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Impact of Covid-19 pandemic on general surgery

Covid-19 pandemisinin genel cerrahiye etkisi

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ABSTRACT

The covid 19 pandemic has caused major health problems all over the world. In addition to the mortality and morbidity experienced due to people being infected, the filiation measures taken throughout the pandemic have also caused disruptions in healthcare, especially surgical interventions. In our study, we aimed to retrospectively evaluate the effects of the pandemic in the general surgery service.

Out patient clinic and operating room data from 2018 were compared with data from 2021. Information about the patients was accessed from the hospital information system. Emergency surgeries were excluded from the study.

During 2018, 50632 patients applied to the outpatient clinic, but we saw that this number decreased to 34629 in 2021. While the average age of patients who applied to the outpatient clinic in 2018 was 43.23±16.26, it was 45.7±17.94 in 2021 and was statistically significant ($p<0.001$). The number of electively operated patients was 1806 in 2018 and 757 in 2021. Considering the average age, the average age of the patients operated on in 2021 was significantly higher than the patients operated on in 2018 ($p = 0.046$).

Due to the Covid 19 pandemic, services were reserved for Covid patients, elective operations had to be postponed, and surgeons and auxiliary healthcare personnel had to work in these services, which caused the delay in elective operations, thus causing disruptions in healthcare.

Keywords: Covid 19; pandemic; general surgery.

ÖZET

Covid 19 salgını tüm dünyada büyük sağlık sorunlarına neden oldu. Pandemi boyunca alınan filyasyon tedbirleri, kişilerin enfekte olması nedeniyle yaşanan ölüm ve sakatlıkların yanı sıra, başta cerrahi müdahaleler olmak üzere sağlık hizmetlerinde de aksamalara neden oldu. Çalışmamızda genel cerrahi servisinde salgının etkilerini retrospektif olarak değerlendirmeyi amaçladık.

2018 yılı poliklinik ve ameliyathane verileri 2021 yılı verileriyle karşılaştırıldı. Hastane bilgi sisteminden hastalara ait bilgilere ulaşıldı. Acil ameliyatlar çalışma dışı bırakıldı.

Polikliniğe 2018 yılında 50632 hasta başvurdu ancak 2021 yılında bu sayının 34629'a düştüğünü gördük. Polikliniğe başvuran hastaların yaş ortalaması 2018 yılında 43,23±16,26 iken 2021 yılında 45,7±17,94 ve istatistiksel olarak anlamlıydı ($p<0,001$). Elektif olarak ameliyat edilen hasta sayısı 2018 yılında 1806, 2021 yılında ise 757 oldu. Yaş ortalamasına bakıldığında 2021 yılında ameliyat edilen hastaların yaş ortalaması, 2018 yılında ameliyat edilen hastalara göre anlamlı derecede yüksekti ($p=0,046$).

Covid 19 salgını nedeniyle hizmetlerin Covid hastalarına ayrılması, elektif ameliyatların ertelenmesi ve bu servislerde cerrah ve yardımcı sağlık personelinin çalışması gerekmesi, elektif ameliyatların gecikmesine ve dolayısıyla sağlık hizmetlerinde aksamalara neden oldu.

Anahtar kelimeler: Covid 19; pandemi; genel cerrahi.

INTRODUCTION

Coronavirus disease, which first appeared in the world in Wuhan, China's Hubei province, in December 2019, was declared a pandemic by the World Health Organization in March 2020 (1). It has caused severe pneumonia with a fatal course, as well as mild and moderate clinical courses in humans, and has become a serious health problem all over the world. With the spread of COVID-19 in Turkey, hospitals used for the treatment of this disease have been declared risky areas in terms of transmission. In this context, there have been restrictions in the health services provided, especially in surgical services (2). In addition to the postponement of elective surgical cases, it has led to changes in treatment protocols in emergency surgical interventions (3).

Curfew restrictions due to Covid 19 measures for patients requiring elective surgery have also caused difficulties in meeting these needs (4). Again, doctors, nurses and allied health personel who were supposed to work in surgical wards had to work in shifts in the wards where Covid patients were monitored, thus increasing the personel requirement in surgical wards and causing disruption to routine surgery clinic operations (5).

In our study, we aimed to investigate the effects of the changes made as a result of the effects of the COVID-19 pandemic on general surgery on the treatment of patients.

MATERIAL and METHOD

Following the approval of the ethics committee (Muğla Sıtkı Koçman Unıversıty Rectorate, Clinical Research Ethics Committee, May 17th 2022, E-72855364-050.01.04-424079) for our study, our study was conducted on patients who applied to the General Surgery outpatient clinic and underwent surgery at Muğla Training and Research Hospital. In order to compare the periods before and after COVID-19; The data between January 1, 2018 and December 31, 2018 and between January 1, 2021 and December 31, 2021 were obtained from the hospital automation system and evaluated.

