

Daily Routine and Access to Care: Initial Patient Reported Experiences at a German Lung Cancer Center during the COVID-19 Pandemic

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Dear Editor,

The novel coronavirus, SARS-CoV-2, has caused the global COVID-19 pandemic, leading countries all over the world to implement public health measures. In addition to public lockdowns, hospitals have modified care to minimize risk of infection and mobilize resources for treating COVID-19 patients. The intended as well as unintended effects of these measures, and of the pandemic itself, on patients with lung cancer and other thoracic malignancies have not yet been described. Thoracic oncology patients may be particularly vulnerable to COVID-19 due to immunosuppression and preexisting comorbid diseases. Data on Chinese COVID-19 cases suggest that COVID-19 patients with cancer have a higher risk of severe events like admission to intensive care, requiring ventilation, and mortality compared to COVID-19 patients without cancer [1]. As such, it is particularly important to understand how well the measures to control infection are accepted and implemented by patients in this setting. In addition, most thoracic oncology patients are in regular contact with health care providers and require frequent medical assessments and treatment. The impact of the pandemic on the provision of regular health care is as yet unclear. In order to avoid undue gaps in regular

thoracic oncology care, it is necessary to understand how thoracic oncology patients can access health care during the COVID-19 pandemic. This information would allow health care providers and cancer centers to better adapt to patient needs in this demanding situation and also adjust previous measures to deal with a second wave. In our study, we aimed to document the changes made to daily routines and access to health care as well as the physical and mental well-being of thoracic oncology patients at the Munich Lung Cancer Center during the first wave of the COVID-19 pandemic.

We assessed patients' experiences during the COVID-19 pandemic using questionnaire-based telephone interviews of ambulatory patients seen for thoracic malignancy at our center in the 3-month period preceding the onset of the COVID-19 crisis in Germany. Patients were contacted by a thoracic oncology physician and their verbal consent was obtained by telephone. Baseline telephone interviews were conducted by 1 of 3 study assistants between the 8th of April and the 5th of May 2020. Additional medical history details were obtained from electronic patient records.

J.W. and L.S. contributed equally to this work.

Our questionnaire was designed to evaluate the impact of public health measures implemented during the COVID-19 pandemic on daily routines, access to care, acceptance of infection control measures, and the physical and mental well-being of lung cancer patients.

A total of 67 patients were reached by interviewers to conduct baseline interviews. The average age of the patients was 62.9 years, and 38.8% of patients were male.

We found that while 80% of patients with a thoracic malignancy reduced the number of times they left their home to run errands during the lockdown, only 42% reduced the number of times they left home for the purpose of taking walks or other exercise. Two-thirds of patients walked or exercised outside their homes more than once a week, with 36% reporting daily exercise outside the home. We recorded that 70% of patients did not go grocery shopping themselves; most of these patients reported that they received support from a spouse or partner. Of those who did go grocery shopping themselves, only 1 reported wanting help from another person; the remaining patients were planning to continue shopping independently.

Many patients reported changes in ambulatory care. Access to ambulatory respiratory therapy and physiotherapy, particularly, decreased significantly. Nearly two-thirds of those receiving ambulatory respiratory therapy were unable to continue this during the pandemic. As the production of droplets during respiratory therapy is likely quite high, limiting such therapy may be necessary to control the spread of infection. For patients in need of regular respiratory therapy, this represents an area for which alternative forms of therapy and novel forms of patient and therapist protection should be developed.

A total of 16 patients reported making changes to their medication during the pandemic. Out of these 16, only 4 made changes to their medication due to reasons related to the pandemic. These 4 patients received double their normal dosages of the anti-PD-L1 antibody pembrolizumab at doubled intervals (i.e., 400 mg every 6 weeks instead of 200 mg every 3 weeks). This strategy was intended to reduce the frequency of clinic visits and thus reduce the need for patients to travel outside their home; it was recommended by the European Society for Medical Oncology (ESMO) [2].

Although 34% of patients reported postponements of physician appointments (e.g., surveillance imaging) or a switch to telephone appointments instead of clinic visits, the majority of those interviewed did not worry about the COVID-19 pandemic having a strong nega-

tive impact on their lung cancer care. Interestingly, the patients with a higher comorbidity burden worried less about the impact of the pandemic on their care. Patients with a poor performance status (PS) reported more worry about contracting COVID-19 than patients with an ECOG PS of 0.

Five patients reported having direct contact with a person positive for COVID-19, and all of them plus 1 other patient were tested for COVID-19. Tests for 4 of them were negative and the results were not yet available for the other 2 at the baseline interview, but were confirmed as being negative in a follow-up interview.

Levels of worry about contracting the virus were highly variable. A quarter of all patients said they did not worry at all about contracting COVID-19, but almost 30% ranked their worry as high or very high. Patients with lower levels of worry frequently indicated that they felt safe due to the precautions they were taking. Over 50% of patients indicated that the stay-at-home order had no/only a limited effect on their mental well-being and around 12% reported a very strong effect. Only a minority of patients (9%) reported a strong impact of the stay-at-home order on their physiological well-being whereas >50% reported no effect at all.

The COVID-19 pandemic represents an unprecedented and unexpected challenge for medical care providers and indirectly or directly impacts on care in almost every health care setting. We were encouraged to find that many patients significantly reduced errands and grocery shopping during the lockdown but were nevertheless able to maintain a moderate level of physical activity and exercise outdoors. Previous work has shown that lung cancer patients benefit greatly from aerobic exercise, with a significant positive impact on their symptoms, quality of life, and pulmonary function [3, 4]. For this reason, we find it important that any future lockdowns continue to allow for physical activity outside the home. Additionally, exercise could be potentially improved using telephone- and internet-based strategies involving experts in physical therapy. In line with this, the use of telephone interviews was intended to support patients to stay at home, avoiding the need for patients to leave their homes to return paper surveys. By conducting telephone interviews, we were able to directly address patients' questions and concerns regarding any changes in their care due to the COVID-19 pandemic.

We will continue to survey our thoracic oncology patients longitudinally during the COVID-19 pandemic to assess the evolving impact of the restrictions on access to cancer care and treatment outcomes.

Statement of Ethics

Approval for this prospective noninterventional study was obtained from the ethics committee of the Ludwig Maximilian University. The study was conducted in accordance with the Declaration of Helsinki, good clinical practice guidelines, and local ethical and legal requirements.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

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Author Contributions

A.T.: conceptualization, methodology, resources, writing of the original draft, and supervision. K.K., Z.S., D.K.-G., F.M., C.S., and J.B.: writing of the review and editing. R.Z.: investigation and data curation. L.S.: methodology, investigation, data curation, and writing of the original draft. J.W.: methodology, investigation, data curation, formal analysis, and writing of the original draft.