CURRENT ONCOLOGY
A Canadian Cancer Research Journal

PRACTICE GUIDELINE

Consensus statement: summary of the Quebec Lung Cancer Network recommendations for prioritizing patients with thoracic cancers in the context of the COVID-19 pandemic

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ABSTRACT

Background The emergence of COVID-19 has the potential to change the way in which the health care system can accommodate various patient populations and might affect patients with non–COVID-19 problems. The Quebec Lung Cancer Network, which oversees thoracic oncology services in the province of Quebec under the direction of the Ministère de la Santé et des Services sociaux, convened to develop recommendations to deal with the potential disruption of services in thoracic oncology in the province of Quebec. The summary provided here has been adapted from the original document posted on the Programme québécois du cancer Web site at: https://www.msss.gouv.qc.ca/professionnels/documents/coronavirus-2019-ncov/PJ1_Recommandations_oncologie-thoracique-200415.pdf.

Methods Plans to optimize the health care system and potentially to prioritize services were discussed with respect to various levels of activity. For each level-of-activity scenario, suggestions were made for the services and treatments to prioritize and for those that might have to be postponed, as well as for potential alternatives to care.

Results The principal recommendation is that the cancer centre executive committee and the multidisciplinary tumour board always try to find a solution to maintain standard-of-care therapy for all patients with thoracic tumours, using novel approaches to treatment and the adoption of a network approach to care, as needed.

Conclusions The effect of the COVID-19 pandemic on the health care system remains unpredictable and requires that cancer teams unite and offer the most efficient and innovative therapies to all patients under the various conditions that might be forced upon them.

Key Words Thoracic cancer, COVID-19, priorities

Curr Oncol. **2020 June:27(3)e313–e317** **www.current-oncology.com**

INTRODUCTION

Cancer care is felt to be an urgent and indispensable component of any health care network. Disease prognosis, which is related to tumour stage, can change rapidly over time in such a way that any delay to care leads to substantial anxiety for patients. Ideally, in the context of any health care crisis, cancer care should not be sacrificed, and therefore great effort should be made to offer the best state-of-the-art therapies to every cancer patient. The SARS-CoV-2 virus, which causes the better-known COVID-19 disease, brings a new and delicate challenge to the health

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care system because of the unpredictability of the evolution and severity of spread that can affect cancer centres in different ways and at different times. Factors contributing to that uncertainty include the importance of the virus's prevalence in the community, the health status of the medical staff in various sectors of the hospital, and the impact of COVID-19 care as it affects a given health centre, which might or might not be linked to the cancer centre. Because variation in services can change very rapidly over time, cancer tumour groups are called upon to work as a team to evaluate the impact that affected services in a given health centre will have on a given patient's treatment plan.

To provide some guidance on potential alternative management scenarios in the setting of the COVID-19 pandemic, the executive committee of the Quebec Lung Cancer Network met, with the objective of creating a guideline for the care of patients with thoracic tumours under the pressure of various health care scenarios. The official document, which is summarized here, has been published by the Ministère de la Santé et des Services sociaux du Québec at https://www.msss.gouv.qc.ca/professionnels/documents/coronavirus-2019-ncov/PJ1_Recommandations_oncologie-thoracique-200415.pdf.

METHODS

The panel consisted of a pulmonologist specialized in lung cancer (SM, chair), a thoracic oncology surgeon (JS), a medical oncologist (NB), a radiation oncologist (MB), the coordinator of the Quebec Lung Cancer Network (HL), and two representatives of the Programme québécois de cancérologie (MM, MC). These experts met by Zoom conferencing (Zoom Video Communications, San Jose, CA, U.S.A.) on one occasion and continued to exchange viewpoints by e-mail. The reflections and proposals were drafted based on the shared professional experience and personal values of the authors. The importance of any given treatment was based on the perceived benefit–risk ratio of any given intervention. Treatments that have not convincingly shown an overall survival benefit were given a lower priority; scenarios that have been shown to alter overall survival or to provide a cure from cancer were given the highest priority. In addition, the guideline recommendations aim to ensure that, for the sake of fairness, when infection rates subside and activities resume, the priorities of patients waiting for treatment are also respected.

