health facilities.*

Conclusions: *In light of the critical care issues, a reassessment of the oncological treatment paradigms in use, provided by evidence medicine and guidelines, and the development of new strategies to reshape operational protocols for head and neck cancer would be necessary.*

KEYWORDS: *Head and neck cancer, COVID-19 pandemic, Oncological prevention, Elective treatment.*

INTRODUCTION

The COVID-19 pandemic has represented a unique challenge for healthcare systems and professionals around the world, with the hijacking of all available medical resources to approach patients with severe respiratory syndrome Coronavirus-19 related (COVID-19) and the following change in the routine patients' management with head and neck cancer[1,2].

Two different temporal phases followed one another during the COVID-19 pandemic: the lockdown period and the 'phase two' (which we are experiencing now) of coexistence with the vi-

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rus. In both of these periods, a different approach to cancer patients was observed.

In particular, in Italy during the 3-month block, to avoid the spread of COVID-19 infections, the Hospitals have reduced routine (non-urgent) surgical and non-surgical activities, favoring pulmonology, intensive care and emergency activities. Therefore, elective and surgical procedures were delayed, and only urgent cancer cases were performed, making use of all necessary precautions for operators (surgeons and assistant nurses).

The aim of our study was to evaluate the trend of cancer rates during the period of generalized lockdown in Italy and compare them with those of the same period of the previous year. This analysis was carried out in order to support our hypothesis on the influence of the new health and social conditions on the screening and management of the Head and Neck cancer patient.

MATERIALS AND METHODS

The guidelines and recommendations provided by the prominent national and international organizations present in the literature were evaluated. In particular, a review of the literature was carried out on the management protocols of cancer patients in the Head and Neck district, issued after the start of the COVID-19 pandemic.

We, therefore, performed a multicenter retrospective analysis, examining the oncological databases of the two Otorhinolaryngology Units of the University of Catania and the Morgagni Pierantoni Hospital of Forlì, in the period between April-September 2020. We thus compared the data obtained with the oncological rates identified during the same period of the previous year.

ETHICAL APPROVAL

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Local ethics committees approved the study.

RESULTS

From the analysis of the oncological cases of our two operating units of Otolaryngology at the University of Catania and the Morgagni Pierantoni Hospital in Forlì, we observed an increase in cancer cases treated in the months April-September 2020 compared to the ones identified the previous year (2019) at the same period.

In our centers of Catania and Forlì, respectively, the surgical rate for malignant oncological pathologies went from 10.46% in 2019 to 32.7% in 2020 and from 11.37% to 34.01% (Table I), despite the reduction of about 50% general anesthesia for both hospitals.

The main problem observed during the lockdown was not only the treatment but also the related screening, and follow-up programs have changed with a substantial block of activities, missing the critical points of cancer identification and related quick treatment possibility[3].

During the analyzed period, in order to reduce the possible COVID-19 infection of patients and healthcare professionals, all outpatient procedures were halved, with only visits with higher priority or ascertained clinical urgency being performed. We have reduced all the laboratory tests, the requests for diagnostic images in the absence of full-blown symptomatology, consequently postponing all the follow-up procedures not carried out.

TABLE 1. Data comparison between two centers analyzed, subdividing cancer patients by anatomical district involved.

	Forlì		*Catania*	
	2019	***2020***	***2019***	***2020***
Oral Cancer	6 (17.14%)	6 (13.95%)	9 (37.5%)	10 (34.48%)
Oropharynx	4 (11.42%)	6 (13.95%)	1 (4.16%)	1 (3.44%)
Larynx	8 (22.85%)	11 (25.58%)	7 (29.16%)	8 (27.58%)
Nose/Sinuses	-	2 (4.65%)	-	-
Thyroid	4 (11.42%)	4 (9.30%)	-	-
Salivay Gland	7 (22.85%)	6 (13.95%)	3 (12.5%)	4 (13.79%)
Metastatic Neck Disease	6 (17.14%)	8 (18.60%)	4 (16.66%)	6 (20.68%)
Total patients	35	43	24	29

DISCUSSION

As stated by several authors in the literature, the identification of *in situ* or, otherwise, resectable tumours represents a fundamental objective that cannot be postponed[4-6]. According to the HN Cancer Care Guidelines, it is essential to identify urgent cases of cancer that should undergo surgery if the prognosis is worse after referral beyond six weeks[7,8]. For example, advanced carcinomas of the oropharynx or larynx, high-grade or advanced-stage salivary carcinoma, or rapidly progressing skin melanoma with the regional disease could be adversely affected in prognosis if not identified early[9-11]. According to the model proposed by Maringe et al[5], a substantial increase in the cancer deaths' number is expected in the months following the COVID-19 blockade due to the resulting diagnostic delays.

