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Recommendations for the Management of Lung Cancer during the COVID-19 Pandemic

Illinois Cancer Collaborative

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The Illinois Cancer Collaborative (ILCC)

The Illinois Cancer Collaborative (ILCC) is a first-of-its kind, multidisciplinary statewide partnership of Illinois hospitals working together to improve the safety and quality of care for cancer patients across Illinois during, and after, the COVID-19 pandemic. Our vision is to engage providers to deliver patient-centered, high-quality cancer care across Illinois. If you are interested in joining the ILCC, please visit our webpage at ilcancer.org or contact us at info@ilcancer.org.

The ILCC COVID-19 Working Groups and Consensus Guidelines

Providers and institutions throughout Illinois are experiencing difficulty with the lack of evidence and recommendations from numerous sources for cancer care during the COVID-19 pandemic. In response, the ILCC convened three multidisciplinary working groups of experts to pool their experience, expertise, and knowledge in regard to safe and optimal care of cancer patients during the pandemic. The results are the ILCC Consensus Guidelines for COVID-19 Cancer Care in three areas: Colorectal Cancer, Lung Cancer, and Visitor Policies for Ambulatory Cancer Care. The goal of each guideline is to provide a single source for hospitals, clinics, and practices to support safe and optimal care for cancer patients statewide during this unprecedented pandemic.

These guidelines represent the consensus recommendations of the members of the Illinois Cancer Collaborative COVID-19 Operations Working Group and do not represent endorsement or approval by their individual institutions.

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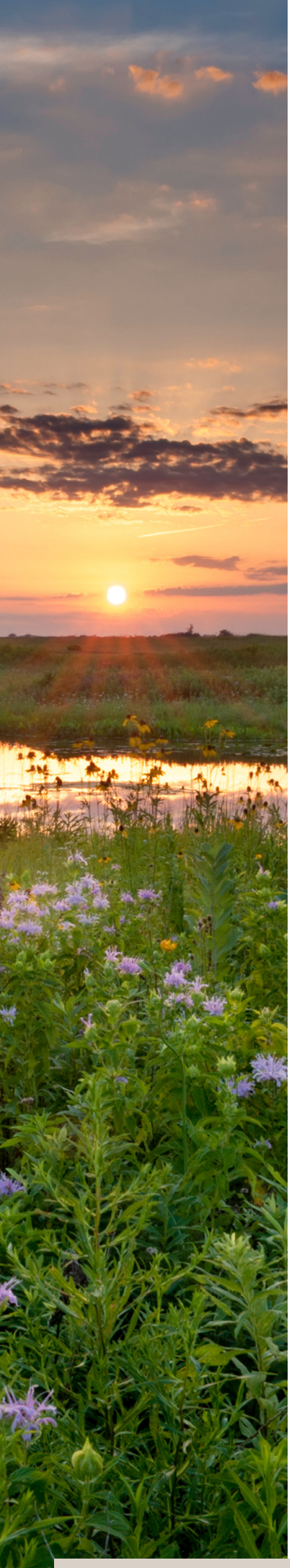


Intended Audience

Medical Oncologists, Thoracic and General Surgeons, Pulmonologists, Radiation Oncologists and Primary Care Physicians caring for patients with lung cancer during the COVID-19 pandemic.

Purpose and Guiding Principles

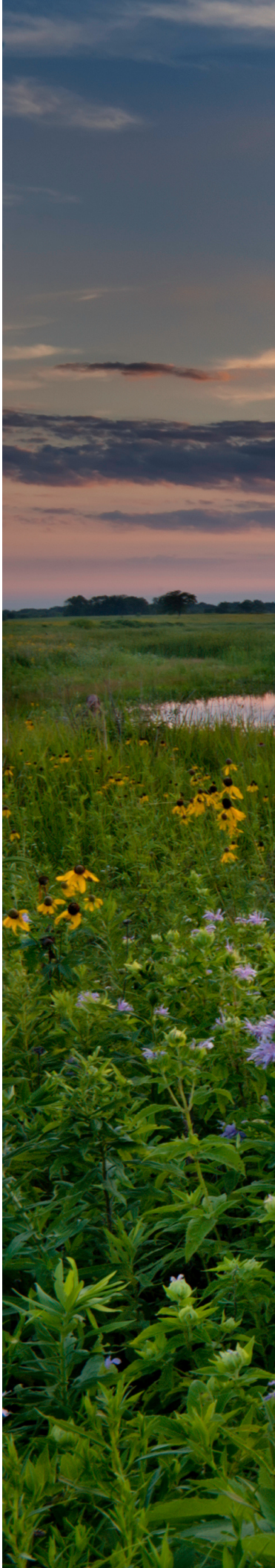
- To provide guidelines for the prioritization of treatment and for alternate strategies of treatment for patients with lung cancer who are diagnosed or receive treatment during the COVID-19 pandemic.
- To offer lung cancer patients a safe and effective treatment strategy for their cancer while maximizing benefit to the patients and minimizing risk with respect to both infectious and oncologic factors.
- To consider an approach to treatment of lung cancer that is adaptable to changes in local resource availability.