Level-of-activity scenarios were used to generate discussion of the effect of cancer care related to the reduction in activity required by the cancer centre. Level 1 is defined as maintenance of at least 70% of usual activity in the cancer centre. In that scenario, screening activities and follow-up for patients who are not under active care are proposed to be reduced. Level 2 is defined as maintenance of 50%–70% of usual activity. In that situation, the treatment of patients who will experience a borderline benefit from the proposed treatment should be reconsidered and preferably avoided. Level 3 is defined as maintenance of 30%–50% of the usual activity. At that level, triage of patients is required and should favour the postponement of any therapy for patients at risk of COVID-19 complications and for those who do not require urgent care. Level 4 is defined by maintenance of less than 30% activity in the cancer centre. In that scenario, most treatments are postponed; the exceptions are lifesaving or organ-saving procedures and treatments.

Although nonstandard therapeutic alternatives are discussed in the guideline recommendations, such adaptations of care should be reviewed and approved by an institutional multidisciplinary tumour board, and treatment strategies should be continually reassessed to take into account variable access to treatment platforms and risk of nosocomial or community transmission of COVID-19.

GUIDELINE

General Reflections Applicable to Many Cancer Sites

In this very particular setting of COVID-19 disease, patients with cancer are known to be at higher risk of morbidity and mortality from the viral infection. Patients with lung cancer also frequently present with other comorbidities associated with risk, such as age greater than 60 years, chronic pulmonary disease with reduced ventilatory function, and diabetes and cardiovascular disease, the latter two of which are risk factors for COVID-19–related morbidity and mortality[1,2]. As an extra consideration, cancer patients with an altered performance status [Eastern Cooperative Oncology Group (ECOG) performance status > 2] should receive special attention during the pandemic to minimize risk of transmission, given their increased risk of respiratory complications and death. The benefits and the risks of their treatments must be assessed in that context.

The proposed recommendations are examples of alternatives that can be considered in the context of restricted access to care and might not apply in all situations. Clinical judgment is paramount and central to every effort to find the best option for every individual patient. Updates to the guideline recommendations are expected as the situation evolves and more experience is gained in this new reality.

The most important recommendation is that every patient should be offered the best possible care to the best standard of practice. In settings of difficulty accessing certain therapies, presentation of cases at multidisciplinary tumour boards—either unicentric or, ideally, network-based—should be encouraged such that the best options available for all patients ae discussed, including the best adaptation of treatment to minimize risk for the patient, or the transfer of certain patients to other sites where a more convenient service could be offered, or both.

General Recommendations Applicable to All Cancer Sites

To allay, as much as possible, patient anxiety, it is the responsibility of the cancer program at each establishment to provide psychosocial support for every patient whose treatments and investigations are delayed. Each cancer program should monitor activities and patients during and after the crisis to ensure that

- appropriate follow-up is available.
- delays are not excessive.

- no progression or appearance of new symptoms occurs during the waiting period.
- the patient can easily reach a member of the team in the event of a change in clinical status.
- a list of patients for whom an alternative treatment was offered is kept so that the effect of those decisions can be evaluated.

As is required for everyone in this pandemic period, a discussion of the level of care (code status) is required. Therapeutic alternatives have to take into consideration the risks associated with treatment and the risk of exposing patients to SARS-CoV-2 with the eventual risk in terms of the development of COVID-19 disease. Such discussions should be clearly documented in the medical file.

Recommendations for Thoracic Oncology, Activity Levels 1–2

General Considerations

Diagnostic and staging platforms should not be affected, including surgical staging procedures such as mediastinoscopy or thoracoscopy. Rapid access to molecular profiling—including *ALK, EGFR, ROS1, BRAF,* and PD-L1—for non-small-cell lung cancer (NSCLC) regardless of stage (and prioritized for stages II–IV), should be preserved, because the information gained could lead to the use of simpler therapies that would lessen the burden of inpatient care. Examples are the possibility of using oral targeted therapies and avoiding chemotherapy for tumours with high (≥50%) PD-L1 expression. Some reduction in activity can be obtained at this level through a reduction in follow-up examinations whose probability of benefit is low, and a consideration to stop lung cancer screening procedures, which affect the radiology service and other crucial diagnostic services.

