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AFNI Advisory for Neurosurgery During the COVID-19 Pandemic

The Academy of Filipino Neurosurgeons, Inc.

Coronavirus Disease 2019 (COVID-19) is a highly infectious viral illness originating from Wuhan, China that can lead to respiratory failure, multiple organ failure, and death. On March 11, 2020 COVID-19 was declared a pandemic by the WHO and shortly thereafter, on March 16, 2020, President Rodrigo Duterte declared the entire island of Luzon, Philippines under "Enhanced Community Quarantine" (ECQ).[1] The Luzon-wide ECQ was then extended up to April 30, 2020 upon the recommendation of the COVID-19 Interagency Task Force (IATF) to further control the spread of the infection and to prevent the country's health facilities and resources from being overwhelmed by the potential surge of seriously ill COVID-19 patients. In line with the ECQ proclamation, the Philippine College of Surgeons (PCS) released a March 14, 2020 recommendation for the management of elective surgeries to "Minimize all elective and urgent procedures, including cancellation of already scheduled surgeries and all other procedures such as endoscopy or interventional procedures…"[2]

As the world grapples with the COVID-19 pandemic, the Philippine health system is challenged on many fronts: the virus infecting scores of people, the handicap of scarcity of supplies for protection of health care workers, the government's efforts to contain the virus and mitigate its effects, and for the physicians, the added burden of treating the usual number of patients suffering from other illnesses who may or may not be infected by the SARS-CoV-2 virus.

The neurosurgeons working in the Philippines, the majority of whom are members of the Academy of Filipino Neurosurgeons, Inc (AFNI) are as equally affected with the same problems as the rest of the medical community working within the Philippine health system. Added to this is the small population of neurosurgeons who typically take care of huge volumes of patients. These neurosurgeons still need to take care of patients suffering from the usual neurosurgical conditions but who now may or may not be suffering from COVID-19.

The following AFN Advisories were formulated to guide the local neurosurgeons in carrying out their task of treating patients suffering from neurosurgical conditions during the time of the COVID-19 pandemic, while minimizing the risks to themselves and their patients.

1. The safety of the neurosurgeon and the surgical team is of paramount importance.
   The neurosurgeon and the surgical team could be considered as a scarce human resource essential for the continued delivery of neurosurgical care during the pandemic, and therefore should be protected accordingly by the use of proper and adequate Personal Protective Equipment (PPE) and other safety measures.[3]
2. Patients should continue to receive appropriate and timely neurosurgical care as much as possible, based on sound surgical judgment and the availability of resources.
3. Non-operative management or delay of neurosurgical management should be considered as an option if clinically appropriate to conserve the hospital's essential medical supplies, personnel, and equipment.
4. If COVID-19 PCR testing is available, consider testing neurosurgical patients and wait for the results if possible.
5. Endonasal neurosurgical procedures should be deferred or delayed due to the high risk of virus contamination during the procedure.
6. These AFN neurosurgical COVID-19 guidelines should be in line with the COVID-19 guidelines and recommendations released by the Philippine College of Surgeons and the Philippine Medical Association.

7. Conditions may vary with each hospital or health care institution and some of these recommendations may not be practical or applicable in some settings. In these situations, it will be up to the discretion and judgement of the individual neurosurgeon on how to approach his/her patient while adhering to previously-laid down national COVID-19 guidelines.

ADVISORY No. 1

Urgency-Based Categorization of Emergency Neurosurgical Operations During the Covid-19 Pandemic

This categorization of emergency neurosurgical operations is based on the urgency of procedures and its broad use will help Philippine hospitals and their operating rooms in triaging cases for better use of material and manpower resources, without unduly delaying the patients' treatments to improve the patient's survival and functional recovery during this COVID-19 pandemic. Neurosurgeons can easily ascertain what cases should be classified as an emergency, but it will reduce ambiguity if the entire surgical team is aware of such cases.[1]