Rationale and Motivation

- Protect cancer patients, who are at higher risk for COVID-19.
- Protect clinicians and staff from exposure to COVID-19, necessitating quarantine that leads to shortage of care providers.
- Provide necessary treatment to lung cancer patients despite the limitations on hospital resources which may be imposed by the COVID-19 pandemic.
- Balance hospital resource needs for the care of non-cancer COVID-19 patients with the need to provide effective, timely care for patients with lung cancer.

Scope

- Thoracic Oncology Practices including medical oncology, thoracic/general surgery, radiation oncology and pulmonary medicine.
- Hospitals where inpatient and outpatient lung cancer treatment takes place.
- Freestanding cancer centers or clinical practices (e.g. radiation oncology and medical oncology infusion centers) which care for patients with lung cancer.



Evidence Review

Treatment decisions and guidelines for care during the pandemic have also been published by a number of professional societies.[1-4]

Treatment delays of up to 4 months have been shown to not impact survival in patients with stage I disease[5]; patients with stage II or higher disease have decreased survival if treatment is deferred for greater than 2 months.[6-8]

Literature suggests that surgical mortality in patients with COVID-19 may be elevated.[9]

Adjuvant chemotherapy may be deferred for 3-4 months postoperatively with similar survival while minimizing immune system compromise.[10]

Recommendations

Non-Small Cell Lung Cancer

EARLY STAGE DISEASE

- Patients with larger tumors (≥3 cm), node positive cancer, or obstruction who would typically be considered surgical candidates should be offered resection with minimal or no delay.
- Patients with smaller tumors (<3 cm) or those which are predominantly ground glass (<50% solid) may be deferred for 2-3 months as needed based on local resource availability.[1,2]
- Stereotactic Beam Radiation Therapy (SBRT) may be considered as an alternative treatment strategy in patients with smaller tumors (<3 cm) if surgical resection is not feasible.
- Radiographic staging is preferred over bronchoscopic staging for patients with a radiographically normal mediastinum. If mediastinal tissue evaluation is needed, mediastinoscopy or thoracoscopic staging with frozen section analysis at the time of intended resection is preferred to minimize the number of aerosol generating procedures.
- SBRT or other ablative strategies may be considered in patients who are not able to receive surgery due to local resource constraints.
    - In select patients, a single fraction of 30-34 Gy may be used in lieu of multiple fractions to minimize exposure.[11]
- Adjuvant chemotherapy may be deferred for 3-4 months postoperatively with similar survival while minimizing immune system compromise.[10]

LOCALLY ADVANCED DISEASE

- A multidisciplinary management approach is vital for patients with locally advanced NSCLC and patients should be treated with curative intent.
- Patients with single station clinical N2 disease felt to be candidates for surgical resection should be treated with induction chemotherapy (rather than concurrent chemoradiation) followed by surgical resection and possibly postoperative radiation without tissue confirmation prior to treatment to minimize the number of procedures.
- Patients completing an induction regimen with planned operative resection should undergo curative intent surgical resection without delay.
- Patients with multi-station N2 disease, or those who are judged to be otherwise unresectable, should be treated with a definitive, concurrent chemoradiation approach followed by 12 months of Durvalumab.
    - Hypofractionated radiation approaches should be pursued whenever possible
- Consolidation immunotherapy should be delayed up to 6 weeks following the completion of chemoradiotherapy to minimize the risk of secondary infection due to immune suppression

METASTATIC NSCLC

- The management of metastatic disease should continue to pursue the goals of providing the best possible care to both offer symptomatic palliation and improve survival.
- All patients with non-squamous NSCLC and all patients who have no or a remote history of tobacco use should undergo molecular testing for actionable mutations.
    - Consider Liquid biopsy for NGS if traditional tissue biopsy is not possible or is insufficient.
    - Programmed Death Ligand-1 (PD-L1) testing should be pursued regardless of the presence of other targetable mutations.
- Extending the interval between immunotherapy infusions to every 6 weeks should be considered to reduce relative immune compromise in these patients. This should be strongly considered for patients previously receiving therapy for >6 months.
- In patients with stable disease, without escalation of clinical symptoms, restaging imaging to assess disease progression or response to treatment may be deferred.

