REVIEW

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# Responsibility and Work Procedure Order of Infectious Diseases Clinic in Our Hospital in the First Period of COVID-19 Pandemic

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## Abstract

In this section, we aimed to share the experience of infectious diseases and clinical microbiology clinic during the Coronavirus Disease-2019 outbreak. The processes experienced in the first trimester from the beginning of the outbreak were evaluated. Our contribution to the fast, flexible and strong response to the epidemic in the institutional structure of our hospital was emphasized. The 3-month experiences of other countries shed light on us in the diagnosis and treatment of this disease, which was originally new to all of us. The decisions and algorithms of the Scientific Committee of the Ministry of Health guided us. All branches, especially department of emergency, internal diseases, intensive care, radiology, family medicine, clinical microbiology, have made important contributions in patient monitoring and management. Multidisciplinary cooperation in patient management and combating the infectious disease has enabled us to make an important institutional contributions to healthcare in this challenging period.

**Keywords:** Coronavirus Disease-2019, infectious diseases and clinical microbiology, medical care

## INTRODUCTION

Coronavirus Disease-2019 (COVID-19) emerged in Wuhan City, Hubei Province of China in December 2019 and reached a dimension that affected the whole world. The World Health Organization defined this outbreak which more than 118,000 patients were detected in 114 countries and 4,291 deaths were recorded, as a pandemic on March 11, 2020 (1). The first patient diagnosed with COVID 19 was anounced on 10 March 2020 in Turkey (2).

The institutional pandemic plan was updated before the pandemic in the Prof. Dr. Cemil Taşçıoğlu City Hospital, a large tertiary health institution. Before the pandemic in our country, we did due diligence with the hospital administration department, urgent needs for the upcoming COVID-19 pandemic were determined and quickly completed. A patient with pneumonia was admitted to our clinic on March 9, 2020 and was followed as having COVID-19 as of March 10 due to the findings of computed tomography (CT) of thorax and became our first patient with definitive diagnosis. In this patient, the clinic of radiology warned the clinician due to lung CT findings, which enabled the patient to be recognized early on March 10. The radiology clinic made important contributions to patient follow-up with the instant lung CT reporting method in shifts. Patient follow-ups were initiated in accordance with the frequently updated recommendations of the Ministry of Health Scientific Committee (3). The instructions of the Provincial Health Directorate and the General Directorate of Public Health were followed (4).

**Clinical Infrastructure and Capacity:** Infectious Diseases department was serving in a single-storey building with 17 beds in total, separate from the hospital main building. There were two outpatient clinic rooms. There were also patient beds in the clinic belonging to the department of pediatric infectious diseases. In-clinic staff training on the disease was conducted,

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and appropriate personal protective equipment (PPE) was used. Our other patients were discharged or transferred to other clinics. The clinical medical staff consisted of 5 specialist physicians, 5 residents and 2 internal diseases residents, 5 nurses, 5 assistant staff and a secretary. Routine outpatient clinic services were closed to the appointment system. Patients with possible COVID-19 referred from the department of emergency were examined 24/7 by this team in our outpatient clinic. Hospitalization, home treatment and quarantine decisions were made. Records of patient information and all consent forms were arranged. All patients with COVID-19 pre-diagnosis were hospitalized on behalf of infectious diseases and clinical microbiology department. A follow-up form was created to facilitate the follow-up of inpatients. Initially, nasal and throat swab samples for viral polymerase chain reaction (PCR) were taken by our resident physicians, barcoded and recorded in the Public Health Management System. Virology analysis request form, COVID-19 patient information form and contact follow-up forms were filled for each patient. The samples were delivered to the relevant external molecular diagnostic laboratories by courier. Results were followed. Our clinical microbiology and biochemistry laboratories made the provision, maintenance and timely reporting of the necessary laboratory tests in patient follow-up. In the light of clinical findings, radiological and laboratory data, basic data about the severity of the disease, patient approach options and prognosis were obtained from the very beginning.