Treatments to Prioritize

In this setting, selected treatments are felt still to be possible in a 28-day delay period. Selected procedures to prioritize include

- surgery for stages I–III NSCLC;
- surgery for symptomatic carcinoid tumours or N1–2 disease;
- surgery for malignant or symptomatic mediastinal tumours, and for tumours at risk of progression;
- surgery for a malignant tumour of the rib cage;
- curative-intent stereotactic radiotherapy for early-stage NSCLC;
- chemoradiation therapy for stage III and limited-stage small-cell cancer (SCLC);
- systemic treatments for patients with stage IV disease and a good performance status (ECOG 0 or 1);
- adjuvant treatment for stages IIB–IIIB disease (debatable for stage IIA); and
- neoadjuvant chemotherapy for patients with stage III disease who are candidates for surgery (particularly useful as an option for deferring surgery when operative delays are expected).

Treatments That Can Be Postponed with a Careful Follow-Up Plan

Considering the small-to-marginal or unknown benefit of some treatments for lung cancer, some therapies could be postponed or replaced by other treatments. In other situations, patient conditions could be considered non-urgent. Examples include

- surgery for oligometastatic disease;
- surgery for cT1N0 carcinoid tumours;
- surgery for stages I–II thymomas;
- pleurectomy or decortication surgery for malignant pleural diseases;
- surgery for pure ground-glass opacities, with a solid component of less than 1 cm;
- surgery for lesions that are known to be progressing slowly (doubling time > 200 days).

Adjuvant chemotherapy is a well-established treatment for resected stages IIA–IIIB NSCLC and is associated with a long-term overall survival benefit of approximately 5% (which might be smaller in patients with node-negative disease, those more than 70 years of age, and those with other comorbidities)[3]. The overall benefit of chemotherapy in specific subgroups has to be discussed with patients and balanced against the risk of their exposure to SARS-CoV-2 and the potential morbidity or mortality from COVID-19 disease.

Therapeutic Alternatives to Consider

Depending on the services available at the cancer centre, and weighing the risks of delayed access to operating rooms (the latter being affected by the desire to reduce the use of personal protective equipment and to lessen the risk of any use of the intensive care unit), some therapies might be preferred based on evidence of their interchangeability in some clinical settings:

- Use of stereotactic radiotherapy in lieu of surgery for stage I NSCLC
- Selection of systemic treatments having a lesser frequency of hospital visits
- Favouring oral therapies when possible (for example, oral etoposide for SCLC)

Recommendations for Thoracic Oncology, Activity Level 3

General Considerations

Understanding that some activities might be more affected than others at various times during the pandemic crisis, maintaining priority of access to diagnostic and staging platforms is felt to be paramount. To avoid implementing useless and inappropriate therapies, we strongly feel that histologic confirmation should always be obtained before considering a treatment plan. If resources are limited in certain services, it might be necessary at this point to triage patients, favouring curative-intent treatments. If access to surgery is compromised or the anticipated delays are too long, nonstandard therapeutic alternatives for stages II and III cancers, such as immunotherapy or targeted therapies,

might have to be considered as a bridge to eventual definitive treatments. Such situations should be monitored by the executive committee of the cancer centre.

Although consideration of palliative care should always be available for every patient with cancer, the current special circumstances require early consideration of close-to-home palliative care resources and identification of a personal caregiver, so that every effort is made to decrease the volume of activity required from the cancer centre personnel. In the effort to offer the best option to every patient, engagement of regional partner centres might offer some solutions in terms of human resources, material resources, technical platforms, or treatment facilities.

Treatments to Prioritize

Understanding that treatment choices could be difficult and heartbreaking at this point, a cancer centre oversight committee should assist in triaging patients across multiple tumour sites. Although the target time to treatment should be maintained at less than 28 days, discussions with patients are important to manage expectations in light of the potential for longer wait times. Such communication can also help identify changes in patient status that might require a change in priorities or a change in the treatment plan. In this context, treatments that should be preserved as far as possible include

- thoracic surgery for stages IA3–III NSCLC;
- surgery for cancer-related obstructive pneumonia or hemoptysis that is not controlled by interventional radiology;
- surgery for symptomatic mediastinal tumours;
- surgery for a malignant tumour of the rib cage;
- stereotactic radiotherapy in lieu of surgery for stages IA3–IIA NSCLC;
- curative-intent radiation therapy in a symptomatic patient;
- chemoradiation therapy for stage III and limited-stage small-cell cancer;
- adjuvant treatment for stages IIB–IIIB NSCLC, and systemic treatments for stage IV disease in patients with an ECOG performance status of 0 or 1.