Between the specified dates, the number of outpatient clinic examinations, the age and gender information of the patients applying to th eoutpatient clinic, the number of electively operated patients and the age and gender information of these patients, and the number of operation rooms on the specified dates were included in our study.

Data were analyzed with SPSS 21.0 (SPSS, Inc., IBM, Armonk, NY, USA). Whether the data conformed to normal distribution was evaluated with Kolmogorov-Smirnov and Shapiro-Wilktests. Data following normal distribution are mean ± Standard deviation; Data that did not comply with normal distribution were presented as median + (interquartile range). T test was used in independent groups to compare data between 2018 and 2021, and chisquare test was used to compare categorical data. Statistical significance wa saccepted as p value 0.05.

RESULTS

Considering the total number of patients in outpatient applications, it was seen that while there were 50632 patient applications in 2018, this number decreased to 34629 in 2021. When elective operations are compared, the number of elective surgeries performed decreased from 1806 to 757. In monthly evaluations, the number of cases and both the number of operations and outpatient applications varied inversely. A graphical evaluation of the Covid 19 case numbers, number of operations and number of outpatients data for 2021 is shown in Figure 1.

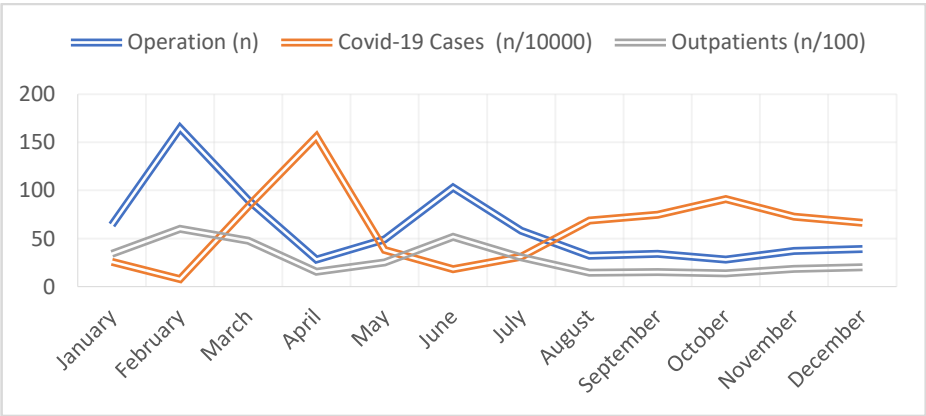

Figure 1: Number of Covid 19 cases (/1000), number of operations and number of outpatients (/100).

Table 1: Comparison of outpatient and elective surgery data for 2018 and 2021.

		2018	2021	p
Total outpatient patients		50632	34629	
Gender	**Female (%)**	30997 (61,2)	21165 (61,1)	0,767
	Male (%)	19635 (38,8)	13464 (38,9)	
Age (±SD)		43,23 (16,26)	45,7 (17,94)	**<0,001**
Total operated patients		1806	757	
Gender	**Female (%)**	882 (48,8)	385 (50,9)	0,888
	Male (%)	924 (52,2)	372 (49,1)	
Age (±SD)		50,2 (15,9)	51,58 (16,14)	**0,046**
Number of operation rooms		2 rooms per day	2 rooms per week	

SD: Standart deviation

DISCUSSION

The Covid 19 pandemic has been seen in all countries in the world except Antarctica, and approximately 700 million cases and 6 million 900 thousand deaths have been reported in the world to date. Again, in our country, more than 17 million people have had Covid infection and around 100 thousand deaths have been reported(6, 7). The first case in our country was reported on March 11, 2020. Precautionary, filiation, protection and treatment interventions were carried out in accordance with the national guides prepared by the Ministry of Health Pandemic Scientific Board (3, 8, 9).

The Covid 19 pandemic has brought about some negativities in the healthcare system in our country, as well as all over the world. Curfew restrictions have disrupted the process of patients reaching the hospital. In addition, it was possible for physicians to work in Covid services, regardless of branch, by reducing the number of polyclinics opened daily. For this reason, as seen in our study, patient applications decreased dramatically in 2021 and decreased from 50632 to 34629. This decrease is supported by many studies both in our country and in other countries.(10-12).

Again, the significant increase in the average age of outpatient clinic applications in 2021 ($p<0.001$) can be explained by the young population's anxiety about coming to the hospital during the pandemic period and the postponement of the process of coming to the examination.

Guidelines have been created all over the world and in our country to meet the increasing need for elective surgery, but the number of surgeries has decreased in all branches compared to the pre-pandemic period (13, 14). In monthly evaluations, the number of cases and both the number of operations and outpatient applications varied inversely. This situation is similar to the literature (9).

