

Covid-19: Neurosurgery Practice in Indian Subcontinent

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Abstract

Background: The coronavirus 2019 pandemic has changed all profession working condition. Healthcare system is highly affected, especially Neurosurgery. Health care systems in India were largely prepared to deal with COVID-19 pandemic because they had three month to prepare. The neurological community has moral duty to contribute to response to COVID-19 situation.

Materials and Methods: Lots of news by print media, electronic media and published reports about health care systems and healthcare providers. The author analysed all reports and practical working condition at Government and private hospital.

Results: All reports and practical evidence shows complex and unexpected situation in COVID-19 pandemic. For Neurosurgeon, healthcare as whole, patients and their family and society as whole, it has been very difficult time. Problems and its solution have been reported and suggestion have made.

Conclusions: Neurosurgeon may have three different types of duties. 1. At COVID-19 ward without any neurological problem patient. 2. At COVID-19 ward where patients have neurological complication. 3. Non COVID-19 ward / hospital where patients with

neurological, neurosurgical problem All such roles are crucial but difficult to play simultaneously.

Aim of the work: COVID-19 pandemic is big change for all health care providers. Neurosurgeons have special case. Condition, duties, responsibilities and patients & society response is needed to discuss.

Abbreviations: COVID-19: Corona virus disease 2019, ICU, Intensive care unit, SSI: surgical site infections.

Keywords: Health care system, neurological community COVID-19 situation.

Introduction

The COVID-19 pandemic in Indian subcontinent was relatively delayed compared to rest of the world. Hence they had more time and information about management. Practice modification, psychological impact on both the surgeon and patients, media impact, availability of external facility must be consider and accept. The private sector hospitals have largely closed for non- emergency patients. This was frustrating for the patients and their relative as well as Neurosurgeon too. This situation is being made more difficult for government hospital. General impression of the government hospital is not good in Indian subcontinent. Health care workers were untouchables –or – super spreaders, what society has considered.

In Indian subcontinent, It is reported, practicing neurosurgeon about changes in neurosurgical practice during this pandemic.¹

We can classify these changes.

1. The influence of social media and electronic media and print media on neurosurgeons and their mental and physical health.
2. Non-availability of ICU which is the prime requirement in the case of neurosurgery since it is allotted to COVID-19 patients.
3. There was increase in violence against all healthcare providers Neurosurgeons has fear if it, about themselves and their colleagues.
4. Loss of revenue for hospitals and remuneration of surgeons were also been issue.
5. In the case of emergency, what are the precautions and how to handle immediate life-threatening situation. Without awaiting the results of the COVID-19 test.
6. Patients are scared to come for hospitalization for Elective of plan Neurosurgery. How to convince patients and their family ?³
7. Many of neurosurgeons are/were posted in COVID facilities. They are / were attending non neurosurgery patients and have got infected. How to come out this situation to treat neurosurgery patients.
8. Clinical work and surgical exposure have reduced. For academic activity and teaching learning facility are/were also closed including – library. A surgery report says 70.96% of academic activity suffers heavily.⁴
9. Neurosurgeon had died after contracting COVID-19 on 19 April 2020 in Chennai.⁷
10. Doctors and healthcare workers were allegedly assaulted by neighbour at Delhi and Surat.

11. Non-Elective urgent neurosurgery was postponed at the beginning of the COVID-19 pandemic But now a days, it won't be possible to postponed.
12. In COVID-19 patients, causes of Guillain- Brré syndrome have been detected and do respond to intravenous immunoglobulin.
13. Almost 5% of COVID-19 patients develop acute respiratory distress syndrome, septic shock and / or multiple organ dysfunctions.⁹
14. The virus travels to the brain by haematogenous route and via the olfactory system, across the cribriform plate to⁹⁻¹⁰
15. Patients operated within six weeks of COVID-19 diagnosis were also an Increase risk of 30 day post-operative pulmonary – complication.

Discussion

Evidence based policies must be implemented rather than information based policies. Screening COVID-19 test must be performed with high sensitivity and immediate reporting. Personal protective equipment kit must be for surgeon as well as healthcare staff and also for patients and their relative. For mental health issue of patient and surgeon, there should be professional support.

Though COVID-19 is pandemic is putting entire medical fraternity through testing times. Neurosurgery is most sensitive to this situation from the neurosurgical and neurological perspective. We need to ensure COVID-19 safe protocols (by international and local) must be healthcare providers.⁶

Important Points

1. In the absence of scientific knowledge about the COVID-19 virus. Even non-emergency surgery or Elective surgery must be perform because patient cannot wait too long. Schematic of how to resume surgery is as show in fig-1.

2. Lack or delay of appropriate reports / investigation / treatment / surgery / may lead to permanent neurological problem for a patient. It may be life time decline in function of life at worst death. Separate COVID and non COVID hospital is highly recommended.
3. Minimum access to operating theatres is not possible as COVID-19 pandemic years long. There should be adequate care of neurosurgical patients time dependent algorithms and plans must be implemented. Neurological patients should not be neglected.⁸
4. As a team leader neurosurgeons should be mentally tough and strong to support their team.
5. Critically ill COVID-19 affected patient may have neurological complication. Central and peripheral nervous system can be affected.
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Legend Figure

