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COVID-19 and the Role of Neurosurgeons in Nepal

Amit Thapa

**BACKGROUND:** Despite the panic and chaos that coronavirus disease 2019 (COVID-19) has generated in over 200 countries,1 the role of neurosurgeons has never been more relevant and challenging. The health system in Nepal was never geared to face an onslaught of an infectious disease.

**METHODS:** At Kathmandu Medical College Teaching Hospital, we designated a separate complex for housing COVID-19 suspects to prevent the unaffected from getting exposed. In a few hospitals, existing neurosurgical and medical intensive care units have been converted to isolation intensive care units. A separate roster of doctors, nurses, and allied staff has been drafted to care for these patients to avoid contamination and allow effective quarantine of the staff involved in care.

**RESULTS:** At the directive of the government, all neurosurgical centers postponed routine cases and some have closed their outpatient departments because of the lack of protective gear. All neurosurgical centers have seen drastic reductions in cases.

**CONCLUSIONS:** In these challenging times, we neurosurgeons, who are naturally primed and trained to respond and take on challenges in difficult situations, have the ideal opportunity to shine and make a true difference during this pandemic and beyond and be “5-star doctors.”

Despite the panic and chaos that coronavirus disease 2019 (COVID-19) has generated in over 200 countries,1 the role of neurosurgeons has never been more relevant and challenging. The health system in Nepal was never geared to face an onslaught of an infectious disease. N95 masks were being used sparingly, and most centers did not have proper heating, ventilating, and air conditioned—equipped operating rooms, let alone negative-pressure isolation rooms. Gearing up to prepare for a pandemic with proper isolation and strict protocols was at first sight impossible. Piling up equipment and training of manpower were difficult but urgently required. However, hospitals, along with the government’s intervention, were quick in putting up isolation centers, training staff, and categorizing hospitals across the country into levels of care according to complexity of cases.2 Regional hubs were identified to coordinate the care. At Kathmandu Medical College Teaching Hospital, we designated a separate complex for housing COVID-19 suspects to prevent the unaffected from getting exposed. In a few hospitals, existing neurosurgical and medical intensive care units (ICUs) have been converted to isolation ICUs. A separate roster of doctors, nurses, and allied staff has been drafted to care for these patients to avoid contamination and allow effective quarantine of the staff involved in care. Along with lockdown now entering its fourth week, the whole effort is directed to hold the infectious spread in phase 2 of the epidemic (to avoid community transmission). Fortunately, the growth in number of cases has been slow and none of the infected has shown serious complications!3

Nepal, not unlike many other nations, is facing a scarcity of proper personal protection equipment (PPE) and proper infrastructure. With limited testing for the virus in the community, front-line health care workers including neurosurgeons are undeniably at risk of exposure.4 Besides being reasonably healthy, on being exposed, a higher incidence and risk of death are observed in doctors all over the world.5 Those who continue their commitment to patient care and provide services despite the risk could well become “superspreaders” and cause more harm to their families and the community. Taking precautions and maintaining active surveillance are hence of paramount importance.

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centers have seen drastic reductions in cases. For any emergency case, full protective gear is being worn by all operative staff. All health care workers have been asked to wear appropriate types of PPE. With limited access to diagnostic tests for severe acute respiratory syndrome coronavirus 2, there is a dilemma among doctors on how to segregate patients. COVID-19 screening clinics have been installed at the entry gate of hospitals to isolate any suspected case on the basis of temperature checks, clinical symptoms, and contact and travel history of visitors. The effect of this measure, however, has been dwarfed by the recent revelation that a large number of positive patients were either asymptomatic or were having mild symptoms! Despite its proximity to China and India, Nepal has seen just 59 positive cases over the past 4 months. Considering the global pandemic for a population of 29 million, this figure is highly disproportionate. There is a fear of missing on community transmission of the disease. Hence any patient undergoing any aerosol-generating procedures is being managed as a “potential” COVID-19 patient. In wake of widespread demands, recently the Ministry of Health has issued a directive allowing all patients posted for surgery to undergo a rapid antibody-based diagnostic test. The Nepalese Society of Neurosurgeons has come up with a standard operating protocol for COVID-19 patients. As the lockdown scenario eases, our hospital plans to start routine cases after at least 14 days of home-based quarantine, followed by a rapid antibody-based diagnostic test a day before surgery. A negative study would allow us to operate with usual precautions.

By virtue of their professional conduct and ethics, doctors are required and committed to serve and must attend their surgical duties as a “care provider.” Many of us have prepared rosters to allow limited members of the team attend to patients in the hospital to decrease exposure to viral load, allowing efficient use of already limited resources. Updates and further discussion on cases are later done on Internet-based apps like “Viber” and “Whatsapp.” Consultations are being offered over the phone or Internet as reasonably as possible, with the focus on prevention and general well-being. Keeping ourselves updated with the most current guidelines offered by leading institutions and societies helps us to make relevant and appropriate decisions. Emergency surgeries are being performed on both brain and spine only in undeniable situations where there is eminent threat to life or where delaying would make the condition permanently worse. In keeping with worldwide efforts and recommendations, the logic behind rationing services and resources lowers the risk of exposure, keeping ICU beds and ventilators free to absorb any surge in complicated coronavirus-infected patients and conserve limited consumables. Hence the role of neurosurgeon as a “decision maker” and “manager” is vital in such demanding situations. Besides, it is also our responsibility to lead and take care of our team both physically and psychologically. In desperate situations it is important to circulate correct and morale-boosting information. We have started “Viber” group messaging among our staff, circulating information updates on “what to do at home and work” and conducting polls to learn about any issues related to health and then address them individually. As a public responsibility, we counsel families of our patients regarding do’s and don’ts in these hazardous conditions. Neurosurgeons in such a role can become effective “communicators.” During these challenging times, the importance and role of neurosurgical emergency cannot be underestimated. While COVID-19 is primarily a respiratory pathogen, neurosurgeons often access pathology through direct upper airway exposure (i.e., trans-nasal/transphenoidal exposure or presigmoid or translabyrinthine exposure for various skull base emergencies). At Kathmandu Medical College Teaching Hospital, as in other hospitals across Nepal, the neurosurgical faculties joined forces to conduct a Fever Clinic/COVID-19 Screening Clinic to orient health care workers, teach proper use of PPE, and supervise thorough conduct of the clinic. Our nurses have offered to work in designated isolated ICUs (for COVID-19 suspects/positive patients). We conducted online classes for junior doctors and other health staff, mitigating their anxieties and counseling them on their roles in the community. Some of us even prepared and shared public videos and appearances to teach the community and advise governing bodies on pertinent actions. In doing such activities, we filled the role of “community leaders.”

In these challenging times, we neurosurgeons, who are naturally primed and trained to respond and take on challenges in difficult situations, have the ideal opportunity to shine and make a true difference during this pandemic and beyond—and be “5-star doctors.”

CRediT AUTHORSHIP CONTRIBUTION STATEMENT

Amit Thapa: Conceptualization, Methodology, Writing - original draft, Writing - review & editing.

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