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Letter to the Editor Regarding “Opinion Piece: Microsurgery in COVID-19–Positive Patients”



We read with strong interest the article “Opinion Piece: Microsurgery in COVID-19–Positive Patients” recently published in your prestigious journal by Pablo Ajler.¹

During the coronavirus disease 2019 (COVID-19) pandemic, the number of neuromicrosurgical procedures has been drastically reduced in Italy. This was the result of a government decision, which extended to the whole national territory and was necessary to allocate all possible medical resources to the cure of the increasing number of patients affected by COVID-19.¹ Oncological diseases and urgent procedures were guaranteed to ensure prompt neurosurgical assistance. Nevertheless, surgeons often face the challenge of making difficult choices among some surgical pathological entities, which, although not strictly urgent or life-threatening, could be affected by excessive delay. Among these, a special group of time-dependent—but not life-saving—pathological entities is represented by peripheral nerve and spinal cord injuries. If not performed expeditiously, one could compromise the possibility for the patient to recover some fundamental function and experience improved neurological performance. The surgery for patients with peripheral nerve or stable spinal cord injuries has been often deprioritized in these past weeks, and their injuries have been underestimated. In the neurosurgery/microsurgery unit of the CTO Hospital in Turin, Italy, the number of peripheral nerve interventions declined by 70% compared with the same period in 2019 from February 15 to April 30, 2020. Also, the cancellation of nonurgent first consultations has resulted in problems related to the timing needed for surgical efficacy. This decline was due to both the general reduction imposed on routine activity and also to patients refusing to come to the hospital to avoid the risk of COVID-19 infection, just as for other conditions.² It is well known that patients with spinal cord injuries will have an altered immunity that could lead to a reduced ability to recover from viral infections. Although a recent report described a 56-year-old patient with COVID-19, the infection was mild, perhaps owing to the patient’s relatively young age and the absence of comorbidities.^{3–6}

Brachial plexus procedures or nerve transfer surgery in quadriplegic patients⁷, although based on the presence of “chronic” lesions in stable patients, have resulted in concrete benefits from surgery only if performed within a certain period after the trauma has occurred. In addition, it is well known that nerves and muscles that have not been working for >1 year will be less likely to benefit from new innervation because of the progressive onset of atrophy. For such cases, only palliative surgery with tendon transfers should be considered. Not treating quadriplegic patients and those with brachial plexus injuries in a timely manner will, therefore, lower the likelihood of a successful recovery. Hence, although nonurgent, these pathological entities are, however, time dependent. Poor timing will compromise the degree of neurological recovery⁸ and, consequently, the possibility of decreasing the degree of assistance required by these patients, with important repercussions on their quality of life and the amount of assistance, societal costs, and public expenditure to be invested.⁹ In addition, patients who have

experienced a better and faster neurological recovery will be more satisfied and will need less assistance, decreasing the global societal cost required to manage their disability.

In the present pandemic scenario, with all the restrictions provided by law and the necessity for patient and health worker protection, we have divided peripheral nerve pathological entities into 3 categories according to the degree of urgency and time-dependent need for surgery to better define the priorities of treatment. Category A is the most urgent, with the highest priority, and category C is the least urgent, with the lowest priority:

- Category A: brachial plexus lesions and nerve transfers in quadriplegic patients (trauma within 1 year before surgery)
- Category B: benign tumors such as neurinomas and schwannomas
- Category C: entrapment neuropathies such as carpal tunnel syndrome

It is clear that patients with disorders included in category C can wait until the end of the COVID-19 emergency to be treated. However, it is necessary to provide the necessary treatment and identify the paths that can safeguard the time-dependent pathological entities, in addition to the inevitable emergencies. The exclusion of time-dependent surgical procedures that will improve the neurological performance and quality of life of patients could soon prove to be a fruitless choice resulting in serious additional costs for public health.¹⁰ Investing in COVID-19–free pathways for brachial plexus surgery or nerve transfers could result in huge benefits for the public economy in the long term. It is, therefore, necessary to draw up guidelines¹¹ that provide COVID-19–free pathways (e.g., performing selected diagnostic examinations such as pulmonary echography and/or nasopharyngeal swabs) and/or COVID-19 pathways for time-dependent pathological entities and to identify methods to allow access to highly specialized surgery that can guarantee, not only life-saving procedures, but also all those procedures that will improve patients’ quality of life and neurological performance.

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