

Letter: The Resiliency of the Neurosurgeon in the Midst of COVID-19 Pandemic Storm: The Italian Experience From the Frontline

To the Editor:

“The pressure of adversity does not affect the mind of the brave man... It is more powerful than external circumstances.”

Lucius Annaeus Seneca

The coronavirus-19 disease (COVID-19) pandemic represents the largest and fastest moving threat to the world's healthcare systems in decades. Since the first observed case in China in December 2019, COVID-19 has affected more than 1 million subjects of all ages with at least 65 000 deaths worldwide to date.^{1,2}

Neurosurgeons worldwide have been forced to cancel all elective surgeries and reorganize their routine activities to support the infectious and pulmonary disease specialists in order to contain the contagion and to surge health system treatment capacity.^{3,4} Given the acceleration of the contagion grown from COVID-19 and the need for intensive care unit beds, the Lombardy Regional Health System on March 8, 2020 with Decree XI/2906 rearranged its regional neurosurgical network by creating 4 neurosurgical hub hospitals for time-dependent cases. Hubs may deal with neuro-oncological and emergent cases in a COVID-19-free environment, whereas Spoke hospitals are supposed to manage patients with COVID-19, limiting their surgical activity to urgent self-presented cases or as backup when the Hub needs to free up resources.

The Spoke hospitals have thus rapidly become full-fledged COVID-19 centers. The rapid recruitment in COVID-19 wards has required an outstanding and swift change of mindset. For instance, in many COVID-19 medical centers, including ours, intensivists had to organize in a very short time brief practical courses on the management of COVID-19 patients aimed to general and specialist surgeons. This has set the scene for the creation of hybrid close-knit teams composed of internists and surgeons capable of supporting the intensive care units in the management of the less severe COVID-19 patients. During the most critical phase of the epidemic, we have witnessed something unique: internists along with surgeons, and chiefs along with residents, have been doing together ward rounds and night shifts in COVID-19 units for weeks, supporting to their maximum capacity the Italian health system during its worst crisis after the Second World War.

Working in a COVID-19 hospital also means higher risk of contagion. Notably, among infected people in Italy more than 10 000 are health workers and their number is stably increasing, which is also due to the scarcity of efficacious protective measures available at the beginning of the epidemic. At the moment, the death toll paid by the medical community in Italy is one of the

highest worldwide, with 101 physicians who died as a consequence of their assistance to COVID-19 patients.^{5,6} Though the neurosurgeon may be used to this biological risk mainly because of its ordinary emergency surgical activity, her or his families are not. Then a great spirit of sacrifice is required, with fellow neurosurgeons who have decided to separate temporarily from their family to first protect their elderly parents and newborns.

Another important and unexpected challenge is represented by the progressive regional shutdown of all outpatient visit activity in COVID-19 hospitals since the beginning of March 2020.^{7,8} Once the epidemic is over, in our opinion, it will be mandatory for the medical community to reflect on how to implement in an ordinary medical routine all the potential technological instruments, such as telehealth services, capable of moving close patients to physician.

The last challenge for a neurosurgeon working in a COVID-19 hospital is represented by the future. This unexpected fight will surely leave its marks on the battlefield of the Italian health system. One potential scenario is that Spoke COVID-19 hospitals will maintain their role for the years to come, since the recent literature on the argument suggests that the spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is expected to endure with other awaited epidemic viral foci in the upcoming months.⁹

For all these reasons, once more, neurosurgeons all over the world need to rely on one of the qualities they know better: resiliency, the ability to bounce back to the original form after the conclusion of the adversity. Neurosurgical societies and policy health makers may give in this sense a fundamental contribution by helping neurosurgeons who are employed in COVID-19 hospitals to resume their routine surgical activity as soon as possible once the epidemic will be over.

Disclosures

The authors have no personal, financial, or institutional interest in any of the drugs, materials, or devices described in this article.

Vincenzo Levi, MD 

Andrea Riso, MD

Marcello Egidio, MD

Neurosurgery Unit

San Carlo Borromeo Hospital

ASST Santi Paolo e Carlo

Milan, Italy

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