As a result of the measures taken during the pandemic when the number of cases increased significantly, elective operations came to a halt at certain intervals. For this reason, although malignancy surgery was continued in our clinic, the number of electively operated patients decreased from 1806 to 757. This situation is similar to the literature (15).

The fact that the average age was found to be significantly higher in elective operations, as in outpatient clinic applications ($p = 0.046$), may be related to the anxiety in the young age group during the pandemic period or the attitude of giving priority to elderly patients in elective operations. Postponement of elective surgeries has also led to complications requiring emergency surgery in some patient groups. For example, in a study comparing the admissions of hernia patients before and during the pandemic, it was observed that strangulation and bowel resection increased significantly due to elective hernia surgeries postponed due to the pandemic (16). In another study, cholecystectomies performed before and during the pandemic were compared, and it was reported that during the pandemic period, gallbladder wall thickness increased due to patients having more cholecystitis attacks due to the cessation of elective operations, and this was reported as subacute cholecystitis (17).

As a result, the Covid 19 pandemic should not only be considered as an infectious disease, but also as a period that negatively affects the biopsychosocial way of life of societies all over the world.

REFERENCES

1. Organization WH. Coronavirus disease (Covid-19), 12 October 2020. 2020. Awailable at: https://www.who.int/emergencies/diseases/novel-coronavirus-2019
2. Diaz A, Sarac BA, Schoenbrunner AR, Janis JE, Pawlik TM. Elective surgery in the time of Covid-19. The Am J Surgery. 2020;219(6):900-2.

3. Moletta L, Pierobon ES, Capovilla G, Costantini M, Salvador R, Merigliano S, et al. International guidelines and recommendations for surgery during Covid-19 pandemic: a systematic review. International Journal of Surgery. 2020;79:180-8.
4. Öztürk O, Bayraktar D. Pandemilerin şafağında: Covid-19 ve fiziksel inaktivite. İzmir Katip Çelebi Üniversitesi Sağlık Bilimleri Fakültesi Dergisi. 2020;5(2):143-6.
5. Gao X, Jiang L, Hu Y, Li L, Hou L. Nurses' experiences regarding shift patterns in isolation wards during the COVID-19 pandemic in China: A qualitative study. Journal of clinical nursing. 2020;29(21-22):4270-80.
6. Worldometer CU. Cases and deaths from Covid-19 virus pandemic. Worldometers; 2020.
7. Çelik SU, Çetinkaya Ö, Tüzüner A. Cerrahi ve Covid-19. Gülhane Eğitim ve Araştırma Hastanesi, Genel Cerrahi Kliniği, Temmuz, Ankara, Türkiye. 2020.
8. TC Sağlık Bakanlığı, COVID-19 Bilgilendirme Platformu. Available from: https://covid19bilgi.saglik.gov.tr/depo/rehberler/ COVID-19_Rehberi.pdf?type=file
9. Brücher BL, Nigri G, Andrea T, Florencio J, Lapeña Jr F, Eloy E-B, et al. Covid-19. Pandemic surgery guidance. 4 OPEN. 2020;3:1-19.
10. Kibbe MR. Surgery and Covid-19. Jama. 2020;324(12):1151-2.
11. Bozkurt O, Sen V, Irer B, Sagnak L, Onal B, Tanidir Y, et al. Nation-wide analysis of the impact of Covid-19 pandemic on daily urology practice in Turkey. International Journal of Clinical Practice. 2021;75(4):e13735.
12. Yılmaz EM, Şekerci UU, Özgün H, Çolak T. Effects of the Covid-19 pandemic on general surgery training in Turkey. Turk J Colorectal Dis. 2021;31(1):13-9.
13. Kulle CB, Azamat IF, Vatansever D, Erus S, Tarim K, Akyoldas G, et al. Is elective cancer surgery feasible during the lock-down period of the Covid-19 pandemic? Analysis of a single institutional experience of 404 consecutive patients. Journal of Surgical Oncology. 2021;123(7):1495-503.
14. Ferahman S, Donmez T, Surek A, Akarsu C, Aydin H, Seyit H, et al. The effect of Covid-19 pandemic on the functioning of a surgical clinic: single centre experience in Turkey. Sanamed. 2021;16(1):19-27.
15. Dündar G, Abdullah G. Effects of the Covid-19 Pandemic on Surgical Clinics. Çukurova Anestezi ve Cerrahi Bilimler Dergisi. 2021;5(2):155-71.
16. Topcu R, Yıldırım MB, Özkan MB, Aslan O, Sezikli İ, Şahin F. The effect of Covid-19 pandemic on inguinal hernia emergencies. Journal of Health Sciences and Medicine. 2021;4(6):865-70.
17. Şengül S, Çalış H, Güler Y, Karabulut Z. The impact of Covıd-19 pandemic on symptomatic gallstone disease. Kırıkkale Üniversitesi Tıp Fakültesi Dergisi. 2021;23(3):462-7.