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Experience in a Thoracic Surgery Clinic During the COVID-19 Pandemic

COVID-19 Pandemisi Sırasında Göğüs Cerrahisi Kliniği Deneyimimiz

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Abstract

Aim: During the COVID-19 pandemic, all elective surgeries, except emergency surgeries and surgeries for patients with malignancy, were postponed. In this study, patients who presented to the thoracic surgery clinic of our hospital during and those who presented before the COVID-19 pandemic were compared, and changes in characteristics of the patients presenting to the thoracic surgery clinic during the COVID-19 pandemic were investigated.

Material and Method: Age, gender, and reason for admission to the hospital were documented for all patients who presented to the thoracic surgery clinic of our hospital during March 2019–March 2020 and March 2020–March 2021. Patients presenting to the clinic were categorized into malignancy, trauma, chest pain, pneumothorax, and other disease groups.

Results: In total, 947 patients presented to the clinic in the pre-pandemic period. Conversely, 756 patients presented to the clinic during the pandemic. In the pre-pandemic period, 353 patients presented with trauma; this number decreased to 154 during the pandemic. Additionally, during the pandemic, a decrease was observed in all patient admissions other than those due to malignancies.

Conclusion: During the pandemic, there has been a decrease in patient admissions due to trauma, mostly as a result of curfews and restrictions. However, there has been a significant increase in the number of patients presenting with lung malignancies during the pandemic. This may be due to findings of incidental lung masses in the thoracic computed tomography performed after COVID-19 prediagnosis.

Keywords: COVID-19, thoracic surgery, malignancy

Öz

Amaç: Pandemi döneminde acil cerrahi operasyonlar ve malignitesi olan hastalar dışında elektif operasyonlar ertelenmesine rağmen göğüs cerrahi poliklinik hizmeti devam etti. Çalışmada pandemi öncesi göğüs cerrahisi polikliniğine başvuran hastalar ile pandemi döneminde başvuran hastaların karakteristiğinde bir değişim olup olmadığı değerlendirildi.

Gereç ve Yöntem: Mart 2019- Mart 2020 dönemleri ile Mart 2020-Mart 2021 dönemleri arasındaki göğüs cerrahisi polikliniğine başvuran hastaların yaşları, cinsiyetleri, hastaneye başvuru sebepleri dökümente edildi. Polikliniğe başvuran hastalar malignite, travma, göğüs ağrısı, pnömotoraks ve diğer hastalıklar olarak sınıflandırılmıştır.

Bulgular: Pandemi öncesi dönemde toplamda 947 hasta polikliniğe başvururken pandemic döneminde sayı 756 idi. Travma nedeniyle polikliniğe basvuran hasta sayısı 353 iken pandemi döneminde 154 idi. Pandemi döneminde diğer başvuru sebepleri azalırken malignite nedeniyle basvuru artmış olarak izlendi.

Sonuç: Çok büyük oranda sosyal kısıtlamalara bağlı olarak pandemi döneminde travmalara bağlı başvurularda azalma görülmüştür. Akciğer malignite hastalarında pandemi döneminde hem oransal hem de gözle görülür derecede sayısal artış olmuştur. Covid 19 ön tanısı nedeniyle çekilen toraks tomografilerinde rastlanan insidental akciğer kitleleri bu artıştan sorumlu tutulabilir.

Anahtar Kelimeler: COVID-19, Göğüs Cerrahisi, malignite

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INTRODUCTION

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a viral agent that can cause a broad spectrum of clinical symptoms ranging from cold-like symptoms to acute respiratory distress syndrome. COVID-19 originated from Wuhan, China and spread throughout the world in 2019; it was later declared as a pandemic by the World Health Organization. In Turkey, the first case of COVID-19 was detected in March 2020.

All elective surgeries performed in thoracic surgery clinics were postponed during the COVID-19 pandemic, and only emergency surgeries and surgeries for patients with malignancies were performed during this period. In addition, many thoracic complications caused by COVID-19 were treated during the pandemic.

Thoracic surgery clinics continued to operate during this period. In the present study, it was investigated whether the covid 19 pandemic caused a change in the characteristics of patients who applied to the thoracic surgery outpatient clinic.

MATERIAL AND METHOD

Surgeries performed in the thoracic surgery clinic of our hospital were examined, and the number of surgeries performed was compared over 1-year pre-pandemic and pandemic periods. Information such as age, gender, and reason for admission to the hospital were documented for all patients who presented to the thoracic surgery clinic of our hospital during March 2019–March 2020 and March 2020–March 2021. Ethical approval for this study was obtained from the ethics committee of Ankara Bilkent City Hospital (Approval number: E1-21-2165). This study has been conducted in accordance with the principles set forth in the "Helsinki Declaration".

Patients presenting to the outpatient clinic were categorized into malignancy, trauma, chest pain, pneumothorax, and other disease groups.

RESULTS

The number of patients who presented to the outpatient clinic in the pre-pandemic period was 947. In contrast, the number of patients presenting to the clinic during the COVID-19 pandemic was 756. During the pre-pandemic period, the total number of patients presenting to the clinic with a pre or definitive diagnosis of lung cancer and those presenting with the diagnosis of lung or other malignancies was 34 (3.6%).

Patients who received inpatient treatment due to trauma and presented for follow-up after discharge, those who were followed up and treated as outpatients, and patients presenting for the first time comprised the trauma group. A total of 353 (37.3%) patients were present in the trauma group during the pre-pandemic period.

The number of patients presenting to the clinic due to noncardiac and nontraumatic chest pain during the pre-pandemic period was 61 (6.5%). The total number of patients with pneumothorax who presented to the clinic for the first time, received treatment, and came to the clinic for follow-up during the pre-pandemic period was 28 (2.9%). The total number of patients presenting to the clinic for other reasons during the pre-pandemic period was 471 (49.7%).

