

Background:

The COVID-19 pandemic largely affected acute and elective medical care services worldwide. The impact of the pandemic on surgical spine care in Germany, however, has not been investigated in a multicentre setting yet. It was hypothesized that the COVID-19 pandemic in Germany is associated with a reduction of surgical spinal interventions, which was more prominent for specific pathologies.

Methods:

The German Spine Registry (DWG Register) was utilized and surgical cases between 01.01.2018 and 31.12.2021 were selected. Two groups were composed and compared. Patients enrolled prior to the start of the COVID-19 pandemic (before 01.01.2020) were included in-group 'PRE-pandemic'. Patients admitted between 01.01.2020 and 31.12.2021 were selected for the group 'PANdemic'. The number of performed interventions for different categories of spinal pathologies were compared between groups. Furthermore, the impact of specific pandemic waves on volume of spine surgery has been analysed as well. Of note, data collection for 2021 is not completed yet and will be added after abstract submission.

Results:

Absolute number of interventions and annual interventions per institution were higher in the PRE-pandemic-group, compared with the PANdemic group (Figure 1). Prominent drops in performed interventions occurred simultaneously with pandemic waves. Following a pandemic wave, interventions gradually increased and within 3 months normal frequencies were encountered. Periods of compensatory increased number of operations were reported as well. Specific surgical categories were affected more prominent than others as a non-homogeneous pattern of reduction was seen. The most prominent decrease of executed surgeries was seen patients with degenerative diseases during the first pandemic wave, rather than during the second wave. In addition, a striking drop of performed interventions for critical categories such as infection and tumours occurred in both the 1st and 2nd pandemic waves in 2020 as well.

Conclusion:

The current study demonstrates that the COVID-19 pandemic is associated with a reduction of performed spinal surgeries in Germany. During periods of peak COVID-19 incidences, not only a decrease in performed elective surgeries was seen, but also the number of interventions for critical conditions dropped. This indicates that patient groups with critical spinal diseases have been undersupplied during the first year of the COVID-19 pandemic in Germany. Following pandemic waves, compensatory upsizing of surgical volume occurred. Additional in-depth evaluation of surgical spine care for specific spinal pathologies during the COVID-19 is mandated to optimize triage and patient distribution protocols.

