Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Letter to Editor Regarding: "Economic Impact of COVID-19 on a High-Volume Academic Neurosurgical Practice"

We read with interest the article by Sivakanthan et al.[1] about the economic impact of the coronavirus disease 2019 (COVID-19) pandemic on neurosurgical practice. In particular, we agree with the classification of urgency (treatment within 3 weeks) for replacement procedures of depleted implantable pulse generators. We would also add definitive spinal cord stimulation (SCS) implantation procedures after a positive trial to these guidelines as reported by Cohen et al.[2] because delay in placement of a definitive implant can lead to infection.[3]

However, the problem remains regarding the urgency of performing ex novo SCS implants during the pandemic. One multicenter study showed deterioration in pain and mental health during the COVID-19 pandemic for patients waiting SCS surgery.[4] This might justify an increase in the degree of urgency for neurostimulation procedures. The COVID-19 pandemic hit Italy hard, especially Lombardy, in which in a short time the saturation of hospital beds had almost been reached in February 2020. Italian hospitals, in accordance with the central government directives, suspended nonurgent surgical operations starting March 8, 2020.

The activity of the 3 high-volume centers of SCS implants (Varese, Como, and Ravenna) was thus severely limited during the most virulent phase of the epidemic. In Varese Hospital, SCS trials were suspended. However, 4 patients with positive trials had undergone implantation with an implantable pulse generator as emergency protocol in a COVID-19–free peripheral hospital. In Ravenna Hospital, 6 patients with a positive trial at the onset of the pandemic had undergone permanent implantation. Another 6 patients had undergone, first, a trial and, then, definitive implantation during the pandemic. Finally, these 6 patients had undergone urgent implantation to avoid worsening of their clinical condition resulting from intense pain. In Como Hospital, all neurostimulation procedures had been suspended. However, before the onset of the pandemic, 28 patients had undergone an SCS trial. At the end of the pandemic, only 17 patients still had a permanent implant. The other patients had required removal of the temporary implant because of infection (7% of cases) or because it had not been possible to perform a correct trial over time or to program the device during the pandemic.

Our experience highlights that a successful trial must be converted into definitive implantation within a short time because extension of the trial can cause problems. Conducting a trial during an outbreak can be misleading—one solution could be the one-shot implantation of "high-tech" SCS that can be programmed using various telemedicine-evaluable programs. However, this solution could pose a reimbursement problem for different healthcare systems.

If the pandemic continues, we must be ready for a management protocol that considers, not only the fight against COVID-19, but also the necessity of treating other pathologic entities such as chronic disabling pain. Finally, the use of SCS in a scenario with an unfavorable economic impact risks the procedure not receiving the correct priority.

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