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COVID-19 Era Stroke Service: Virtually Normal

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This article is part of the Topical Collection on *Reflections from the COVID Pandemic*

Keywords Acute ischemic stroke · COVID-19 · Pandemic · Zoom conferences · Reflections

Abstract

Objective To characterize my experience in the inpatient stroke service in an amusing fashion.

Background The COVID-19 pandemic broke out during my time as a stroke fellow. It was a unique experience.

Methods A non-exhaustive review of my memories as a stroke fellow during the COVID-19 pandemic was performed. I sat down and wrote the article. Then, I illustrated the figure.

Results All results are not statistically significant unless otherwise noted.

Conclusions Zoom conferences are a promising technology for stroke services. Further studies are needed to further elucidate their benefits and drawbacks.

The stroke team was restive as we gathered in the conference room for the daily table rounds, as we always do. Two residents, a senior resident, and myself, the stroke fellow, all wearing surgical masks. We gathered in front of the computer and connect to Zoom teleconferencing. The face of our stroke attending popped up on the screen, his background imperfectly masked by the app with an incongruous photo of palm trees (Fig. 1).

“My hair has been growing out with the lockdown,” quipped our attending, in his usual rapid speech. “And, you can’t tell from the Zoom cams since it cuts off part of your hair with the background mask.”

“You don’t see yourself in the mirror in the morning?”

“I don’t use a mirror. Were there any new consults overnight?”

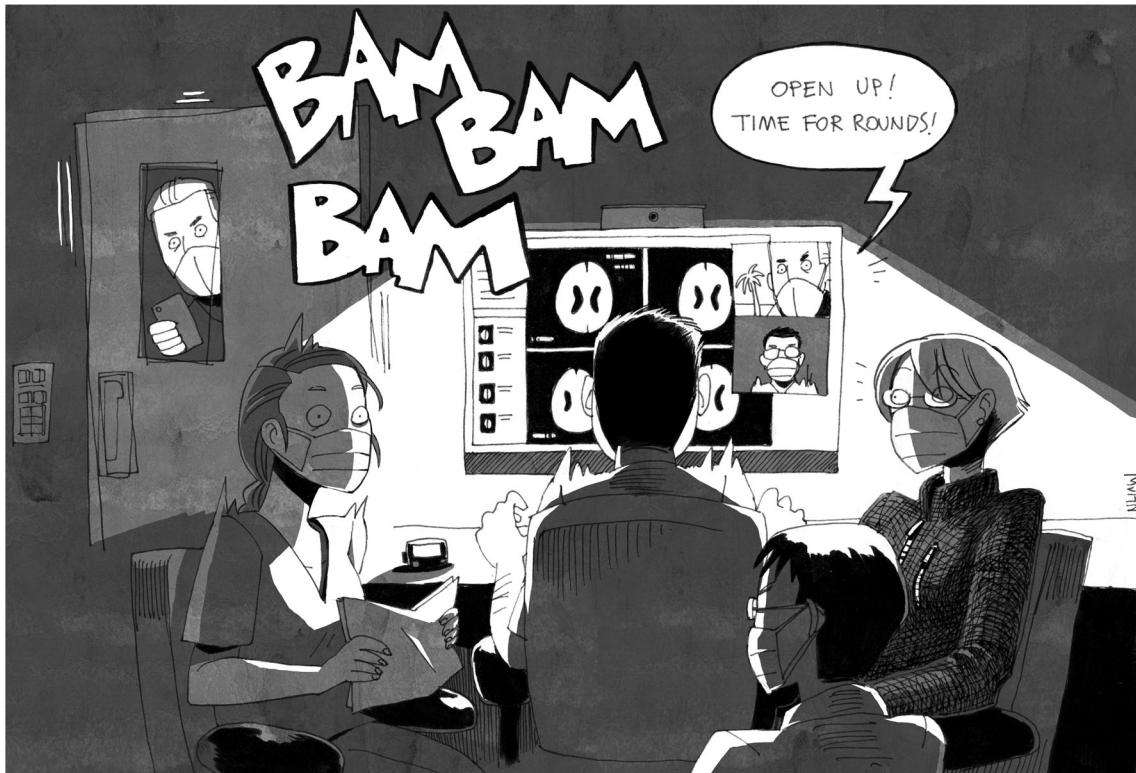


Fig. 1. The COVID-19 era stroke team in their natural habitat

The resident launched into the case presentation of the new patient:

“We were consulted for prognosis of a COVID-19 positive patient after finding acute strokes in the course of altered mental status workup. This is a 77 year old male with a past medical history of coronary artery disease status post bypass, diabetes type 2, and hypertension. He was transferred from an outside hospital for convalescent plasma treatment after a prolonged hospitalization for respiratory failure requiring intubation from COVID-19 infection. He unfortunately suffered multi-system failure, including acute respiratory distress syndrome, renal failure requiring hemodialysis, liver injury, and sepsis requiring pressor support. When he was transferred to our hospital the patient remained obtunded after removing sedation. MRI of the brain was done to look for a cause.”

The MRI was brought up on the screen, revealing multiple acute strokes. The presentation wasn't terribly unusual at first blush. There were bilateral cortical strokes in the watershed territories. Perhaps they were due to severe hypotension during his ICU course. There was also a punctate acute stroke in the right cerebellum. Cardioembolic strokes would not be out of the ordinary in patients of this age with so many cardiovascular risk factors, and with critical illness to boot.

Something caught the attending's eye as we flipped through the MRI sequences on the shared desktop.

“Ok, look at the occipital strokes. There’s petechial hemorrhagic conversion. Unusual for such small strokes, right?”

Could this be related to COVID-19 infection? The diagnosis was tempting, but hard to say for sure. Our attending spoke up.

“By the way, another case series about stroke and COVID-19 was published the other day. There were more authors than cases in the report! It’s like they just discovered COVID-19.”

There has been a deluge of publications about possible associations between stroke and COVID-19: increased ischemic strokes, increased hemorrhagic strokes, increased venous thrombosis, more severe strokes. Was there generalizable correlation, let alone causation, in these preliminary reports? In the end, it remained yet another differential consideration among the other etiologies.

“We should recommend venous imaging, to rule out venous sinus thrombosis. Or could it be posterior reversible encephalopathy syndrome? The patient apparently was on stress dose steroids during his ICU course.”

“What about lumbar puncture? Check for COVID-19 in the cerebrospinal fluid.”

“Let’s get the initial workup first, and decide from there.”

The rest of table rounds proceeded as always. The residents presented the remaining new consults, reviewed overnight updates and new test results for our old consults and inpatient service. Moments later:

BAM! BAM!

Our attending had taken to kicking the door to minimize contact with door handles and keypads when possible.

“Ok, time to round!”

Just as we head towards the neurosurgery ICU, our pagers go off in quick succession. It’s a stroke code in the ED. Wake up symptoms of aphasia and right-sided weakness. Sounds like it could be real. Immediately we shift course and rush down to the emergency room. While some things have changed, many things remain the same.

Time is brain, pandemic or not.

Authors' Contributions

All authors contributed equally to the manuscript.

Compliance with Ethical Standards

Conflict of Interest

Nicholas Liaw declares that he has no conflict of interest. David S Liebeskind declares that he has no conflict of interest.

Consent for Publication

All authors have consented to the publication of this manuscript.

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