Communications and correspondence

Mild trauma surgery has decreased due to the COVID-19 pandemic

Dear Sir,

We read the article of C.M. Sugue and P. Sullivan (The effect of the ongoing COVID-19 nationwide lockdown on plastic surgery trauma caseload? Journal of Plastic, Reconstructive & Aesthetic Surgery (2020), and would like to congratulate the authors on their interesting study1. They investigated 48 patients who attended one plastic surgery trauma clinic during the lockdown due to the COVID-19 pandemic for 25 days, and concluded that the pattern and volume of trauma remain similar to preceding years. However, we feel that the number of consultations for trauma patients has decreased.

In Japan, the first COVID-19 patient was recognized in February 2020, and the number of patients has increased rapidly, so the government has declared a state of emergency three times: from April 15, 2020, to June 30, 2020, from July 20, 2020 to September 24, 2020, and from December 17, 2020 to February 28, 2021. Thus, the stay-at-home (SAH) order period lasted for 5 months in 2020. During this period, restrictions on daily life were requested, such as school closures and refraining from participating sports and concerts, and hospitals were also asked to postpone surgery for non-urgent patients. We investigated the transition of trauma patients who visited in 2020 when COVID-19 was widespread at 12 regional core hospitals that treat emergency patients. We performed a retrospective review of a prospectively maintained trauma database at 12 general hospitals: Fukuoka Tokushukai Hospital (Kasuga City), Ehime Prefectural Central Hospital (Matsuyama City), Nagasaki Harbor Medical Center (Nagasaki City), Oita Tsurumi Hospital (Beppu City), Oita Nakamura Hospital (Oita City), Matsue Red Cross Hospital (Matsue City), Yamaguchi Prefectural Grand Medical Center (Hofu City), Sasebo City General Hospital (Sasebo City), Miyazaki Konan Hospital (Miyazaki City), Kitakyushu General Hospital (Kitakyushu City), Kitakyushu City Yahata Hospital (Kitakyushu City), and National Nagasaki Medical Center (Omura City), that have more than 350 beds and are responsible for regional emergency medical care. Patients undergoing plastic trauma surgery from 2015 to 2020 were evaluated. The number of plastic emergency surgery patients receiving general and spinal / local anesthesia before the COVID-19 pandemic was counted (2015-2019), and compared with the 2020 surgical patients of the COVID-19 pandemic institutions. A total of 23,293 patients with injuries underwent surgery in 5 years. Among them, 903 patients were operated on under general anesthesia, and 19,628 received spinal or local anesthesia (Figure 1).

The average number of emergency trauma patients in the 12 hospitals from 2015 to 2019 (before the COVID-19 pandemic) was 4279.4, with a 95% Confidence Interval (CI) of 3768.4-4790.4, and that in 2020, the COVID-19 pandemic period, was 4065, a decrease of 5.0%. This indicates that the number of trauma patients was not significantly reduced during the COVID-19 pandemic. Among them, the average number of patients who underwent surgery under general anesthesia before the COVID-19 pandemic was 953.4 with a 95% CI of 419.2-1485.6, and that in 2020 was 1005 (+5.5%), which did not also show a significant difference. On the other hand, the average number of patients who underwent surgery under spinal or local anesthesia before the COVID-19 pandemic was 3374.8 with a 95% CI of 3215.5-3534.1, and that in 2020 was 2820 (-16.4%) which showed a significant decrease. (Table 1)

Researchers in the United States and the United Kingdom reported that the number of emergency injuries decreased by 35-6% during the SAH order period.2,3 In our study, the reduction in surgical cases before and during the COVID-19 pandemic was only 5.0% throughout the year. Since the SAH order period was 5 months in a year, it can be estimated that the rate of decrease in the number of surgeries during only SAH period is large. During the COVID-19 pandemic, it was recommended to avoid general anesthesia as much as possible to minimize the risk of exposure to aerosol development procedures.4 However, this study did not show a significant decrease in the number of surgical cases involving general anesthesia. Therefore, the reduction in the total number of surgeries may be due to a significant reduction in the number of minor trauma treated with local anesthesia, rather than the number of serious injuries requiring general anesthesia.

One of the reasons for the decrease in minor trauma surgery is speculated that the COVID-19 pandemic and accompanying SAH orders reduced the chances of going out and drinking alcohol, physical altercations, and participating in sports activities, which contributed to the reduction in the number of minor injuries.

This paper has not been presented in any academic conference so far.

Ethical considerations

The procedures followed were in accordance with the ethical standards of our institutional committee on human experimentation and with the Helsinki Declaration of 1975, as revised in 1983. The protocol for the research project has been approved by a suitably constituted Ethics Committee of National Hospital Organization Nagasaki Medical Center. The relevant Judgement’s reference number is 2021055.

Disclosure statements

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Table 1  Number of emergency trauma surgeries before the COVID-19 pandemic and in 2020

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<thead>
<tr>
<th></th>
<th>2015-2019 (Before the COVID-19 epidemic)</th>
<th>2020</th>
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<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Standard Deviation</td>
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<tr>
<td>General anesthesia</td>
<td>953.4</td>
<td>192.5</td>
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<tr>
<td>Spinal/local anesthesia</td>
<td>3374.8</td>
<td>57.5</td>
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<tr>
<td>Total surgeries</td>
<td>4279.4</td>
<td>184.5</td>
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</table>

References
