Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

See Article page 326.

Commentary: Transplanting lungs during a global respiratory pandemic

J. Hunter Mehaffey, MD, MSc,
Eric J. Charles, MD, PhD, Mark Roeser, MD, and
Robert B. Hawkins, MD, MSc

J. Hunter Mehaffey, MD, MSc, Robert B. Hawkins, MD, MSc, Mark Roeser, MD, and Eric J. Charles, MD, PhD

THOR

Bo and colleagues[1] present a timely retrospective analysis of the Chinese lung transplantation experience during the coronavirus disease 2019 (COVID-19) outbreak from January to March 2020 with comparison to the same period during 2019. The authors include changes to organ handling, patient transfers, provider protection, and COVID-19 screening that had to be undertaken quickly in response to the significant lockdowns implemented in China. The authors report logistical challenges with transporting patients out of COVID–19-designated hospitals/transplant centers and passing of organs between quarantine areas. Despite this, there was only a 50% decline in transplant volume from the prior year. The result was higher-acuity patients receiving transplants sooner after listing. Although the 90-day survival appears reasonable, it is unadjusted and unclear how it compares with results during prior years. Also, there is no information about volume and outcomes this summer after the lockdowns were lifted in China.

The decision to offer lung transplant during the COVID-19 pandemic is a difficult balance of safety and resource use. An important consideration is that lung transplantation does not traditionally improve recipient survival. Yet, performing these operations is extremely resource intensive, requiring blood products, extracorporeal membrane oxygenation circuits, ventilators, and personal protective equipment also needed in the care of patients with COVID-19. The transplant hospital will need to ensure adequate resources based on the number of COVID-19 patients in their hospital. However, as we learn how to safely care for COVID-19 patients with low transmission among health care personnel, a tiered system should be utilized to continue traditional medical care whenever feasible.

CENTRAL MESSAGE

The COVID-19 global pandemic resulted in a 50% reduction in lung transplantations in China, with travel restrictions, provider safety, and logistical challenges driving the change.

The authors of the present study used the same time period from 2019 as a control, with 50% fewer transplants performed. A similar reduction in lung transplant volume was seen in the United States, according to a recent study by Chan and colleagues.[2] The use of different procurement and implant teams was used in a number of countries to circumvent travel restrictions and allow for some level of regional quarantine. The logistical changes need to be flexible based on the severity of the pandemic and will look very different between peaks and nadirs. Having an accurate estimate of regional prevalence is limited by testing shortfalls, but needed to ensure safety of health care personnel. The unique challenges the authors face with designating transplant centers are unique because COVID-19 hospitals will hopefully be able to be avoided in the future. The authors note that lungs in China are allocated by proximity; however, alternative allocation systems may need to be considered should a prolonged, severe pandemic emerge. As the world, and the United States in particular, heads toward another peak in the pandemic, collaborative efforts between hospitals and transplant teams will be critical to continue to perform lung transplantation.

From the Division of Thoracic and Cardiovascular Surgery, University of Virginia, Charlottesville, Va.

Disclosures: The authors reported no conflicts of interest.

The *Journal* policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

Received for publication Nov 16, 2020; revisions received Nov 16, 2020; accepted for publication Nov 17, 2020; available ahead of print Nov 23, 2020.

Address for reprints: J. Hunter Mehaffey, MD, MSc, Division of Thoracic and Cardiovascular Surgery, University of Virginia, PO Box 800679, Charlottesville, VA 22908-0709 (E-mail: jhm9t@virginia.edu).

