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Commentary: Cardiac Surgery Cannot Wait in the Wings – The Show Must Go On

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Cardiac surgery poses a unique challenge during the COVID-19 pandemic, as there is potential for increased mortality when playing the “waiting game.” Dr. Leonard Girardi and his colleagues at Weill Cornell Medicine¹ present an enlightening report describing the adjustments they made in their practice and procedures at the height of the NYC COVID-19 pandemic, March to May, 2020, to perform cardiothoracic surgery on those deemed most at risk. Because testing was not then widely available, 18 patients did not receive COVID-19 tests. In addition, a special non COVID critical care unit was created to keep cardiothoracic patients separate from COVID positive patients. This makeshift ICU had 18 beds and one cardiothoracic surgeon in house. Despite these limitations, outcomes were on a par with prior non COVID years as follows: 2% mortality, no peri operative myocardial infarction, but 2/54 patients converted to COVID positive following surgery. Of the 2 patients who contracted COVID-19, one survived to discharge, the other died despite being supported several weeks on venoarterial extracorporeal membrane oxygenation (VA-ECMO).

The Weill Cornell experience offers a valuable window into how their successful mission treating patients in urgent need of cardiothoracic surgery during the COVID-19 pandemic can be duplicated by other institutions. However, there were factors that may be unique to that facility which are not transferable to other institutions. These include the resources available to set aside a special non COVID ICU room with 18 beds, a 24/7 cardiothoracic surgeon in house, and a low volume of patients in need of urgent surgery,⁵⁴

Despite their success performing urgent surgeries, a significant trend noted in Dr. Girardi’s series is the decline in general operative volume, with 162 cases performed during the same period in 2019. The authors note that Type A dissection cases dropped from 12 per month to 3 per month in the COVID-19 era. Nguyen et al has published results from a study of 67 cardiac programs showing a decline in nationwide cardiothoracic



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Central Message

A total of 54 patients underwent urgent heart surgery during the height of the COVID-19 pandemic at a tertiary care center in New York City. Outcomes were satisfactory due to the ingenuity of the hospital plus additional resources mobilized.

volume by 40% as of March, 2020 and 55% as of April, 2020 when compared with 2019.² The decline is most obvious in the Northeast where centers experienced the initial brunt of the COVID-19 impact.

As we scale up and address this backlog of growing cases, how do we determine which cases must go first and gradually increase scale? The American College of Surgery (ACS) has suggested an order in which specific operations should be conducted by specialty for example in thoracic surgery, resections for solid tumors >2 cm should proceed but resection of a slow growing thymoma should not. The guidelines by ACS proffer advice depending on what phase of COVID-19 the hospital is in (eg, few COVID patients, many, or all hospital resources utilized).³ The Society of Thoracic Surgery (STS) has published a guideline on triaging thoracic malignancies which rests on prioritizing patients, and clearly notes priority should not be rigid but constantly readjusted.⁴ Similarly for cardiac surgery the STS guidelines offer a tiered system whereby emergency cases including Type A dissection, acute coronary syndrome, and heart failure patients should have surgery sooner.⁵ By contrary arrhythmia surgery and stable aneurysm patients can be deferred in the STS tiered system. Whether at the level of a governing medical agency like the ACS or STS, or at the level of the individual surgeon, we have a realistic handle on which cases require our most immediate attention. The challenge will be

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how we adjust our resources to accommodate those surgeries, given the ongoing battle with COVID-19.

The Weill Cornell publication offers compelling evidence that patients can undergo cardiothoracic surgery safely and successfully in the midst of this pandemic with extensive planning and precautions in place. It is an important and reassuring message for doctors and patients alike. To save lives the show must go on.

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