In Reply We thank Dr Silverman and colleagues for their interest in our study1 and providing us the opportunity to expand on our results. Among the 1916 patients who visited the emergency department or were hospitalized with coronavirus disease 2019 (COVID-19) in our study,1 8 patients (0.4% [95% CI, 0.2%-0.8%]) had hemorrhagic stroke, including 7 with intracerebral hemorrhage and 1 with subarachnoid hemorrhage. Among these 8 patients, 4 strokes were attributed to anticoagulant use.

Regarding the question about hemorrhagic transformation, 2 of 31 patients with COVID-19 and acute ischemic stroke in our study1 had symptomatic hemorrhagic transformation. One of these was attributed to intravenous thrombolysis, while the other was attributed to therapeutic-dose anticoagulant use. Overall, 1 of 3 patients (33.3% [95% CI, 8.4%-90.6%]) with COVID-19 who were treated with intravenous thrombolysis for acute ischemic stroke in our cohort developed symptomatic hemorrhagic transformation.

We agree that a better understanding of the risks of hemorrhagic stroke in patients with COVID-19 are necessary to inform the risk-benefit assessments of intravenous thrombolysis and anticoagulant therapy for this population. Since the publication of our study,1 several studies have reported on the risk of hemorrhagic stroke in patients hospitalized with COVID-19.2,3 We did not collect data on anticoagulant use among patients with COVID-19 who did not have ischemic or hemorrhagic stroke, and therefore we are unable to evaluate the association between anticoagulant use and incident stroke in our cohort.1 We acknowledge that both prophylactic-dose and therapeutic-dose anticoagulant therapy could affect the incidence of stroke and other thromboembolic events, including by potentially causing net harm through an increase in hemorrhagic stroke. We believe that randomized clinical trials are necessary to determine the safety and efficacy of these treatments. To our knowledge, there are multiple active trials evaluating this question, including the National Institutes of Health-funded Anti-thrombotics for Adults Hospitalized With COVID-19 (ACTIV-4) trial (NCT04505774). We eagerly await the results of ACTIV-4 and other, similar trials, which hopefully will answer the question of whether anticoagulant use in patients hospitalized with COVID-19 is beneficial.

Alexander E. Merkler, MD, MS
Cenai Zhang, MS
Babak B. Navi, MD, MS

Author Affiliations: Clinical and Translational Neuroscience Unit, Feil Family Brain and Mind Research Institute, Department of Neurology, Weill Cornell Medicine, New York, New York.

Corresponding Author: Babak B. Navi, MD, MS, Clinical and Translational Neuroscience Unit, Feil Family Brain and Mind Research Institute, Department of Neurology, Weill Cornell Medicine, 420 E 70th St, Room 411, New York, NY 10021 (ban9003@med.cornell.edu).

Published Online: March 8, 2021. doi:10.1001/jamaneurol.2020.0120

Conflict of Interest Disclosures: Dr Merkler has received personal fees for medicolegal consulting on stroke. Dr Navi serves as a data safety monitoring board member for the Patient-Centered Outcomes Research Institute–funded Transseptal vs Retrograde Aortic Ventricular Entry to Reduce Systemic Emboli (TRAiVERSE) trial and has received personal fees for medicolegal consulting on stroke. The authors also report support from National Institutes of Health grants K23NS091395, RO1HL144541, and UL1TR000457, as well as support from NewYork-Presbyterian Hospital and Weill Cornell Medical College, including their Clinical and Translational Science Center and Joint Clinical Trials Office. No other disclosures were reported.


Correction

Error in Figure and Table: In the Original Investigation titled “Effect of Motor Skill Training in Functional Activities vs Strength and Flexibility Exercise on Function in People With Chronic Low Back Pain: A Randomized Clinical Trial,” published online December 14, 2020,1 the 14th Author Name and Change to Open Access: In the Original Investigation titled “Efficacy of Nilotinib in Patients With Moderately Advanced Parkinson Disease: A Randomized Clinical Trial,”1 published online December 28, 2020, there were errors in Figure 1 and Table 3. In the “Excluded” box of Figure 1, rows 6, 7, and 9 to 14 should all be indented. Additionally, row 5 should read “66 During first visit” and row 8 should read “140 Had no first visit scheduled.” In Table 3, row 40, column 3 should read “70 (21)” and row 40, column 4 should read “51 (35).” This article has been corrected online.


Error in Author Name and Change to Open Access: In the Original Investigation titled “Efficacy of Nilotinib in Patients With Moderately Advanced Parkinson Disease: A Randomized Clinical Trial,” published online December 14, 2020,3 the 14th author’s first name was misspelled. Dr Adam’s name should be spelled “Jamie Adams.” The status of this article has also been changed to open access under a CC-BY license. This article was corrected online.


Errors in Figure: The Brief Report titled “Agent Orange Exposure and Dementia Diagnosis in US Veterans of the Vietnam Era,” published online January 25, 2021, had errors in the Figure. The numbers of patients noted in the labels on the 2 lines on the graph should have been reversed, with the upper line labeled “Agent Orange (n = 38 121)” and the lower line labeled “No Agent Orange (n = 278 230).” In addition, on the x-axis, the final value should have been 85, rather than 55, years. These errors have been corrected.