Indeed, in our series, we observed an increase in cancer cases treated in the months April-September 2020 compared to the number of cases identified the previous year in the same period.

In our centres of Catania and Forlì, respectively, the surgical rate for malignant oncological pathologies went from 10.46% in 2019 to 34.01% in 2020 and from 11.37% to 32.7% (Figure 1), despite the reduction of about 50% general anaesthesia for both hospitals.

Moreover, the oncological follow-ups that could not otherwise be postponed were performed following the security measures for the operators such as:

- FFP2 protective masks and suits usage.
- Endoscopy performed in a safe environment with Negative pressure rooms.

A weapon in the care of vulnerable cancer patients in the COVID-19 era is the Tele-Medicine. These services allow virtual home visits, evaluation of patients at a distance to reduce hospital accesses, and screening of patients with suspected oncological pathology or its relapses that require more careful evaluation in the hospital.

We have also implemented the telemedicine service both for the follow-up and for the rehabilitation of cancer patients. We have also reduced hospital admissions at our unit by approximately 50%.

Additional countermeasures performed during this pandemic period for the surgical treatment of cancer patients were:

- Patients' admission to undergoing surgery, after all, performing pre- and post-operative COVID-19 swabs and pre-operative chest x-rays, to identify positive subjects and limit the hospital virus spread.
- Patients who were positive to the swab after 15 days are treated with the operating room COVID-19 related.
- The tracheotomy was performed with caution to the measures suggested to avoid aerosolization and spread of the virus.
- Hospitalization times were also minimized to avoid hospital infection.

CONCLUSIONS

Two key objectives are necessary, the first of which is to guarantee the patient a safe path through the availability of complete personal protective equipment while the second is the presence of large spaces and reduced anesthesia management times to avoid long procedures generating aerosols[11-13].

The clinical-diagnostic evaluation must be carried out on the basis of the expected bene-

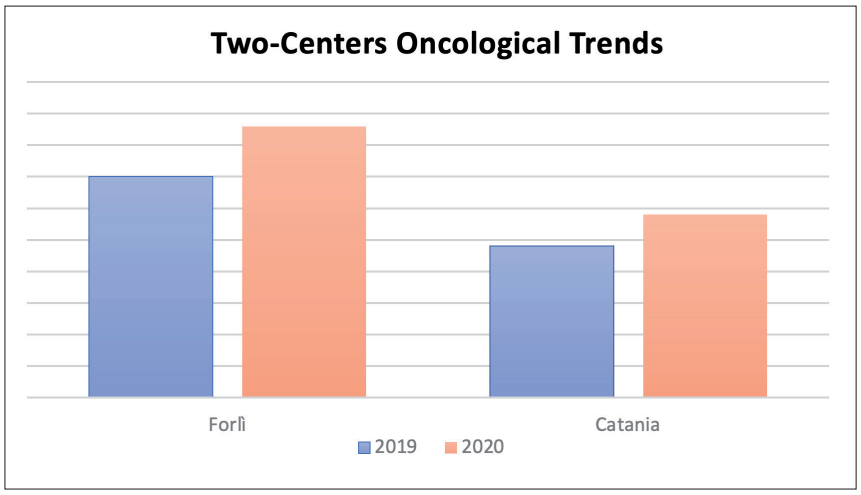

Fig. 1. Column chart of patient rates underwent surgery and with head and neck malignancy histological diagnosis.

fit also in terms of any necessary treatment as well as in relation to the risk resulting from the COVID-19 infection. The current health system has faced a fundamental limitation represented by the scarcity of health resources in terms of personnel and facilities present. A remodeling of the oncological guidelines is necessary during the COVID-19 pandemic in order to optimize the necessary clinical visits and hospitalizations. Telemedicine today represents the most important weapon for a closer follow-up of the cancer patient as well as for the continuation of the rehabilitation process.

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