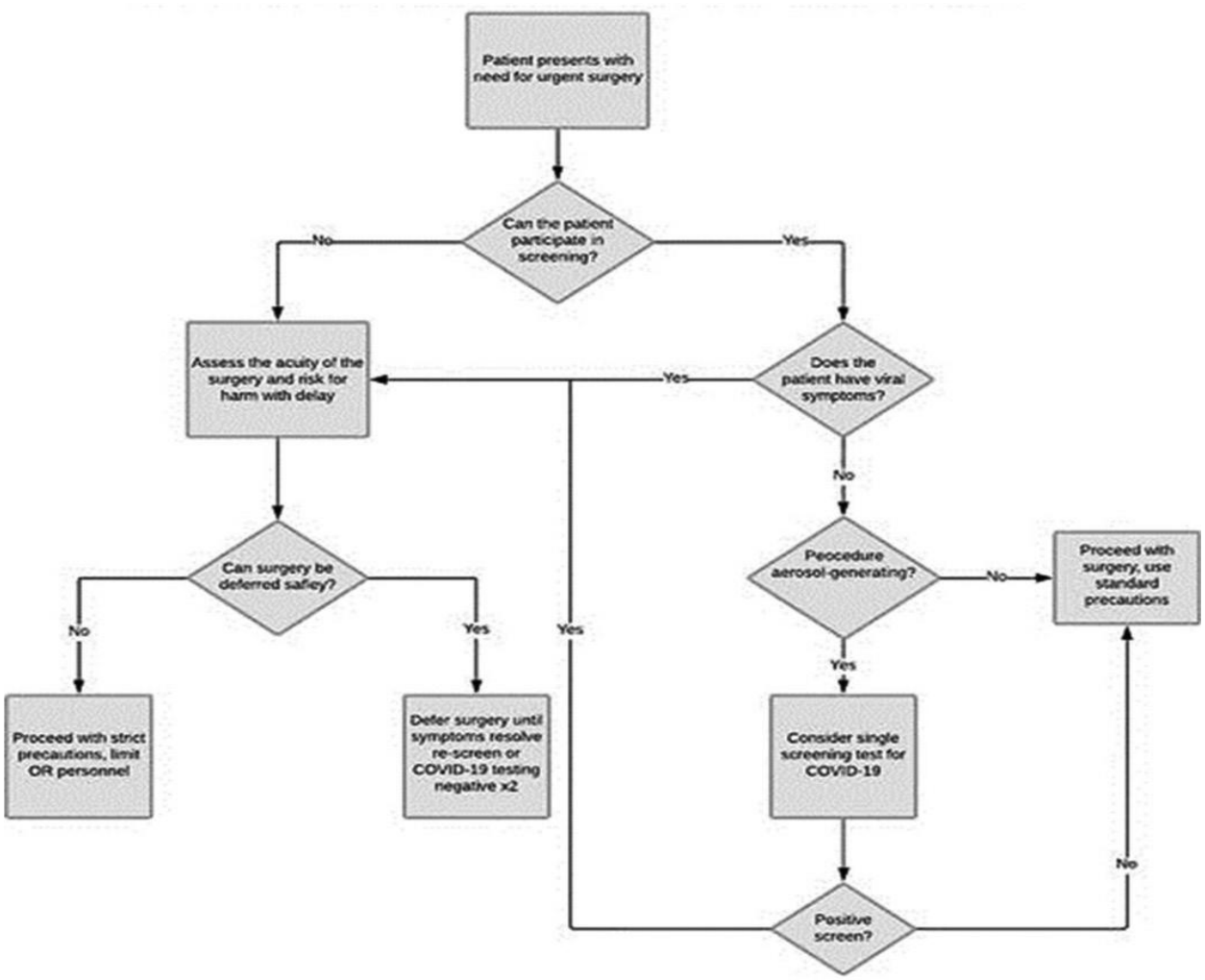
1. Determining Level of Urgency of Neurosurgical Case. The patient is assessed according to level of Urgency (adapted from Burke, et al. "The Coronavirus Disease 2019 Global Pandemic: A Neurosurgical Treatment Algorithm").[4]
   a. Neurosurgical Emergency (0 – 48 hours to OR). Emergent cases include:
      1. Cranial trauma/ infection - Traumatic Brain Injury, depressed skull fractures, occupying lesions, empyema/ abscess
      2. Cranial Tumor - pituitary apoplexy, tumor with mass effect
      3. Cranial vascular - intracranial hemorrhage from ruptured aneurysm, AVM, dural AVF, hypertensive intracerebral hemorrhage (surgical)
      4. Cranial CSF diversion - shunt obstruction, acute hydrocephalus
      5. Functional - hardware infections, sudden DBS battery failure
      6. Spine, disc disease - spinal instability or spinal cord compression from fracture, tumor or infection - caudaequina syndrome, nerve root compression with progressive motor deficit
      7. Acute and progressive neurological symptoms (brain or spinal cord) referrable to focal lesion on imaging.
      8. Any intracranial conditions with imminent risk of "coning" (herniation)[2]

   b. Neurosurgical Urgency (2 – 14 days to OR). Urgent cases include any case requiring Surgery within a 14 day period that does not meet above criteria. This may include intracranial tumors with mass effect or progressive neurologic deficits, without deterioration of consciousness.

   c. Purely elective cases. Not meeting a and b criteria above.

2. Since the above list may not be exhaustive, there may be added other cases determined to be an emergency or an urgent case by a board certified neurosurgeon[5], who is either a Fellow of the Academy of Filipino Neurosurgeons (FAFN) or Diplomate of the Philippine Board of Neurological Surgery (DPBNS).

3. The following clinical pathway, from two Harvard neurosurgical services[6] ("Adaptation Under Fire: Two Harvard Neurosurgical Services During the COVID-19 Pandemic"), may also be adopted to guide the neurosurgical team in arriving at a decision on how to handle COVID+ and non-COVID patients in their institutions. This pathway depends on the availability of COVID19 testing in the institution and facilities for a dedicated COVID anesthesia and COVID operating room. In this particular algorithm, "standard precautions" in the Philippine setting could mean a complete level 4 PPE as recommended by the PCS and "strict precautions" might be full PPE (or PAPR protection) in a dedicated COVID operating room.



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