Small Cell Lung Cancer

- Patients with limited stage SCLC should undergo concurrent chemoradiotherapy without delay as current standard of care. Selected patients with isolated disease may be considered for surgical resection as clinically appropriate if local resources are available. If surgical resection is being considered, it should be done without delay.
    - Twice daily radiation treatment may be considered to minimize exposure of patients and healthcare staff.[12]
    - Prophylactic cranial irradiation (PCI) should continue to be used in patients <75 years of age.[13]
- Patients with extensive stage small cell should be treated using a concurrent chemoradiation approach.
    - Given limited data on clinical efficacy, PCI may be deferred in this group, with patients instead being closely followed with surveillance imaging. [14,15]

Carcinoid/Neuroendocrine Tumors

- Surgery should remain the standard of care for these tumors and can safely be deferred for several weeks. For patients with small (<2cm) tumors with proven slow growth pattern or that a biopsy proven typical carcinoid, surgery can safely be deferred for several months.
- Adjuvant therapy should be avoided in patients with NETs given its limited efficacy.
    - Somatostatin therapy may be considered in patients with metastatic carcinoid with carcinoid syndrome, but should be deferred in patients without symptoms.

Appendix

References

1. Thoracic Surgery Outcomes Research Network I, Antonoff M, Backhus L, et al. COVID-19 guidance for triage of operations for thoracic malignancies: A consensus statement from Thoracic Surgery Outcomes Research Network. J Thorac Cardiovasc Surg. 2020;160(2):601-605.
2. Thoracic Surgery Outcomes Research Network I, Antonoff M, Backhus L, et al. COVID-19 Guidance for Triage of Operations for Thoracic Malignancies: A Consensus Statement From Thoracic Surgery Outcomes Research Network. Ann Thorac Surg. 2020;110(2):692-696.
3. Dingemans AC, Soo RA, Jazieh AR, et al. Treatment Guidance for Patients With Lung Cancer During the Coronavirus 2019 Pandemic. J Thorac Oncol. 2020;15(7):1119-1136.
4. Singh AP, Berman AT, Marmarelis ME, et al. Management of Lung Cancer During the COVID-19 Pandemic. JCO Oncol Pract. 2020;16(9):579-586.
5. Samson P, Crabtree T, Broderick S, et al. Quality Measures in Clinical Stage I Non-Small Cell Lung Cancer: Improved Performance Is Associated With Improved Survival. Ann Thorac Surg. 2017;103(1):303-311.
6. Coughlin S, Plourde M, Guidolin K, et al. Is it safe to wait? The effect of surgical wait time on survival in patients with non-small cell lung cancer. Can J Surg. 2015;58(6):414-418.
7. Samson P, Crabtree TD, Robinson CG, et al. Defining the Ideal Time Interval Between Planned Induction Therapy and Surgery for Stage IIIA Non-Small Cell Lung Cancer. Ann Thorac Surg. 2017;103(4):1070-1075.
8. Odell DD, Feinglass J, Engelhardt K, et al. Evaluation of adherence to the Commission on Cancer lung cancer quality measures. J Thorac Cardiovasc Surg. 2019;157(3):1219-1235.
9. Lei S, Jiang F, Su W, et al. Clinical characteristics and outcomes of patients undergoing surgeries during the incubation period of COVID-19 infection. EClinicalMedicine. 2020;21:100331.
10. Salazar MC, Rosen JE, Wang Z, et al. Association of Delayed Adjuvant Chemotherapy With Survival After Lung Cancer Surgery. JAMA Oncol. 2017;3(5):610-619.
11. Videtic GM, Paulus R, Singh AK, et al. Long-term Follow-up on NRG Oncology RTOG 0915 (NCCTG N0927): A Randomized Phase 2 Study Comparing 2 Stereotactic Body Radiation Therapy Schedules for Medically Inoperable Patients With Stage I Peripheral Non-Small Cell Lung Cancer. Int J Radiat Oncol Biol Phys. 2019;103(5):1077-1084.
12. Turrisi AT, 3rd, Kim K, Blum R, et al. Twice-daily compared with once-daily thoracic radiotherapy in limited small-cell lung cancer treated concurrently with cisplatin and etoposide. N Engl J Med. 1999;340(4):265-271.
13. Antonio M, Saldana J, Carmona-Bayonas A, et al. Geriatric Assessment Predicts Survival and Competing Mortality in Elderly Patients with Early Colorectal Cancer: Can It Help in Adjuvant Therapy Decision-Making? Oncologist. 2017;22(8):934-943.
14. Slotman B, Faivre-Finn C, Kramer G, et al. Prophylactic cranial irradiation in extensive small-cell lung cancer. N Engl J Med. 2007;357(7):664-672.
15. Slotman BJ, Mauer ME, Bottomley A, et al. Prophylactic cranial irradiation in extensive disease small-cell lung cancer: short-term health-related quality of life and patient reported symptoms: results of an international Phase III randomized controlled trial by the EORTC Radiation Oncology and Lung Cancer Groups. J Clin Oncol. 2009;27(1):78-84.

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