



## Editorial



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# The Eclipse of Degenerative Spine Pathology During COVID-19 Pandemic

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Starting from February 2020, the coronavirus disease 2019 (COVID-19) pandemic spread quickly in northern Italy, causing a massive chain of infections among the Italian population. Up to March 12, in Italy 219,814 infections by severe acute respiratory syndrome coronavirus-2 were confirmed, and the death toll currently stands at 30,739 one of the highest worldwide.<sup>1</sup>

This emergency led to the implementation of different measures by the national Government, in order to fight the virus spreading. The Italian Council of Ministers published several acts that decreed a global lockdown, introducing quarantine for infected citizens, blocking all urgent movements and hanging all public activities. With the execution of those restrictive measures, the overall number of spinal and cranial injuries significantly decreased. The Lombard Health Organization, on March 8, revised the regional neurosurgical network in a Hub-and-Spoke system. Neurosurgical activity was broken up in 4 Hub-centers: 3 of which for emergencies and a fourth one expressly for oncological cases.<sup>2,3</sup> All other regional Departments of Neurosurgery, including ours, became Spoke-centers and were converted therefore into COVID-facilities.

*Papa Giovanni XXIII Hospital* in Bergamo, one of the biggest cities in Lombardy, considering its great catchment area (more than 1.200.000 people) and the large spread of coronavirus cases in the city, became a near-total COVID-Hospital. Since the last week of February, there was a massive increase of infections in the city of Bergamo, and rapidly our Hospital found itself literally overloaded. Radical changes were necessary: many wards were closed, and many others were reconverted to the care of patients with COVID-19, including intensive care units. All nonemergent clinical activities and elective surgeries were suspended, and nonspecialized medical staff, including neurosurgeons, were assigned to COVID-wards.<sup>4</sup> After this reorganization, overall activities were deeply compromised, and patients were sent to the reference Hub-centers.

From March 15 to the end of April 30, only emergent or deferrable urgent surgeries were performed in our Institution. Those patients underwent surgery only if they carried a life-threatening condition, or if there were not available beds in the other Hub-centers. In the



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period defined above, we performed 25 surgical operations: 7 of them were spinal and included 1 thoracic fracture, 1 epidural spinal abscess, 1 degenerative cervical myelopathy, and 4 lumbar disc herniation conditioning cauda equine syndrome. Moreover, we transferred to Hub-centers 8 patients for surgery: 6 with cranial and 2 with spinal conditions (cervical myelopathies). Out of 30 operated patients, only 7 were affected by degenerative spinal pathology (DSP). This rate represents barely the 21.2%, substantially reduced compared to the pre-COVID rate of 44.6% (in 2019, 607 surgeries for DSP out of a total of 1,360 surgeries).

We noticed a significant drop of patients presenting with DSP to the Emergency Department (ED) and to the outpatient clinic. Actually, in March and April 2020, we did not evaluate even 1 patient with sciatica or back pain in the ED, but we recorded 4 cases of cauda equine syndrome. Something similar happened in the outpatient setting, where ambulatory visits were reduced, starting from March 6, 2020. In this period, in 65 outpatient visits, only 27 included DSP. These data are undoubtedly unusual because those conditions usually represent the vast majority of our daily workload. Since a great reduction in access and the number of interventions for DSP occurred, we analyzed what could be the causes of such an occurrence. Recently, Agosti et al.<sup>5</sup> assumed that the hospitalizations drop for nontraumatic spinal diseases might find 2 possible explanations: patient tendency to stay away from hospitals (considered as high infective places), and to underrate pain and disability symptoms. Authors concluded that the overestimation of sciatica and other disabling spine symptoms before the COVID era, likely lead to a surgical overtreatment of patients that can instead be managed conservatively. On the other hand, it is mandatory to avoid disregarding the “red flags” of spinal cord and nerve roots compression (i.e., foot drop, sphincter deficiency) that require urgent neurosurgical treatment. Cofano et al.<sup>6</sup> reported a drastic reduction in improper ED accesses for sciatica and back pain, because of the lockdown and the global awareness of the risks of the contagion. Changes in daily routine, during this time, with less physical performance demands, could be an additional element to justify these results. They underlined that, under normal circumstances, probably most of the patients were improperly admitted to the EDs for back pain.

Our preliminary experience seems to confirm the statements provided by the previous authors. The reduction in outpatient and emergency room access for sciatica and back pain is signif-

icant, and this may indicate an abused number of accesses for these symptoms “in peacetime.” Otherwise, we note that all the patients that referred to our hospital in COVID period with DSP, reported a severe neurological impairment, and require emergency surgery. In 2018 and in 2019, we registered cumulatively only 3 cases of cauda equina in our Department, which represented a serendipity compared to the 4 cases occurred in the last 2 months.

COVID-19 is marking an indelible time in contemporary history and we think it will do it even in years to come. What we can learn from this experience, as spinal surgeons, is that most of DSP could reasonably be managed in an outpatient setting by General Practitioners, who should be educated to recognize earlier the alarm bells that could require an urgent surgical treatment. This attitude could over time limit the risk of over treat DSP.

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Title: The Weeping Woman

Artist: Pablo Picasso

Year: 1937

The Weeping Woman series is regarded as a thematic continuation of the tragedy depicted in Picasso's epic painting Guernica. In focusing on the image of a woman crying, the artist was no longer painting the effects of the Spanish Civil War directly, but rather referring to a singular universal image of suffering.

More information: <https://www.pablocicasso.org/the-weeping-woman.jsp>

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