

## The Covid Pandemic at a Level III Trauma Center: Challenges in the Management of the Spine Trauma.

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**Abstract :** Introduction: The SARS-CoV-2 (COVID-19) pandemic was identified in January 2020 in China, in the city of Wuhan. The increase in the number of cases over the following months was responsible for the restructuring of hospitals and departments in order to accommodate admissions related to COVID-19. Essential services, such as trauma, had to readapt to maintain their functionality and thus guarantee quick and safe access in case of an emergency. Objectives: This study describes the impact of COVID-19 on a Level III Trauma Center and particularly on the clinical management of hospitalized patients with spine injuries. Study Design & Methods: This is a retrospective cohort study whose results were obtained through the medical records of patients with spine injuries who underwent surgical intervention in the years 2019 and 2020 (period from March 1st to December 31st). A comparison between the two groups was made. In the study patients with injuries in the context of trauma were included who underwent surgery in the periods previously described. Patients hospitalized with a spine injury in a non-traumatic context and/or were not surgically treated were excluded. Results: In total, 137 patients underwent trauma spine surgery of which 71 in 2019 (51.8%) were without significant differences in intergroup comparisons. The most frequent injury mechanism in 2019 was motor vehicle crash (47.9%) compared to 2020 which was of a person falling from a height between 2-4 meters (37.9%). Cervical trauma was reported to be the most frequent spine injury in both years. There was a significant decrease in the need for intensive care in 2020, 51.4% vs 30.3%,  $p = .015$  and the number of complications was also lower in 2020 (1.35% vs 0.98%), including the number of deaths, being the difference marginally significant. There were no significant differences regarding time for presentation to surgery or in the total days of hospitalization. Conclusions: The restructuring made in the trauma unit at a Level III Trauma Center in the context of the current COVID-19 pandemic was effective, with no significant differences between the years of 2019 vs 2020 when compared with the time for presentation to surgery or the number of days of hospitalization. It was also found that lockdown rules in 2020 were probably responsible for the decrease in the number of road traffic accidents, which justifies a significant decrease in the need for intensive care as well as in the number of complications in patients hospitalized in the context of spine trauma.

**Keywords :** trauma, spine, impact, covid-19

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