Treatments That Might Have to Be Postponed

In addition to the recommendations for an activity level of 1 or 2, it might be necessary to limit other treatments that can either be postponed for a few months, or cancelled, considering a margin of benefit that is perceived to be small. It should be realized that postponement of essential treatment could negatively affect the load of patient care once the centre's activity level improves and regular activities can resume. Treatments that might have to be postponed include

- surgery for stages IA1 and IA2 cancers;
- surgical procedures for malignant pleural diseases;
- neoadjuvant treatments, especially if access to the operating room poses no issues;
- adjuvant chemotherapy treatments in patients with significant risk factors for COVID-19 disease (age ≥ 70 years, significant pulmonary disease or cardiovascular disease);
- maintenance chemotherapy or immunotherapy in progress, which should be continually re-evaluated for the individual patient;
- chemotherapy for slowly progressing and asymptomatic disease;
- systemic treatments for patients with altered performance status (ECOG ≥ 2);
- radiation therapy for oligoprogressive disease;
- treatment for asymptomatic brain metastasis;
- consolidation thoracic radiation therapy for limited- and extensive-stage SCLC;
- prophylactic brain irradiation for extensive-stage SCLC (before therapy, a discussion of the risks and benefits is also necessary for patients with limited-stage disease); and
- adjuvant thoracic radiotherapy for NSCLC (except in R2 resections on a case-by-case basis).

Therapeutic Alternatives That Can Be Considered

Taking into account the availability of certain activities, some alternatives can be discussed with patients, including

- stereotactic radiation therapy or definitive hypofractionated radiotherapy for stages I–IIA cancers, including operable ones;
- neoadjuvant chemotherapy for localized stage II lesions to delay surgery or if radiotherapy is not planned or available; and
- hypofractionated chemoradiation therapy or systemic treatments alone for stage III NSCLC and nonsurgical treatments for malignant pleural diseases.

Recommendations for Thoracic Oncology, Activity Level 4

General Considerations

When the cancer centre becomes paralyzed because of other health care imperatives, the thoracic oncology treatment team must still oversee and try to support patients in every way possible, if only to show that the medical staff is still there for them. The network has to offer COVID-19–free protected areas and to facilitate the resumption of oncologic activities. The presence of a regional network might allow for the transfer of certain patients to centres less affected by COVID-19.

Treatments to Be Carried Out Urgently

The examples that follow are not meant to represent a comprehensive list of urgent situations that pose an immediate threat to patients. It remains the responsibility of the treating physician to find the appropriate resource to treat any patient when an emergent risk of death or permanent morbidity arises and the particular patient has a reasonable hope of recovery. Such emergencies include management of spinal cord compression, hemoptysis, superior vena cava syndrome, symptomatic hypercalcemia or other paraneoplastic syndromes, and symptomatic cerebral metastasis. In such scenarios, any elective treatment, especially those requiring hospitalization or multiple outpatient visits might have to be postponed.

Therapeutic Alternatives Given the Availability of Resources

The identification of a targetable molecular abnormality might facilitate therapy, even in the early stages of disease, as a bridge to definitive therapy. The relevant information should be sought from Pathology. In the same way, a PD-L1 status of 50% or greater might offer a hope of long-term disease control with immunotherapy alone. In some instances, single-dose hypofractionated radiation treatment might be available to manage emergencies and to help in delaying the need for definitive therapy. A close communication circle established within the multidisciplinary team will allow for the coordination of the best approaches for these difficult circumstances.

CONCLUSIONS

The COVID-19 pandemic has, in a very short period of time, forced cancer management teams to find novel and innovative approaches to care. The situation has so far been unpredictable, and predicting how the care of patients with thoracic tumours will be affected in the coming months to years is therefore hard. Positive effects of the exercise whose results are reported here are that the bond uniting tumour teams will strengthen and that stronger communication channels will also be created between patients and the tumour teams.

CONFLICT OF INTEREST DISCLOSURES

We have read and understood *Current Oncology*'s policy on disclosing conflicts of interest, and we declare that we have none.

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