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**Letter to the Editor Regarding “Coronavirus Disease 2019 (COVID-19) and Neurosurgery: Literature and Neurosurgical Societies Recommendations Update”**



**LETTER:**

We read with great interest the article by Germanò et al,<sup>1</sup> “COVID-19 and Neurosurgery: Literature and Neurosurgical Societies Recommendations Update.” This paper provides a relevant insight into the management of neuro-oncologic patients during the COVID-19 pandemic, which has fast spread worldwide and critically impacted the health care system. Italy has been one of the most affected countries, witnessing dramatic revolutions in routine practice.<sup>1-9</sup> In such intense atmosphere, neurosurgical departments are balancing between the urgent and emergency cases, public-opinion concerns about transmission, and safety of the staff and patients.<sup>1-8</sup>

**Table 1.** Neuro-oncologic Patients’ Access, Comparing the COVID-19 Time Period and 2019

Characteristics	February – April 2020	February – April 2019
Total number of neurooncologic cases	49	45
Ratio emergency/elective total cases	28/49 (57.1%)	14/45 (31.1%)
Ratio emergency/elective cases of spinal lesions	10/13 (76.9%)	5/11 (45.1%)
Ratio emergency/elective cases of cranial lesions	18/36 (50%)	9/34 (26.5%)
Acute presenting symptoms of spinal lesions	10	5
Paraparesis or tetraparesis	5/10 (50%)	3/5 (60%)
Sphincteric disturbance	2/10 (20%)	1/5 (20%)
Combination	3/10 (30%)	1/5 (20%)
Acute presenting symptoms of cranial lesions	18	9
Acute hydrocephalus	2/18 (11.1%)	1/9 (11.1%)
Seizures	12/18 (66.6%)	2/9 (22.2%)
Hemiparesis	7/18 (38.8%)	5/9 (55.5%)
Consciousness deterioration	10/18 (55.5%)	3/9 (33.3%)
Cranial nerve palsy	7/18 (38.8%)	1/9 (11.1%)
Patients who refused hospitalization and who had further emergency access	3/28 (10.7%)	None
Patients who underestimated their symptoms	20/28 (71.4%)	1/14 (7.1%)
Patients who had difficult access to radiologic examinations	3/28 (10.7%)	None
Patients who refused hospitalization due to infection risk	10/28 (35.7%)	None

Regarding neurooncologic patients, as already reported by Zoia et al,<sup>2</sup> a priority criteria were established in order to stratify the urgency of the cases: Class A++ represents patients who require immediate treatments, with intracranial or spinal oncologic pathology (rapidly evolving intracranial hypertension with deteriorating state of consciousness, acute hydrocephalus, spinal cord compression with rapid tetraparesis or paraparesis); Class A+ comprises patients who require treatment within a maximum of 7–10 days, with intracranial tumors with mass effect or with progressive neurologic deficit, without deterioration of consciousness; and patients requiring treatment within a month, namely Class A, with neurologic alteration or suspected malignant lesion related to oncologic pathology.

We report a survey conducted by the neurosurgical team of the Emergency Regional Hospital of Ancona (Italy), which serves approximately 1.5 million inhabitants. During the past 3 months, from February to April 2020, despite the halving of elective cases in the weekly schedule, due to the redistribution of staff, the number of oncologic patients who underwent surgical treatment in our department was approximately analogous to the same time period in 2019 (February–April, 49 patients in 2020 and 45 patients in 2019). Nonetheless, the amount of urgent or emergency cases, accessing from emergency room, substantially rocketed, reaching 57.1% compared with 31.1% in 2019, as reported in [Table 1](#). Interestingly, patients with spinal lesions were the most affected, recording 76.9% with emergency department access (10 out of 13 patients), while the same feature in 2019 was slightly more than 45% (5 out of 11 patients). As highlighted in [Table 1](#), the most common symptom was a progressive paraparesis and all patients reported a previous history of neglected upper or low back pain. These data, in our survey, were related to a public health concern, in the patient’s point of view, about visiting hospitals during the COVID-19 crisis, especially for not apparently alarming symptoms, usually related to degenerative spine pathologies such as back pain. In addition, the temporary difficult access to radiologic examinations may have also influenced the postponement in diagnosis. This resulted in progression of neurologic symptoms, without an early neurosurgical evaluation, until the onset of acute deficit, which actually led to emergency department access.

The same patient’s attitude, even if with minor impact, was registered in those affected by brain lesions, in which the percentage of patients with acute onset, and subsequent via emergency room evaluation, dramatically increased in the past 3 months compared with 2019. As a matter of fact, the most common symptoms were consciousness alteration and seizures; in our survey approximately 10.7% of acute-onset patients reported to have previously refused surgical treatment, in the weeks before, correlated to concerns about hospitalization during the coronavirus emergency. Even if it is widely known that time is essential for clinical and neurologic outcomes, our survey did not have sufficient follow-up to properly compare the outcomes between the 2 time periods analyzed, so further evaluations would be indispensable to appropriately investigate this aspect.

In conclusion, during the COVID-19 pandemic the neurosurgical urgent and emergency onset of neurooncologic cases increased, in comparison with 2019. Our survey highlighted how this trend is

minorly related to a combination of difficulty accessing radiologic examinations and mostly to patients' concerns about hospitalization. The consequent apprehension should be restoring the public health judgement in order to rebalance this trend and subsequently improve the clinical outcome of patients. A reasonable response in this contest can be the intensification of telemedicine clinic visits, as well as ameliorating the clinic scheduling safety, concomitantly to the mass media impact on public health opinion, in order to reestablish confidence in the health care system, in such an intense atmosphere of fear.

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*Conflict of interest statement: The authors declare that the article content was composed in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.*

<https://doi.org/10.1016/j.wneu.2020.05.160>

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