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# Patients With Lung Cancer and Coronavirus Disease 2019 Epidemic: An Experience From an Italian University Hospital



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The rapid onset of the coronavirus outbreak in Italy, and later on in Europe, forced urgent decisions to be taken by medical oncologists. It is well known that patients suffering from oncological or oncohematological neoplastic diseases and other chronic diseases associated with immunosuppression (e.g., congenital immunodeficiencies, transplants of solid organs or hematopoietic stem cells, and autoimmune pathologies in immunosuppressive treatment) are particularly at risk, both with regard to morbidity and fatality related to respiratory virus infections, such as influenza<sup>1</sup> and severe acute respiratory syndrome coronavirus disease 2 (SARS-CoV-2).<sup>2</sup>

We share here the experience of an oncology department in the context of a university hospital based in Orbassano (Torino), Italy during the coronavirus disease 2019 (COVID-19) epidemic. All the disease-specific measures and interventions outlined in this commentary were on the basis of institutional discussion and decision. Although some of them can be generalized, others may not necessarily apply to hospitals with a different patient pattern, hospital settings, and severity of community infections. The strategies described in this commentary are, thus, helpful for similar hospitals facing similar threats from COVID-19.

A few days after the outbreak of the disease, we quickly implemented a series of preventive measures to limit the spread of the virus and prevent contamination of the wards, consultation rooms, and outpatient facilities. Despite an initial gap in providing personal protective equipment to all health care professionals, the hospital administrators promptly reacted and provided and recommended wearing of appropriate personal protective equipment (e.g., surgical masks). An exclusive one-way passage at the entrance of the hospital with a

visible sign, through which all patients and relatives entering the hospital were checked for body temperature and presence of respiratory symptoms, was arranged. A second checkpoint was placed at the entrance of the dedicated areas of the consultation rooms and outpatient facility for patients in oncology. A pretriage check form was filled by each patient.

Any admitted patient with fever was promptly investigated for COVID-19 with the recommended molecular diagnostic test and, if positive, was moved to isolation rooms with dedicated personnel. Relatives were not allowed to stay in the waiting rooms, and adequate distancing among waiting patients was advised and carefully monitored.

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Physicians educated patients to help prevent the further spread of COVID-19 and provided instructions on the proper wear of surgical masks, handwashing techniques, cough etiquette, and home quarantine.

At the early stages of the epidemic, the uncertainty related to the management of patients with lung cancer prompted several initiatives from various advocacy groups in Italy, including Women Against Lung Cancer in Europe, with requests for direction from the Ministry of Health and the Scientific Committee of the Civil Protection Department.

We were advised to quickly identify and apply the methods necessary to guarantee the oncological treatments necessary for patients residing in the “red zones” (areas with a higher incidence of COVID-19) to ensure that the principle of dose intensity was not in any way negatively influencing the prognosis of the pathology being treated. We tried to continue the treatments considered nondeferable, whereas others (e.g., adjuvant treatments) were postponed. Regarding immunotherapy, we decided to continue the treatment of patients in the induction or short-term maintenance phases; although we discussed (with each patient) whether to interrupt the therapy for those in the long-term maintenance phase (more than 1 year) or for those with initial worsening of the radiological picture.

Furthermore, the recommendation was to postpone, when possible, the follow-up consults to decrease attendance in the health care facilities to limit both the risk of exposure to SARS-CoV-2 and the workload of the (already) partially overloaded hospital manpower and structures. We consequently implemented a system of remote consultation for all patients in follow-up, and the same approach was adopted for patients on oral therapies. For drug resupply, whenever possible, we delivered drugs at home through express couriers.

Regarding the conduct of clinical trials, we put on hold any study monitor visits, and the activity of the data center has been limited to essential activities, favoring, when possible, any type of remote working.

Despite all these detailed plans and preventive measures, one inpatient with no COVID-19-related symptoms during admission, had an onset of fever on day 7 and was subsequently found to be positive for COVID-19.

Unfortunately, some health care professionals and patients with cancer were infected, and the situation forced us to transform our oncology ward into a COVID-19 ward for all types of patients with cancer.

Because of this recognized threat, we promptly implemented a diagnostic algorithm for any patient with cancer who was admitted from the emergency room or the outpatient facility. This algorithm takes the following into account: (1) the suboptimal sensitivity of the reverse transcriptase–polymerase chain reaction diagnostic method on the nasal swab for SARS-CoV-2 along with the waiting time for report availability (5–6 h); and (2) risk stratification for the likelihood of COVID-19, which integrates the use of low-dose chest computed tomography in the decision algorithm to minimize the risk of contamination and to optimize patient allocation in different areas of the hospital.

The lessons we learned from our experience with COVID-19 and patients with cancer clearly indicated that, in emergencies, it is quite difficult to make a differential diagnosis between symptoms related to lung cancer (regardless of whether the cases are mild or severe) and COVID-19; the risk of hospital admission of patients with lung cancer in the asymptomatic phase should be carefully considered. In addition, all patients with lung cancer are extremely frail in the context of the COVID-19 epidemic, and further measures should be implemented to protect patients and health care professionals involved in the diagnosis and treatment of this oncological disease.

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