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Letter to the Editor Regarding “Neurosurgery Services in Dr. Sardjito General Hospital, Yogyakarta, Indonesia, During the COVID-19 Pandemic: Experience from a Developing Country”



LETTER:

We read with great interest the article by Manusubroto et al,¹ “Neurosurgery services in Dr. Sardjito General Hospital, Yogyakarta, Indonesia, during the COVID-19 pandemic: experience from a developing country.” The first patient with coronavirus disease 2019 (COVID-19) from Indonesia was reported on March 2, 2020. As a response to the pandemic, the Indonesian Ministry of Health selected several hospitals as the referral hospitals to handle COVID-19 cases. The authors’ institution, Dr. Sardjito General Hospital, was one of these referral hospitals due to the availability of full-range intensive care unit (ICU) and isolation wards. In this article, the authors share their experience during the COVID-19 pandemic in the special region of Yogyakarta in Indonesia and discuss their institute protocol for preoperative preparation and the impact of the pandemic on the neurosurgical workload in their hospital.¹

In the pre-COVID-19 era, the Dr. Sardjito General Hospital had a long list of patients waiting to undergo surgery and even tumor patients had to wait for up to 6 months for operations. Cancellation or further postponement of these surgeries, as per recommendations by various bodies including Indonesian Society of Neurological Surgeons, would have resulted in further lengthening of waiting periods and would have led to worsening of patients’ conditions. Therefore they decided against further postponement of surgeries during the pandemic. Despite this, the number of emergency operations per week decreased from 4 to 2.4 and the number of elective surgeries per week decreased from 16 to roughly 9, during phase 2 of the pandemic. According to Manusubroto et al,¹ the decrease in elective procedures could be because of reduced spots in the ICU for neurosurgery patients as most beds were reserved for COVID-19 patients and poor availability of personal protective equipment (PPE) in the early phase of breakdown. The improved PPE availability increased the safety of the procedure, which explains the increased number of elective surgical procedures after the second week of April 2020.

India is a lower middle-income country as per the World Bank categorization.² During the lockdown, hospitals were prepared for the incoming tsunami of patients. Our hospital is the largest referral tertiary care hospital in the Himalayan state of Uttarakhand, catering to a population of over 11 million. Our response to the pandemic was different from that of Manusubroto’s institute in many aspects. In our hospital, dedicated areas were defined in our hospital as COVID-19 areas for COVID-19 confirmed and COVID-19 suspect patients. These had dedicated staff, posted there on a rotation basis from various departments.³ There was no rule for hospital zoning in Manusubroto’s institution.¹ Initially, we adopted the policy of postponement of elective cases. Once the hospital had adequate testing facilities, PPE, and ICU equipment, the intake of elective surgical patients was increased gradually. In our opinion, it is our duty to keep the elective neurosurgical work going as well as to

protect our health care workers against contracting COVID-19 infection.^{4,7} During the period of lockdown in India (March 25 to May 31, 2020), our surgical volume decreased from 111 to 53, a decline of 52.3% while the number of emergent surgeries remained the same (47 cases), when compared with the same duration in 2019.⁸⁻¹⁰ Thus we were able to continue providing emergency services even during the lockdown, while most of the “nonemergent” cases had been postponed/cancelled. Similarly, a large number of elective surgeries have been cancelled/postponed in hospitals across the world as a response to the COVID-19 pandemic.¹¹⁻²⁸ We have strictly regulated our outpatient department (OPD), resulting in substantial decline in the outpatient volumes.²⁹ Our policy has been to continue the emergent operations even during the peak of the lockdown in the country as shown earlier. Still, there has been a decrease in the number of road traffic accident cases⁸ similar to the observations of Manusubroto et al.¹ This may be attributed to decreased traffic on roads during the lockdown period.

At our institute, we test all patients being admitted to the ward and test them again before surgery.^{3,8} Thus we consider every patient as a “suspected” COVID-19 patient. The highly infective nature of the virus and high rate of asymptomatic/presymptomatic carriers justifies this policy. Doing 2 tests before surgery further reduces the false-negative result from 29% to 8.4% as the sensitivity of the tests available is only 71%.³⁰ If an emergent surgery does not allow preoperative COVID-19 testing, the patient is operated in dedicated COVID-19 operation room with necessary COVID-19 precautions. Such a patient undergoes COVID-19 testing postoperatively and is shifted to a non-COVID-19 area if he or she tests negative. Between April and August 2020, we had detected 6 patients with positive a COVID-19 result among 284 patients admitted under neurosurgery.⁹ In our opinion, this COVID-19 testing policy along with strict quarantine/isolation rules have allowed us to restrict the infection rate in our health care workers to an acceptable level, thus allowing continued functioning in the hospital.^{3,9,31-32} To date, we have had only 1 attending neurosurgeon out of 8 testing positive for COVID-19 and none of the 10 residents have contracted COVID-19 infection.³

By mid-April 2020, the testing rate in Indonesia was 130 tests per million population, one of the lowest in the world. The shortage in the testing facilities might be the reason for the institute COVID-19 testing protocol, described by Manusubroto et al.¹ They seemed to rely heavily on COVID-19-related history; laboratory tests (neutrophil-to-lymphocyte ratio, C-reactive protein); and chest radiography. Few patients underwent chest computed tomography (CT) and rapid test, measuring IgG and IgM antibodies against COVID-19. In case of a positive rapid test, they did a real-time polymerase chain reaction analysis. With this protocol of COVID-19 screening, there is a high chance of missing asymptomatic individuals with COVID-19 infection. It would be interesting to know if they are still following the same protocol at Dr. Sardjito General Hospital and how many COVID-19 infections have been detected by them in patients and among their health care workers. In addition, we would be interested to know if they have noticed any increased mortality in their patients, as patients with perioperative COVID-19 infections have an increased rate of mortality (23.6%) and pulmonary infections (51.2%).^{9,30} An increase in mortality compared with the pre-COVID-19 era

could indicate undetected asymptomatic COVID-19 infections in their patients.

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