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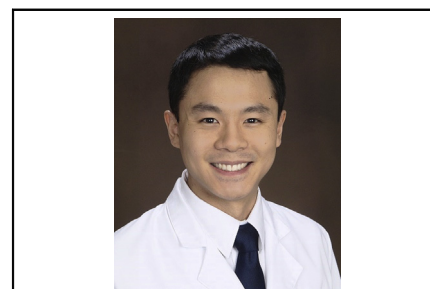
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See Article page 597 in the August 2020 issue.



Commentary: Thoracic surgery during the COVID-19 pandemic: Recommendations from China

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CENTRAL MESSAGE

The article by Chen and colleagues highlights lessons learned and recommendations from China regarding thoracic surgery during the COVID-19 pandemic.

At the time of this writing, COVID-19 continues to surge in the United States, with more than 5.1 million cases and 165,000 deaths nationwide.¹ Guidelines from the United States and Europe have been published to aid treatment decision making for thoracic cancers during the pandemic.²⁻¹⁵ Most of these guidelines have been written for hospitals and clinicians who still have the capacity to take care of cancer patients and have not been completely overwhelmed by COVID-19. These guidelines have generally recommended delaying surgery for select instances of early-stage disease and, for more advanced disease, proceeding with traditional curative-intent treatment consistent with pre-COVID standard-of-care recommendations. Consideration of other nonoperative treatments (eg, stereotactic ablative radiotherapy for lung cancer, endoscopic therapy for esophageal cancer) has been proposed as well. In “peak” stages of the epidemic, when hospital resources are severely strained, thoracic surgery is recommended only for patients with emergent clinical conditions, such as perforated esophageal cancers, which if left untreated would result in death within hours or days.^{2,15}

Although these guidelines are useful, they have been written largely by American and European authors and speak to the American and European experience. To date, there have been very few recommendations from Asia.¹⁶⁻¹⁸ In the August issue of the *Journal*, Chen and colleagues,¹⁹ all expert thoracic surgeons from high-volume thoracic surgery centers across China, make several recommendations for the

treatment of thoracic surgical disease during the COVID-19 pandemic, in light of their experiences in China. The editorial is an important one, and the authors should be commended for their efforts.

Several of the author’s recommendations are similar to those made by American and European authors. For example, the authors call for “the cessation of all thoracic surgeries for GGO-like lung adenocarcinoma with a diameter of <30 mm during the COVID-19.” No specification of time interval accompanies this recommendation, but other American and European groups have similarly commented on postponing surgery for nodules with ground-glass opacities or lepidic adenocarcinomas for at least 3 to 6 months.^{2,4,15}

The authors also call for “enhancing preoperative induction treatment” in a manner similar to that proposed in the United States and Europe. The authors recommend that patients with operable stage IIIA N2 disease undergo induction therapy first, as opposed to surgery. This would allow patients to avoid an operation during potential COVID-19 hospitalization peaks. The standard of care in the United States and Europe is to give induction therapy first, followed by surgery for operable stage IIIA-N2 NSCLC.^{20,21} In China, it can be common in centers to perform surgery first, followed by adjuvant chemotherapy for stage IIIA-N2 disease.^{22,23} The authors’ recommendation to proceed with induction therapy first, followed by surgery, is likely aimed at a Chinese audience, to urge more Chinese thoracic

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surgeons to consider the use of induction therapy during the pandemic.

Other practices in China differ from those at many US hospitals. Through correspondence with Dr Chen, I learned that most COVID patients are cared for in separate “COVID” or “infectious disease hospitals” as soon as the diagnosis is made. As Dr Chen wrote, “if tracheostomies and chest tubes are needed, ENT (tracheostomies) and thoracic surgeons (chest tubes) from other hospitals will be temporarily transferred to that hospital. And some infectious disease hospitals also have their own surgeons to take care of patients, such as at Ditan Hospital in Beijing.”

Another key difference between China and the United States is the degree of testing and observation each patient receives before undergoing thoracic surgery. For patients who need surgery, presumably for more advanced disease, the authors recommend that “patients should be observed in a transitional ward for 2 weeks.” The authors note that during this observational period, patients should be tested for COVID-19 by nasal swab 2 weeks before surgery and that within 1 week of surgery, patients should have a “chest CT for COVID-19 screening...C-reactive protein, procalcitonin, and influenza A and B examination.” There is some variation as to how these recommendations are implemented. In correspondence, I learned from Dr Chen that at his institution, the practice is that “all patients from other parts of the country will be isolated in designated places [eg, hotels] for 2 weeks before they can visit our outpatient clinic. And before their admission [to the hospital for surgery], they will have throat swab test, antibody and blood test, as well as CT examination, to confirm they are COVID-19–negative.”

High-volume centers in China also generally seem to be better-equipped and/or prioritize wearing protective personal equipment to a greater degree than their US counterparts. For example, Dr Chen noted that at his outpatient clinic, every provider wears an N95 respirator, isolation gown, gloves, and a face shield when interacting with patients, regardless of whether the patient is suspected to have COVID. In my own experience, and anecdotally from speaking with colleagues, this is not common practice in the United States. This past week in clinic, at my own institution, I was required to only wear a surgical mask.

The editorial by Chen and colleagues raises a number of points that are important for thoracic surgeons and oncologists treating lung and esophageal cancer patients to consider. There are additional questions that need to be discussed as well. For example, what if the pandemic continues with no abatement for another 1 to 2 years, how would practices change in that situation? How do we think about care for mesothelioma patients? Does definitive chemoradiation, which requires multiple outpatient visits, lead to less risk of exposure to COVID-19 to both patients and healthcare workers compared with surgery, which requires

no outpatient visit (with telemedicine) and typically a single inpatient hospital stay?

In addition, it is worth noting that recommendations made by both the authors and by American and European groups are based principally on clinical expertise and opinion. More actual data to drive policy and practice are needed as well. To date, only a few studies have reported outcomes of patients with lung cancer and COVID-19, including 8 from China,²⁴⁻³¹ 1 from Denmark,³² 3 from Italy,³³⁻³⁵ 2 from Spain,^{36,37} and 2 from the United States.^{38,39} Most of these studies had only a few patients, and the largest involved only 22 patients.²⁷ It will be critical for thoracic surgeons worldwide to actively report their experiences with COVID-19 patients and engage in dialogue and collaboration. Case reports are helpful, but more analyses of institutional data, national registries, and COVID-19 open-access data⁴⁰ are needed. Meaningful multi-institutional collaborations enable studies with sufficient statistical power to facilitate such analyses. These analyses in turn can provide the groundwork for meaningful, guideline-changing recommendations. Such recommendations are desperately needed during this first COVID-19 wave, as well as for future pandemic waves.

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