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Impact of COVID-19 outbreak on plastic surgery: Taken precautions, distribution of surgical procedures and changes in admissions to outpatient clinic

Dear Sir,

We live extraordinary times due to the COVID-19 outbreak, an emergency situation that spread over the world in a short time. This acute situation forced the national health services of countries to take strict measures in health care to provide effective care for COVID-19 infected patients as well as to maintain emergency and mandatory healthcare. Although there are differences between countries, the main measure has been the postponement of health services that are not urgent or mandatory. In addition to reducing viral transmission between patients and healthcare providers, it is aimed at medical resources and healthcare services to focus on the COVID-19 outbreak. Eventually, this has affected plastic surgery practice, and the distribution of the patient population admitted to plastic surgery clinics. The present study aims to provide some information about the effect of the COVID-19 pandemic on a plastic surgery clinic and patient distribution during this period. Although some of these results and their impact on plastic surgery are predictable, to take adequate measures against the crisis circumstance, it is paramount to demonstrate the population to be served and the healthcare services to be given during an extraordinary situation related to the medical field.

The first case of COVID-19 was recorded on March 10, 2020, in Turkey. As of May 25, the total number of COVID-19 cases was 157,814, and 4369 deaths were recorded. This rate of spread of the outbreak and the taken measures have dramatic effects on plastic surgery, as in all health branches. To analyze these effects, following the approval of the ethical board, medical data of patients applied to Ankara Training and Research Hospital Plastic Surgery Clinic in two different periods were reviewed retrospectively. The timeframe between March 19, 2019, and April 22, 2019, indicates the data of the routine period (RP) of the plastic surgery clinic as a control group. In Turkey, elective surgical interventions were officially postponed throughout the country on March 17, 2020. Therefore, the time frame between March 17, 2020, and April 21, 2020, demonstrates the pandemic period (PP) of the plastic surgery clinic. The data of admission to the outpatient clinic, surgical intervention, hospitalization, personnel and resource redistribution, and educational activities of this two-time frame were reviewed and compared to each other. A two-sample t-test between proportions was performed to statistical analysis of the rates of changes in data between RP and PP.

There is inevitably a decrease in elective and non-urgent surgical interventions and outpatient applications during the global crisis, the COVID-19 pandemic. Operations of 342 patients scheduled before the outbreak were postponed due to the COVID-19 pandemic. The majority of these surgeries were excision of superficial skin lesions (75%) (Figure 1). Besides, compared to the RP, there was a general decrease in admissions to the outpatient clinic (from 3511 to 490), number of surgeries (from 793 to 129), number of hospitalizations (from 252 to 45) and consultations from other clinics to plastic surgery clinic (from 548 to 201) in the PP. However, the rate of some plastic surgery healthcare services increased statistically significantly in the PP. There was a statistically significant increase in consultation rates from the emergency department and the surgeries of patients admitted from there (traumatic hand injuries and maxillofacial trauma (MFT)) \((p = 0.036)\). Moreover, there was a significant increase in the admission rates of MFT and follow-up admissions to the outpatient clinic \((p < 0.001)\). As expected, a statistically significant decrease was observed in the proportion of admission with aesthetic complaints \((p < 0.001)\), elective hand issues \((p = 0.026)\), and superficial skin lesions \((p < 0.001)\) during the PP. Consistent with that, a statistically significant decrease in the surgical...
intervention rates of aesthetic surgery and excision of skin lesions was observed ($p < 0.001$). On the other hand, the increase in the proportion of MFT and hand trauma surgical procedures during PP was statistically significant compared to RP ($p = 0.032$ and $p < 0.001$, respectively) (Table 1).

In parallel with the decrease of health care services in the plastic surgery clinic, the work schedule of plastic surgeons and nurses has been rearranged to provide reinforcement to different clinics that needed medical staff in COVID-19 patients care. Furthermore, to prevent viral transmission, the educational program of the residents was reorganized and mostly held as video conferences during the PP.

The present study examined the effects of the COVID-19 pandemic on plastic surgery in some respects. The significant increase in the proportion of traumatic hand surgery and MFT surgery among plastic surgery healthcare services is remarkable in the extraordinary situation that we live in nowadays. In conclusion, the importance of traumatic hand surgery and MFT surgeries should be taken into consideration while taking precautions such as personnel redistribution, regulation of clinical infrastructure, and use of medical resources in crisis management.

**Declaration of Competing Interest**

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**Ethical approval**

The present study does not involve human or animal subjects.

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**Table 1** Distribution of surgical procedures during the pandemic period.

| Procedure Type                        | Routine Period | Pandemic Period | Rate of Change | $p$-Value |
|---------------------------------------|----------------|-----------------|----------------|-----------|
| Aesthetic surgery                     | 97 (12.2)      | 132 (16.6)      | 12.2%          | <0.001    |
| Hand trauma                           | 0 (0.0)        | 10 (1.3)        |                | <0.001    |
| Wound reconstruction                  | 8 (1.1)        | 39 (4.7)        |                | <0.001    |
| Elective hand surgery                 | 29 (3.7)       | 20 (2.5)        |                | <0.001    |
| Oncologic surgery                     | 97 (12.2)      | 132 (16.6)      | 12.2%          | <0.001    |
| Maxillofacial excision of skin lesion | 10 (1.3)       | 10 (1.3)        |                | <0.001    |

Note: Other surgical interventions: nail sticking surgery, circumcision. Data are presented as n (%).
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https://hasta.saglik.gov.tr/TR,64508/elektif-islemelerin-ertelenmesi-ve-diger-alinacak-tedbirler.html. [Accessibility verified May 28, 2020]

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