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In Reply to the Letter to the Editor Regarding “COVID-19 and Neurosurgery Consultation Call Volume at a Single Large Tertiary Center with a Propensity-Adjusted Analysis”



In our reply to the letter to the editor regarding our article, we would like to thank you for the opportunity to respond to the comments and points made by Maiguel-Lapeira et al.¹ We would also like to thank Maiguel-Lapeira et al.¹ for taking the time to express their concerns.

In their response, Maiguel-Lapeira et al.¹ raised concern regarding the volume of neurosurgical consultations for inpatient referrals because of complications that differed from the initial reason for admission, the increasing severity of the neurological symptoms associated with presentation because of coronavirus disease 2019 (COVID-19), and the changing findings from analysis of patients' symptoms of neurological disease. The single-center, retrospective review by García-Moncó et al.² quantified the trends in the neurological presentation of patients with COVID-19 and found that, of 35 complications, the most common were stroke (31%) and encephalopathy (20%). A systematic review by Ghannam et al.³ found that 49% of neurology patients with COVID-19 whose cases had been reported had presented with cerebrovascular insults. Although we believe that the potential for COVID-19 to cause complications associated with vasculitis is significant, our study had focused on direct emergency consultations because most vascular complications in patients with COVID-19 will be treated by our neurologists, and the neurosurgical department is seldom consulted. This aspect of our study was also obscured by our changing understanding of COVID-19 symptoms at the time. However, to improve the clarity of their findings, future studies should analyze in-hospital referrals because hospitals have become more regimented in their treatment of patients with COVID-19 and have a better understanding of the symptoms.

We found the commentary on the increased severity of neurological symptoms associated with COVID-19 to be fascinating. The retrospective review by Yaghi et al.⁴ analyzed 3556 patients with a confirmed COVID-19 diagnosis. They found that patients with COVID-19 had had higher National Institutes of Health Stroke Scale scores and greater mortality compared with historical controls.⁴ Xiong et al.⁵ also found that most new-onset COVID-19 neurological manifestations were critical events and included loss of consciousness, stroke, central nervous system infection, seizure, and status epilepticus. In our study, this phenomenon could be a potential explanation for why we witnessed an increase in the proportion of patients requiring emergency consultations with hospital admission after the onset of the pandemic (76% vs. 85%; $P = 0.03$)

and an increase in the proportion of patients receiving consultations who had been admitted to the intensive care unit (47% vs. 56%; $P = 0.08$). However, because of the lack of initial screening for COVID-19 in March 2020, we were not able to analyze whether those admissions had also been related to COVID-19. Also, because our institution is one of the main neurosurgical care centers in a highly populated city center, we had expected that a greater proportion of admissions would be related to cerebrovascular issues. Instead, we saw a relative decrease in such admissions after the onset of the pandemic (11% vs. 9%).

Finally, Maiguel-Lapeira et al.¹ suggested that an effort be made to provide consultations, recommendations, and action plans to patients to help guide and educate them about which symptoms might be more urgent. We agree that steps should be taken to improve this aspect of patient-physician communication. At Barrow Neurological Institute, we have implemented full telemedicine clinics for patients who would rather not come to the clinic and for patients at high risk of severe COVID-19.

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