**Dynamic Functional Structuring and Capacity Utilization Throughout the Hospital in the First Phase of the Pandemic:** The first phase of the pandemic was accepted to start on March 11, 2020. Its end was June 5, 2020 when the curfew was lifted at the weekend (5). Istanbul was the city where approximately 60% of the patients were detected during this phase and the pandemic was the most intense (6). When the pandemic started, the COVID-19 scientific board was established with the participation of relevant clinics in our hospital and gathered every morning as of March 16, the problems in the field were reviewed, dynamic decisions were made and implemented. COVID-19 patient management in our hospital was given under the responsibility and with coordination of infectious diseases and clinical microbiology department. Healthcare professionals were trained on PPE use and isolation precautions. Approximately 1,700 healthcare professionals were reached in these trainings. Infected health workers were recorded and followed up by the infection control team with the follow-up form prepared. Our infectious diseases clinic capacity could not be sufficient due to the rapidly increasing number of patients. The staff support, which started with three chest physicians and an increasing number of internal medicine residents, was strengthened by the participation of family medicine residents in the duty and outpatient clinic services. Our retired education officer colleague, who joined us upon our invitation, gave us an important support during clinical visits. Patients were hospitalized with a maximum of two people in the wards of the clinics that were evacuated in the old building starting from the 2nd floor, except for the 5th and 8th floors. A patient accompanist was not taken with the patients, except in compulsory cases. Since the capacity of our existing hospital was not sufficient, the opening of our new hospital building, which was built in the same area, was quickly made on April 5. Because of this newly opened hospital building, the name of our hospital was renamed as Prof. Dr. Cemil Taşçıoğlu City Hospital. The infectious diseases clinic, located in a separate single-storey building, was evacuated on April 5. In the new hospital building, 15 wards in total, starting from the top 7th floor were opened as infectious diseases wards to hospitalize patients with COVID-19. Infectious diseases COVID-19 first admission outpatient clinic was reorganized extensively. The new hospital started operating on April 7 in the fully equipped section on the ground floor. The service continued uninterruptedly for patients who came from emergency department triage or referred from other hospitals. Physicians and auxiliary health workers from all other clinics participated in COVID-19 clinical duties. Those with medical conditions were excluded from these duties with the medical board report. Infectious diseases and chest diseases specialists made morning visits of the inpatients, and the treatment and discharge decisions were made by these physicians. Patients with severe comorbidities or pregnant women were followed separate clinics by relevant specialists. Protective low molecular weight heparin was applied starting from the first days. Hydroxychloroquine tablet, which was expected to be used in treatment, arrived at our hospital pharmacy on March 19. We used hydroxychloroquine and lopinavir/ritonavir for antiviral treatment in our previous hospitalized patients. The use of favipiravir sent by the ministry of health, in selected patients started on March 24. Immune plasma treatment prepared by the "Kızılay" was started on April 14th. At the same time, rapid antibody kits purchased by the ministry of health for healthcare personnel reached our hospital and started to be used. As of March 20, immunoglobulin G (IgG)/IgM antibody detection with rapid antibody kit was started in our patients. Tocilizumab treatment was started on April 9 in selected patients. Interleukin-6 kit was purchased by our hospital and

it was put into use as of April 15, and it became a guide for our patients who needed tocilizumab. Shift laboratories were assigned by the clinical microbiology department in order to take samples for PCR properly and without interruption. The samples were delivered to authorized external laboratories by couriers. Turkey Institutes of Health Directorate on 19 April 2020 Severe Acute Respiratory Syndrome-Coronavirus-2 PCR diagnostic laboratory was set up in our new hospital and PCR assays began to be performed in our hospital. PCR results were reported daily by our genetics and microbiology experts. Due to the decrease in the pandemic rate, the wards in the old hospital building were evacuated except for the 2nd floor and were given to the use of patients of other clinics other than COVID-19. The COVID-19 first admission outpatient clinic, which was organized on the ground floor of the new hospital building, was closed and moved to the COVID-19 area held in the emergency room in the old building. In our new hospital, a COVID-19 follow-up outpatient clinic was opened on May 31 in order to monitor patients discharged from infectious diseases wards. During this period, approximately 2,250 patients were hospitalized and more than 4,000 outpatients were followed up. The hospital pharmacy and medical equipment warehouse did not let any interruption in the supply and maintenance of the necessary medicines and protective materials. The follow-up and treatment of more than 500 inpatients per day was arranged during the periods of the most intense admission. In about 80 days (11 March 2020-1 June 2020), a total of 16.000 bed/day (average 200/bed/day) patients with COVID-19 were visited by infectious diseases and chest diseases specialists. Patient follow-ups were carried out by the day's on-duty assistants and responsible duty specialist physicians. In the 48-bed intensive care unit allocated to COVID-19 patients, daily consultations were held by infectious diseases specialists. Infectious diseases or chest diseases specialists were on-duty every day. In addition, infectious diseases consultation services were continued for non-COVID-19 patients in emergency, intensive care unit and clinics.

