



EDITORIAL

Response to COVID-19 in Chinese neurosurgery and beyond

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THE spring of 2020 is doomed to be ruined for everyone around the globe. Two months ago, while 1.4 billion Chinese people were celebrating the Chinese New Year, the COVID-19 outbreak originating from Wuhan swept across the country and then spread rapidly around the world.^{1,2} As the pandemic has accelerated this spring, the lives and even the fates of many people have changed.

Over the past 2 months, we have witnessed tens of thousands of COVID-19–infected patients struggling with pain and fear and have seen thousands of lives lost. Meanwhile, we have also witnessed the morale of Chinese medical workers, including neurosurgeons, who have made great efforts to control the outbreak. To date, more than 30,000 medical workers and 74 medical teams from other parts of China have been sent to Hubei Province, of which 9 teams are led by neurosurgeons. One of the top academic medical centers in China, Huashan Hospital, where we work, has also sent a medical team of 273 professionals to the epicenter of the pandemic, among which nearly a quarter are neuro-intensive specialists and registered nurses. As of March 15, there have been more than 3387 confirmed cases of COVID-19 among medical staff in 476 healthcare organizations nationwide. At least 46 Chinese medical workers have sacrificed their lives.^{3,4} Among them was my colleague, professor Zhiming Liu, a distinguished Chinese neurosurgeon as well as the president of Wuchang Hospital in Wuhan.

Even during the worst period of the outbreak, Chinese neurosurgeons are in place to provide emergency operations. On February 16, a patient with COVID-19 pneumonia and stroke underwent an emergency craniectomy and decompression in Harbin. In the meantime, neurosurgeons in other parts of the country are also performing emergency operations that cannot be delayed. It is not yet possible to collect the domestic data regarding operations during the epidemic; however, we know that 122 emergency surgeries were performed at Huashan Hospital during the epidemic peak from February 1 to March 15, including 49 cases of cerebral hemorrhage, 27 cases of brain injury, 15 cases of aneurysm rupture, and 31 cases of brain tumor.

The COVID-19 pandemic in China is on the mend right now, along with routine medical service. The novel coronavirus threat gave us pause to reinforce our skillsets and redesign our mindsets to perform roles not only as neurosurgeons but also as executive officers.

In terms of skillset, a trustworthy neurosurgical team should have the ability to treat patients with infectious diseases who also require emergency operations. The taskforce should formulate corresponding emergency preparedness to treat such patients and avoid hospital cross-infection at the same time. On the other hand, neurosurgical specialists should be aware of updates in critical care medicine to cope with complex and critical cases.

As for mindset, when the majority of outpatient visits were canceled in our hospital, no patient complaints and no ripple effects were observed in the neurosurgical department. In fact, most pre- and postoperative visits were conducted remotely and virtually. Based on statistics from “Neurosurgery News,” one of the national continuing education platforms for neurosurgeons, more than 40 national online outpatient question-and-answer sessions and 39 cloud seminars have been hosted in the past month, some of which were transmitted through 5G technology. These virtual visits and online seminars have attracted more than 280,000 patients and 1000 neurosurgical professionals. Meanwhile, doctor-patient disputes and hospital violence in China, which had previously been of wide concern,^{5,6} seem to have significantly improved in the context of COVID-19. We may actually see the silver lining that the mindsets of both healthcare providers and patients are changed after the pandemic ends.

In addition, some other questions are raised. How can we engage neurosurgeons to work not only on their main campus but also in other communities? How can we take advantage to work on better business models that reward our clinicians? How is the new generation of communication technology helping neurosurgeons improve efficiency and safety? There are myriad issues worth pondering.

As these words are written, COVID-19 continues to wreak havoc all over the world. Scientists have responded

to the crisis by collaborating globally in unprecedented ways to develop innovative diagnostic tests, vaccines, and drugs to confront the virus. I know we will get through this crisis together and I am optimistic that we will come out stronger, not only as individuals but also as a community of common health for humankind. Those who join the wartime effort will eventually win the coronavirus battle. We are convinced that it is the duty of physicians to stay close to the victims. Neurosurgeons are without exception and should be the backbone of the battle.

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References

1. Huang C, Wang Y, Li X, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet*. 2020;395(10223):497–506.
2. Zhu N, Zhang D, Wang W, et al. A novel coronavirus from patients with pneumonia in China, 2019. *N Engl J Med*. 2020;382(8):727–733.
3. A total of 3,387 medical workers were infected nationwide [in Chinese]. *Baidu*. Published February 24, 2020. Accessed March 26, 2020. <https://baijiahao.baidu.com/s?id=1659430597040326648&wfr=spider&for=pc>
4. Salute to those who died in the line of duty [in Chinese]. *Baidu*. Published March 16, 2020. Accessed March 26, 2020. <https://baijiahao.baidu.com/s?id=1661307892469388815&wfr=spider&for=pc>
5. Jiang Y, Ying X, Kane S, et al. Violence against doctors in China. *Lancet*. 2014;384(9945):744–745.
6. Wang X-Q, Wang X-T, Zheng J-J. How to end violence against doctors in China. *Lancet*. 2012;380(9842):647–648.

Disclosures

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