J Thorac Cardiovasc Surg 2022;163:336-7
0022-5223/$36.00

https://doi.org/10.1016/j.jtcvs.2020.11.071

Finally, lung transplant for COVID–19-related pulmonary failure is gaining support and has been reported by several centers across the United States, including our group.[3] There are several important considerations, including viral clearance, extracorporeal membrane oxygenation support, and COVID–19-related coagulopathy in addition to complex patient selection.[4] The authors report reduced induction immunosuppression protocols, with a high rate of rejection (25% of perioperative survivors). Altering induction regimens for patients with COVID-19 should be cautiously considered, although tailoring subsequent immunosuppression regimens should be performed as usual for complex transplant patients. It is unclear how late death from sepsis on postoperative day 71 relates to their immunosuppression regimen. As we head into the second winter of this pandemic, lung transplant will be another tool in the treatment of COVID-19. This will require a multidisciplinary collaborative approach to be successful.

References

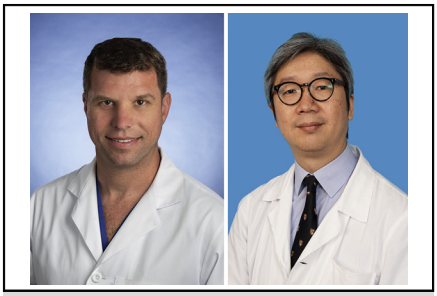
1. Wu B, Huang M, Jiao G, Hu C, Yang Y, Jingyu C. Lung transplantation during the outbreak of Coronavirus Disease 2019 in China. *J Thorac Cardiovasc Surg*. 2022; 163:326-35.e6.
2. Chan EG, Chan PG, Harano T, Ryan JP, Morrell MR, Sanchez PG. Trends in lung transplantation practices across the United States during the COVID-19 pandemic. *Transplantation*. 2021;105:187-92.
3. Bharat A, Querrey M, Markov NS, Kim S, Kurihara C, Garza-Castillon R, et al. Lung transplantation for pulmonary fibrosis secondary to severe COVID-19. *medRxiv*. October 27, 2020 [Epub ahead of print].
4. Cypel M, Keshavjee S. When to consider lung transplantation for COVID-19. *Lancet Respir Med*. 2020;8:944-6.

See Article page 326.

Commentary: Gift of life in the time of COVID-19

Michael Hsin, MD, FRCS, CTh (Eng),[a] and Marcelo Cypel, MD, MSc, FRCSC[b]

The COVID-19 pandemic has placed unprecedented pressure on health care systems and has drained hospital resources, such as intensive care unit beds and extracorporeal membrane oxygenation (ECMO) pumps. Reports from the United States and France show that lung transplantation (LTx) activity is severely reduced.[1,2] Extreme demands on intensivists, the responsible use of limited hospital resources, and the risks of COVID infection to health care workers (HCWs) and LTx recipients represent challenges that need to be balanced against waitlist mortality.



Marcelo Cypel, MD, MSc, FRCSC, and Michael Hsin, MD, FRCS, CTh (Eng)

CENTRAL MESSAGE

Lung transplant during the COVID-19 pandemic poses special challenges, including ensuring the safety of health care workers and recipients. Transplant candidacy for COVID fibrosis requires careful consideration.

In this issue of the *Journal*, Wu and colleagues[3] report a retrospective study evaluating the feasibility and safety of performing LTx during the COVID-19 pandemic using data from the China Lung Transplant Registry from January 23 to March 23, 2020, benchmarked against a cohort from a

From the [a]Department of Cardiothoracic Surgery, Queen Mary Hospital, Hong Kong, China; and [b]Division of Thoracic Surgery, University of Toronto, Toronto, Ontario, Canada.

Disclosures: The authors reported no conflicts of interest.

The *Journal* policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

Received for publication Nov 16, 2020; revisions received Nov 16, 2020; accepted for publication Nov 17, 2020; available ahead of print Nov 28, 2020.

Address for reprints: Michael Hsin, MD, FRCS, CTh (Eng), Department of Cardiothoracic Surgery, Room 308, 3/F, New Clinical Building, Queen Mary Hospital, Pok Fu Lam Road, Hong Kong (E-mail: mkhsin@hotmail.com).

J Thorac Cardiovasc Surg 2022;163:337-8
0022-5223/$36.00

https://doi.org/10.1016/j.jtcvs.2020.11.081