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.

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Correspondence

Neurosurgical challenges in the second wave of COVID-19; a global pandemic

Keywords:
Neurosurgical challenges
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Dear Editor,

The Neurosurgery team and another department face challenges in COVID-19's second wave. In this COVID-19 pandemic, the number of patients seeking neurosurgical care and interventions has declined globally, which has affected academic activities. A statistically significant decrease of approximately 33.6% in acute referrals and about 55.6% in the number of operations conducted during COVID-19 [1]. This is comparable to the published literature in which 226 respondents from more than 60 countries identified a reduction of more than 50% [2]. In a report, the overall number of surgeries conducted by the Neurosurgery Department decreased dramatically by 63.38%, but during this pandemic, the proportion of minor cases increased from 19.72% to 30.77%. The proportion of spinal cases also decreased from 27.11% to 18.27%, but the proportion of cranial cases rose from 72.89% to 81.73% [3]. Many neurosurgical trainees were redeployed to COVID-19 wards as part of restructuring the capability release facilities for coping with COVID-19 [4]. This, coupled with the fact that fewer exercises were undertaken, indicated a decline in opportunities for training. In 2020, neurosurgical case volume in all neurology programs declined 75%, and interestingly 90% increased research time [5]. While the first wave caught us totally off guard, the second wave finds us trained with operational protocols [6], most importantly, understanding the extent of diffusivity for the operators.

Since aerosols transmit this virus, surgical procedures have been documented using unfavorable pressure suction rooms [7]. Given strategies to protect patients and healthcare staff, there was a global agreement to restrict “elective” neurosurgical operations and interventions [8]. With recent changes in the situation, departments of neurosurgery worldwide should be prepared for the anticipated rise in operation volume and should plan the operation schedule reasonably and coordinate medical resources. According to a recent report of Wuhan and data provided by Lesheng et al., there was a substantial increase in the number of patients to the neurosurgical department during and after lockdown and an increase in the number of operations [9]. Despite the difficulties, there is a need to retain the capacity to treat patients needing emergency neurosurgical management. A particular operating area for SARS-CoV-2 positive patients or suspected cases should also be built and the surgical SARS-CoV-2 non-intensive care unit based on the recommendation from international surgical societies [10]. We must ensure safe neurosurgical procedures during the second wave of COVID-19 and be more cautious.

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Not applicable.

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Author contribution

All authors contributed equally to the paper, e.g. study concept or design, data collection, data analysis or interpretation and writing the paper.

Conflict of interest statement

The authors have no potential conflict of interest.

Guarantor

Md Moshiur Rahman.

Research registration number

Not applicable.

Consent

Not applicable.

References

[1] Ashkan K, Jung J, Velicu AM, Raslan A, Faruque M, Kulkarni P, et al. Neurosurgery and coronavirus: impact and challenges-lessons learnt from the first wave of a global pandemic. Acta Neurochir (Wien) 2021 Feb;163(2): 317–29. https://doi.org/10.1007/s00701-020-04652-8.
[2] Ji Y, Ma Z, Peppelenbosch MP, Pan Q. Potential association between COVID-19 mortality and healthcare resource availability. Lancet Glob Health 2020;8(4): e480. https://doi.org/10.1016/s2214-109x(20)30068-1.
[3] Sharma AK, Gandhoke CS, Nayak N. Effect of coronavirus disease 2019 pandemic on case volume, spectrum, and perioperative coronavirus disease 2019 incidence in neurosurgical patients: an experience at a tertiary care center in India. Surg Neurol Int 2020;11. https://doi.org/10.25259/SNI_701_2020. 390-390.

https://doi.org/10.1016/j.ijso.2021.100356

[4] Zoia C, Raffa G, Somma T, Pepa GMD, Rocca GL, Zoli M, et al. COVID-19 and neurosurgical training and education: an Italian perspective. Acta Neurochir 2020;162(8):1789–94. https://doi.org/10.1007/s00701-020-04460-0.
[5] Aljuboori ZS, Young CC, Srinivasan VM, Kellogg RT, Quon JL, Alshareef MA, et al. Early effects of COVID-19 pandemic on neurosurgical training in the United States: a case volume Analysis of 8 programs. World Neurosurg 2021;145:e202–8. https://doi.org/10.1016/j.wneu.2020.10.016.
[6] Boeris D, Falco J, Potenza A, Colistra D, Bagnoli E, Cenzato M. Workflow management for COVID-19 patients needing an urgent neurosurgical procedure. J Neurosurg Sci 2020. https://doi.org/10.23736/S0390-5616.20.04962-0.
[7] Hartnett KP, Kite-Powell A, DeVies J, Coletta MA, Boehmer TK, Adjemian J, et al. Impact of the COVID-19 pandemic on emergency department visits - United States, January 1, 2019-May 30, 2020. MMWR Morb Mortal Wkly Rep 2020;69(23):699–704. https://doi.org/10.15585/mmwr.mm6923e1.
[8] Raheja A, Agarwal N, Mohapatra S, Tandon V, Borkar SA, Chandra PS, et al. Preparedness and guidelines for neurosurgery in the COVID-19 era: Indian perspective from a tertiary care referral hospital. Neurosurg Focus FOC 2020;49(6):E3. https://doi.org/10.3171/2020.9.focus20564.
[9] Wang L, Zhou K, Chen J. Letter: the impact of COVID-19 on the neurosurgery department during and after the lockdown of Wuhan. Neurosurg Open 2020;2(1). https://doi.org/10.1093/neuopn/okaa020.
[10] Ti LK, Ang LS, Foong TW, Ng BSW. What we do when a COVID-19 patient needs an operation: operating room preparation and guidance. Canad J Anaesth = J Canad d'anesthesie. 2020;67(6):756–8. https://doi.org/10.1007/s12630-020-01617-4.

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