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Letter to the Editor Regarding “Management of Neurosurgical Cases in a Tertiary Care Referral Hospital During the COVID-19 Pandemic: Lessons from a Middle-Income Country”



LETTER:

We read with great interest the article by Deora et al.,¹ “Management of Neurosurgical Cases in a Tertiary Care Referral Hospital During the COVID-19 Pandemic: Lessons from a Middle-Income Country.” In this article, the authors have outlined their response as the biggest tertiary neurosurgical center in south India to the crisis posed by the ongoing coronavirus disease 2019 (COVID-19) pandemic. Despite being a purely neurosciences center with only visiting specialists in the field of medicine and pulmonary medicine, they were able to ensure the safety of patients and health care workers with rigorous screening and case selection. They divided the hospital into red, orange, and green zones depending on the infectivity status. Other measures adopted by them were the postponement of elective surgeries, altered conventional outpatient service into telemedicine outpatient service, strict control of elective-emergency admissions, prevention of intermixing of cases and health care staff, improvements in operation and treatment processes, allocation of designated areas for holding and operating on patients with COVID-19, and strict ward management.

All these measures, in addition to effectively preventing the spread of COVID-19 infection among the patients and health care workers, also resulted in a decreased number of operated cases at their institute. In the pre-COVID-19 era, they operated more than 5700 cases (with >3000 routine cases) in 7 routine and 2 emergency operation rooms. The authors noted a 57% reduction in the number of surgeries performed during the period of March to July 2020 compared with the same duration in the previous year. The decrease in cases was greatest for cases that were nonemergent in nature, especially deep brain stimulation, epilepsy surgeries, and spondylotic spine diseases, whereas the emergent cases, like clipping for ruptured aneurysms, head injuries, cerebrospinal fluid diversion, etc., were least affected.

The COVID-19 pandemic has practically affected the whole world. During the first “wave” of COVID-19 pandemic in India last year, our department witnessed a similar change in the volume and spectrum of the patients. On analyzing the data of neurosurgery department during the 10 weeks of nationwide lockdown last year (between March 25, 2020, and May 31, 2020), we observed a 52.2% decrease in the number of surgeries compared with the same period in 2019.² Nonemergent or routine cases accounted for 57.7% of our cases in the pre-COVID era, whereas during the COVID-19 pandemic, only 11.3% of the cases operated were nonemergent ($P = 0.000$). When the data were analyzed specialty-wise, there was a decrease in number of cases across all specialties, i.e., neuro-oncology, cerebrovascular, neuro-trauma, congenital, and degenerative spine. The number of

cerebrospinal fluid diversion procedures were least affected probably due to their emergent nature. Neurotrauma, although emergent, saw a decrease due to the decreased number of road traffic accidents due to reduced vehicle movement during lockdown.

However, this period of lockdown provided us time to prepare our hospital for the incoming tsunami of patients with COVID-19. Our hospital was subsequently prepared to deal with patients with and without COVID-19, with separate areas designated for each.³ We reorganized ourselves, and the neurosurgical workload was slowly revived. All cases that were admitted to the non-COVID-19 neurosurgery ward were first tested for COVID-19 by reverse transcriptase polymerase chain reaction, and the test was repeated before surgery. Procurement of personal protective equipment, ventilators and monitors were expedited. COVID-19 testing was started in our institution and many other laboratories. Thus, with this additional “safety net,” we were able to resume the neurosurgical work (Figure 1) despite the increase in number of cases in the country.⁴

We seemed well on track to “normalcy” until March, 2021, when the country was hit by the second wave of the pandemic, which has proved to be much deadlier. At the peak of the first wave last year, India was witnessing around 90,000 new cases of COVID-19 in 24 hours, whereas this time during the second wave, this figure has already reached close to 4 million new cases as on May 3, 2021.⁵ To date, there have been 19,557,457 confirmed COVID-19 cases, with 215,542 deaths in India. The health care systems across the country have been overwhelmed, and we are facing a significant crunch of ventilators, monitoring devices, intensive care unit beds, and even oxygen.⁶ In view of these developments, all hospital resources at our institution and elsewhere in the country have been diverted to the care of patients with COVID-19 and the nonemergent work (including neurosurgical work) has been halted completely, which includes all nonemergent surgeries and the outpatient department. At the time of writing this article, of 960 beds in our institution, we have dedicated 634 beds (163 ICU beds and 471 ward beds) to the care of patients with COVID-19 and are in the process of designating more and more hospital space for patients with COVID-19. At the same time, health care professionals from all departments are being deployed to care for patients with COVID-19. It might take us much longer to revive our neurosurgical services this time, which could result in significant collateral loss.

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Conflict of interest statement: The authors declare that the article content was composed in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

<https://doi.org/10.1016/j.wneu.2021.05.015>

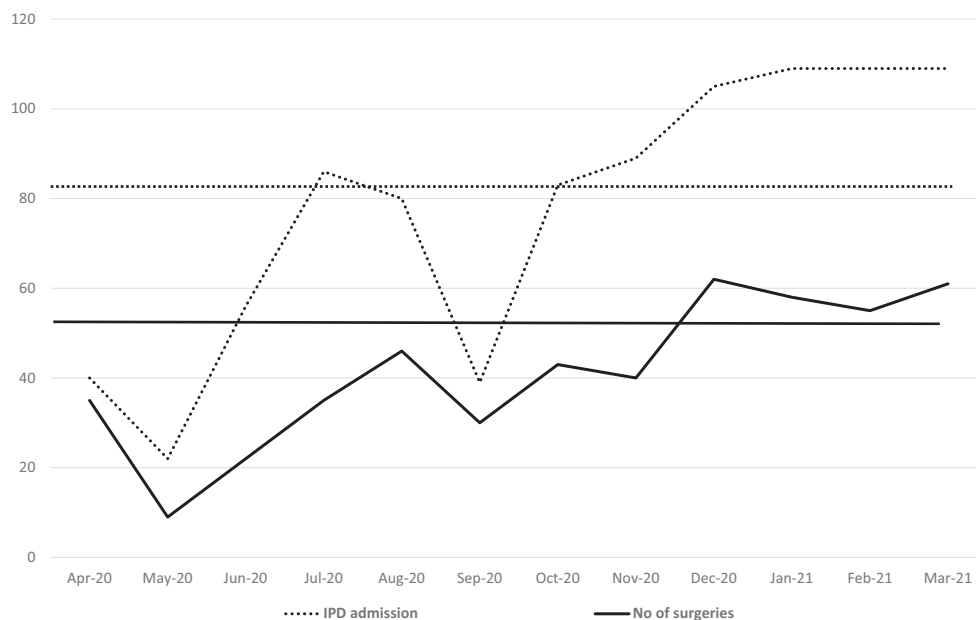


Figure 1. Polygon graph showing the number of inpatient department admissions (*dotted line*) and number of surgeries (*solid line*) performed under neurosurgery over the last year. Work was significantly affected, especially at the beginning of the pandemic, when the lockdown was announced

(March 25, 2020, to May 31, 2020) and at the peak of the first wave of pandemic (September 2020). The *horizontal dotted* and *solid lines* highlight the monthly average in 2019 for IPD admissions (82.1) and number of surgeries performed (53.75), respectively.

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