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Short Communication

A Year through the Pandemic: An Experience from a Neurology Service in Bogotá, Colombia

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On December 2019, Chinese authorities informed of the outbreak of a novel coronavirus disease: COVID-19 [1]. On March 11th, 2020 the World Health Organization (WHO) declared the disease a global pandemic [1]. In Colombia, the first confirmed case was reported on March 6th, 2020 [2]. By February 3rd, 2021, the WHO had reported a total of 103.362.039 COVID-19 confirmed cases and 2.244.713 deaths worldwide [3]. By the same date in Colombia (Population: 48.258.494) [4], there were 2.114.597 confirmed cases and 54.576 deaths [2].

At our institution (Fundación CardioInfantil in Bogotá), by February 3rd, 2021, 19.822 COVID-19 tests have been done with 5.930 positive results and 396 in-hospital case fatalities [5]. This 349-bed and 6 Intensive Care Unit (ICU) institution is a cardiovascular university hospital. In 2019, there were 16.075 hospital discharges and 83.102 emergencies. In 2020, a reduction of 23.5% (12.300) of hospital discharges and 30.5% (57.676) of emergency visits was observed (Fundacion CardioInfantil Marketing Office, personal communication, February 5th, 2021). The Neurology service, composed by 9 neurologists, 12 residents, and 4 nurses, accounted for 5% (804) of the 2019 hospital discharges. Seventy percent (562 patients) with stroke diagnosis: 402 infarcts, 120 transient ischemic attacks (TIA), 35 haemorrhages and 5 venous thromboses [6].

To attend and mitigate the effects of this emergent health situation, changes were made across the institution and within the neurology service. As the institution adopted biosafety measures, including but not limited to: social distancing, frequent hand washing, wearing of personal protective equipment (PPE), the mandatory use of face masks, implementation of safe routes, testing and tracking for COVID-19, educational programs, isolation of COVID-19 patients, periodic information bulletins, cancellation of non-essential services and reporting and follow up of symptomatic cases and contacts [7]; the neurology service adopted additional measures [8]. Based on international literature a protected stroke code was created and adopted [9]. Only essential personnel attended on a daily basis, the remainder assisted their duties remotely. All in-person service meetings were cancelled and moved online. Journal clubs on COVID-19 and its neurologic complications were organized. Whenever possible, COVID-19 patients were seen via video calls and bedside assessments were done only by one attending physician. A standardized survey for COVID-19 symptoms for every patient was mandatory and suspicious cases were always tested. Weekly, all staff members were asked about the presence of COVID-19 symptoms. All were reminded of the biosafety measures, and words of comfort and positivity were shared among them constantly [9].

With the development of the pandemic, we saw a change in our stroke epidemiology. Comparing two periods, March - May 2019 and March - May 2020, we saw a reduction in stroke hospital discharges from 124 to 54 (56%) with ischemic stroke still maintaining the highest incidence. From June to October 2020, 146 stroke patients were discharged, 9 (6.1%) with polymerase chain reaction COVID-19 confirmed cases. Eight of those patients (88%) had brain infarcts and one had a TIA (Unpublished information). A summary of their main demographic and clinical characteristics is presented in table 1.

Demographic and clinical characteristic	Number n (%)
Men/Women	5 (55%)/4 (45%)
Age: > 50 years	7 (78%)
Symptomatic/Asymptomatic for COVID-19	5 (55%)/4 (45%)
Severe COVID-19 disease	3 (33%)
NIHSS score 0 - 5	3 (33%)
NIHSS score 6 - 20	4 (45%)
NIHSS score > 20	1 (11%)
mRankin scale < 3 at discharged	2 (22%)
History of high blood pressure	2 (22%)
History of Diabetes Mellitus	2 (22%)
History of atrial fibrillation	1 (11%)
IV Thrombolysis with rtPA	4 (45%)
Large vessel occlusion on CTA	3 (33%)

Table 1: *COVID-19 patients with stroke. June-October 2020. Fundación CardioInfantil, Bogotá, Colombia. NIHSS: National Institute Stroke Scale. IV: Intravenous. rtPA: Recombinant tissue plasminogen activator. CTA: Computed Tomography Angiography.*

Nonetheless, stroke was not the only neurological COVID-19 complication we were called to see [10]. Headache and dizziness were common symptoms amongst COVID-19 in-hospital patients. We also cared for patients with COVID-19 and neuropathic pain, delirium, increased seizure frequency in epilepsy, ICU acquired weakness syndrome, facial palsy, two Guillain-Barre syndrome cases, a Miller-Fisher Syndrome case, one with acute myelitis, one with first unprovoked seizure attributed to the infection, and one with an acute hemorrhagic leukoencephalitis. (Unpublished information)

During these first 11 months of the pandemic our neurology team has made efforts and sacrifices to not falter, although the disease has taken its toll and we have faced new challenges. However, we have also learned and strengthened our bonds as a team. Some have had to distance from their loved ones, some have suffered economic harshness and some have endured the burden of wearing the PPE. By February 2021, seven staff members have tested positive for the disease. Fortunately, all have been asymptomatic or have had mild symptoms. The constant donning and doffing of the PPE has not been easy, and neither has been performing neurologic exams wearing them. Determination of death by neurologic criteria in patients with COVID-19 critical illness and/or under extracorporeal membrane oxygenation (ECMO) has been a difficult endeavour. Although we have not been confronted with staff or resource shortages, we've had to make tough ethical decisions in certain scenarios. Still, we continue to learn about the neurology of COVID-19 and its disease mechanisms, along with other infectious and inflammatory conditions. Our ability at using online tools for our practice has increased, and we have grasped the opportunity to explore new teaching methods. Last, but certainly not least, we have learned to support to each other better, and keep a watchful eye on the emotional health and well-being of those who surround us at Fundación CardioInfantil.

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