In summary, a total of 947 patients presented to only one thoracic surgeon in the thoracic surgery clinic of our hospital during the 1-year period before the pandemic. Between 11 March 2020 and 11 March 2021, a total of 115 (15.2%) patients presented to the outpatient clinic due to malignancy, 154 (20.4%) due to trauma, 129 (17.1%) due to chest pain, 19 (2.5%) due to pneumothorax, and 339 (44.8%) due to other reasons. The total number of patients who presented to the clinic during this period was 756 (**Table 1**).

DISCUSSION

An increase of approximately four-fold was observed in the number of patients with malignancies presenting to the thoracic surgery outpatient clinic during the COVID-19 pandemic. This may be due to the fact that conducting only cancer treatment-related procedures and emergency surgical procedures were permitted during the COVID-19 pandemic. Furthermore, patients were concerned that they would become infected from the hospital, which caused them to postpone their application. The inaccessibility of outpatient clinic appointments, and the incidental detection of a mass in thoracic tomography procedures due to the pre-diagnosis of COVID-19 may have contributed to this increase observed in patients with malignancy. When monthly differences in the number of patients were determined, it was found that while there was no difference during the pre-pandemic period (p=0.276) the number of patients increased month by month as the COVID-19 pandemic progressed. Patients with lung cancer constituted the majority of the malignancy group. In addition to having cancer, the patients were worried about having COVID-19. Most patients believed that having COVID-19 would be lethal for them.

The current conundrum faced by healthcare professionals in treating patients with lung cancer during the COVID-19 pandemic is the need to balance the risk of a potentially life-threatening infection with COVID-19 against the consequences of not treating or delaying a life-threatening malignancy. Previous studies report that the course of COVID-19 is severe in patients with lung cancer, with a hospitalization rate of 62% and a mortality rate of 25%.[1] Although the disease course has severe outcomes, overall only 11% of patients with lung cancer died due to COVID-19 during the pandemic period.

Table 1: Distribution of patient admissions observed during the prepandemic and pandemic periods

Period	Malignancy	Trauma	Chest pain	Pneumothorax	Other pathologies	Total
Prepandemic	34 (3.6%)	353 (37.3%)	61 (6.5%)	28 (2.9%)	471 (49.7%)	947
Pandemic	115 (15.2%)	154 (20.4%)	129 (17.1%)	19 (2.5%)	339 (44.8%)	756

[1] Outpatient clinic admissions due to trauma decreased by approximately 50% during the COVID-19 pandemic ($p<0.001$). The main reason for this decrease was the restrictions and curfews imposed owing to the pandemic. The conscious effort by people to reduce social activities, avoid crowded places, and maintain social distancing may have caused a decrease in trauma cases.

Clinical management strategies have been implemented for trauma patients during the COVID-19 pandemic.[2] As a part of such preventive strategies, the clinics in our hospital have also taken efforts to protect patients from COVID-19. This effort including to follow-up and treat COVID-19 positive trauma patients in different wards, and adopt different strategies for the management of COVID-19 positive patients that requiring surgery. Similar to patients with cancer, COVID-19-related anxiety was also observed in trauma patients. The number of patients presenting to the clinic with nontraumatic chest pain increased as the COVID-19 pandemic progressed, and the number of admissions doubled compared to that in the pre-pandemic period.

In the present study, cardiac causes were excluded in all patients presenting to the clinic with chest pain. Furthermore, 30% of the patients with chest pain had a history of COVID-19. Pain complaints of patients were usually related to the back and parasternal joints.

During the COVID-19 pandemic, curfews were implemented throughout the world and most patients were afraid to visit healthcare institutions. This led to a three-fold increase in online searches for chest pain symptoms on the internet compared to those in the pre-pandemic period.[3] Chest pain is a common symptom of life-threatening medical conditions such as coronary artery disease, aortic dissection, and pulmonary embolism; however, it is not a common symptom of COVID-19.[4] Social restrictions and curfews forced people to remain in their homes and lead an inactive lifestyle. The effect of inactivity on the musculoskeletal system may have caused an increase in chest pain complaints.

The number of patients with pneumothorax presenting to the thoracic surgery clinic decreased during the COVID-19 pandemic. Pneumothorax is one of the rare complications of COVID-19.[5,6] However, the majority of COVID-19-related pneumothorax cases consist of patients under mechanical ventilation support in intensive care units. The development of pneumothorax in patients with COVID-19 under mechanical ventilation support is a poor prognostic factor, and often fatal.[7,8] The patients with a history of pneumothorax who were followed up in the thoracic surgery clinic reported that they did not want to come to the hospital during the pandemic because they were afraid of COVID-19 transmission.

The number of patients presenting with other diseases and conditions treated in the thoracic surgery outpatient clinic also decreased during the COVID-19 pandemic. This can be explained by the concern that these patients may be infected with COVID-19 during their hospital visits.

CONCLUSION

There has been a decrease in patient admissions due to trauma during the COVID-19 pandemic mostly as a result of curfews and restrictions.

However, there has been a significant increase in patients presenting with lung malignancies during the COVID-19 pandemic. The proportional increase in such patients presenting can be explained by the decrease in the number of admissions for other reasons. Furthermore, the increase is likely due to incidental diagnoses during thoracic computed tomography performed for COVID-19 diagnosis and follow-up.

ETHICAL DECLARATIONS

Ethics Committee Approval: Ethical approval for this study was obtained from the ethics committee of Ankara Bilkent City Hospital. Approval number is E1-21-2165.

Informed Consent: All patients signed the free and informed consent form.

Referee Evaluation Process: Externally peer-reviewed.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

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