## CONCLUSION

### Challenges Awaiting Solutions in the Ongoing Pandemic

Institutional arrangements are made in order to meet the demands changing according to the pandemic course. In this process, dynamic decisions have been taken in the face of unforeseen developments in our hospital, directing the practices, and health services have continued with a capacity utilization and extraordinary work determination. In other countries facing the pandemic, it is observed that similar multidisciplinary practices are performed under the leadership of the infectious diseases department in competent health institutions (7). In this pandemic, which is not known when it will end, the following problems are expected in the transition to the normalization period after the first wave:

- Various complaints of the patients may continue after discharge (8).

- How will the follow-up, treatment by other clinics and consultation regulation of patients with confirmed or suspected COVID-19 be provided?

- How will the protective measures taken be managed on the basis of clinics and procedures?

- How can difficulties and deviations in ordinary healthcare delivery be minimized while protecting patients and healthcare professionals? Guidelines are being developed on this subject (9).

We know that all these difficulties will be overcome with reason, science, effort and patience. Our effort to reach our goal of providing a fast and effective health service that takes patient and employee safety into consideration is carried out under the common responsibility of all healthcare professionals.

### Ethics

**Peer-review:** Internally peer-reviewed.

### Authorship Contributions

Surgical and Medical Practices: M.T.Y., F.Ş., A.K., M.O., S.B., E.A., Concept: M.T.Y., Design: M.T.Y., Data Collection or Processing: M.T.Y., Analysis or Interpretation: M.T.Y., Literature Search: M.T.Y., Writing: M.T.Y.

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## REFERENCES

1. World Health Organization, Regional Office for Europe, Health Topics. Coronavirus disease (COVİD-19) pandemic. Available from: URL: https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/novel-coronavirus-2019-ncov
2. TRT Haber. Türkiye'de ilk koronavirus vakası tespit edildi. Available from: URL: https://www.trthaber.com/haber/gundem/turkiyede-ilk-koronavirus-vakasi-tespit-edildi-466216.html
3. Sağlık Bakanlığı. Salgın Yönetimi ve Çalışma Rehberi. Available from: URL: https://covid19.saglik.gov.tr/TR-66393/covid-19-salgin-yonetimi-ve-calisma-rehberi.html
4. Sağlık Bakanlığı. Covid-19 Rehberi. Available from: URL: https://covid19bilgi.saglik.gov.tr/tr/covid-19-rehberi.html

5. BBC News Türkçe. Sokağa çıkma yasağı: Hafta sonundaki kısıtlamalar iptal edildi (05.06.2020). Available from: URL: https://www.bbc.com/turkce/haberler-turkiye-52930823

6. Deutsche Welle Türkçe. Koca; Ankara, İstanbul ve İzmir'de vaka sayısı düşüyor (10.06.2020). Available from: URL: https://www.dw.com/tr/koca-ankara-istanbul-ve-izmirde-vaka-say%C4%B1s%C4%B1-d%C3%BC%C5%9F%C3%BCyor/a-53769467

7. Razonable RR, Pennington KM, Meehan AM, Wilson JW, Froemming AT, Bennett CA, et al. A Collaborative Multidisciplinary Approach to the Management of Coronavirus Disease-19 in the Hospital Setting. Mayo Clin Proc 2020;95:1467-81.

8. Carfì A, Bernabei R, Landi F, Gemelli Against COVID-19 Post-Acute Care Study Group. Persistent Symptoms in Patients After Acute COVID-19. JAMA 2020;324:603-5.

9. Sağlık Bakanlığı. Sağlık Kurumlarında Çalışma Rehberi ve Enfeksiyon Kontrol Önlemleri. Available from: URL: https://covid19.saglik.gov.tr/TR-66532/saglik-kurumlarinda-calisma-rehberi-ve-enfeksiyon-kontrol-onlemleri.html