

PANDEMİ KLİNİKLERİNDE COVID-19 DIŞI TANI KONULAN HASTALAR: ÜÇ OLGU SUNUMU

PATIENTS NON-COVID-19 DIAGNOSIS IN PANDEMIC CLINICS: THREE CASE REPORTS

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ÖZET

Pandemi süreciyle birlikte klinisyenlerin toraks görüntüsüne başvuru sıklığı artmıştır. Bu yazımızda pandemi kliniklerinde COVID-19 dışı tanı konulan üç olgu sunulmuştur. Otuzüç yaşında erkek hasta pandemi kliniğine iki gündür devam eden göğüs ağrısı nefes darlığı şikayeti ile başvurdu. Toraks görüntülemesinde geniş pnömotoraks izlendi. Hastaya tüp torakostomi uygulandı. Hasta 14 gün izlem sonrası taburcu edildi. Otuzbir yaşında kadın hasta pandemi kliniğine iki haftadır devam eden efor dispnesi, öksürük, göğüs ağrısı ve karın ağrısı şikayeti ile başvurdu. Toraks görüntülemesinde massif efüzyon izlendi. İleri tetkikler sonucu hastaya metastatic kolon cinsinomu tanısı konuldu. Onsekiz yaşında erkek hasta pandemi kliniğine bir gündür devam eden göğüs ağrısı nedeniyle kabul edildi. Toraks görüntülemesinde mediastinal amfizem izlendi. Pandemi sürecinde artan torasik görüntüleme sayısı, asemptomatik ve subklinik torasik patolojilerin görülme sıklığında artışa neden olacaktır. İnsidanslardaki bu artış geniş epidemiyolojik çalışmalar ile ortaya konulmalıdır.

ANAHTAR KELİMELEER: Pandemi, Pnömotoraks, Kolon kanseri, Mediastinal amfizem

ABSTRACT

With the pandemic process, the frequency of clinicians' referrals for thoracic imaging has increased. In this article, three cases diagnosed other than COVID-19 in pandemic clinics are presented. A 33-years-old male admitted to the pandemic clinic with sore throat and dyspnea for two days. A large pneumothorax was observed on thorax imaging. The tube thoracostomy was performed. The patient was discharged after 14 days of follow-up. A 31-years-old female patient was admitted to pandemic clinic with the complaints of exertional dyspnea, cough, sore throat and abdominal pain for two weeks. Massive effusion was observed on thorax imaging. As a result of further examinations, the patient was diagnosed with metastatic colon carcinoma. An 18-years-old male patient was admitted to the pandemic clinic with chest pain lasting for a day. Mediastinal emphysema was observed on thorax imaging. The increased number of thoracic imaging during the pandemic process will lead to an increase in the incidence of asymptomatic and subclinical thoracic pathologies. This increase of incidence should be revealed with further epidemiological studies.

KEYWORDS: Pandemics, Pneumothorax, Colonic neoplasms, Mediastinal emphysema

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INTRODUCTION

In December 2019, it is reported a febrile respiratory tract illness of unknown origin from Wuhan. Bronchoalveolar lavage of the patients isolated a novel strain of coronavirus named as SARS-coronavirus-2 (SARS-CoV-2) as the pathogen (1). The World Health Organization (WHO) named pulmonary infection caused by SARS-CoV-2 as coronavirus disease 2019 (COVID-19) (1). First case was reported officially from turkey in 10th March 2020 (1).

Testing currently involves a polymerase chain reaction test from swab samples obtained from the respiratory tract. With the increasing frequency of the disease in our country, the frequency of clinicians applying to radiological methods has also increased. Thorax radiography and computed tomography (CT) are preferred imaging modalities. Although there are tomography findings defined as typical for SARS-CoV-2 pneumonia, organizing pneumonia and other viral infections constitute a broad spectrum in the differential diagnosis. It is also known that despite the high sensitivity of Thorax CT in SARS-CoV-2 pneumonia, its specificity is quite low (2). However, due to its rapid results, easy access and high diagnostic sensitivity, Thorax CT has gained an important place in the triage of SARS-CoV-2 infected patients (3). With increasing thoracic imaging, it was placed in pandemic clinics in non-covid-19 diagnoses. We presented three cases admitted to pandemic clinic and diagnosed pneumothorax, cancer and pneumomediastinum.

CASE 1

On May 17, 2020, a 33-years-old male admitted to our clinic with sore throat and dyspnea for two days. In his medical history, there were no diseases other than bullous lung disease. He had no known contact with COVID-19 patient. He had no dry cough, fatigue or fever and, no overseas travel history. The initial physical examination revealed a body temperature of 36.4 °C, blood pressure of 96/76 mm Hg, pulse of 105 bpm, respiratory rate of 17 breath/min, and oxygen saturation of 95% while the patient was breathing room air. Blood tests revealed normal

lymphocyte (3,14 10³/uL, normal: 0,8-4 10³/uL), and neutrophil count (4,8 10³/uL, normal: 2-7 10³/uL), and normal C-Reactive Protein level (<0,2 mg/L, normal: <0,5 mg/L). Other biochemical parameters were evaluated within normal limits too. Thorax CT showed that multiple bullae in both lungs, the largest if is approximately 7 cm in size, and pneumothorax in left hemithorax (**Figure 1**).

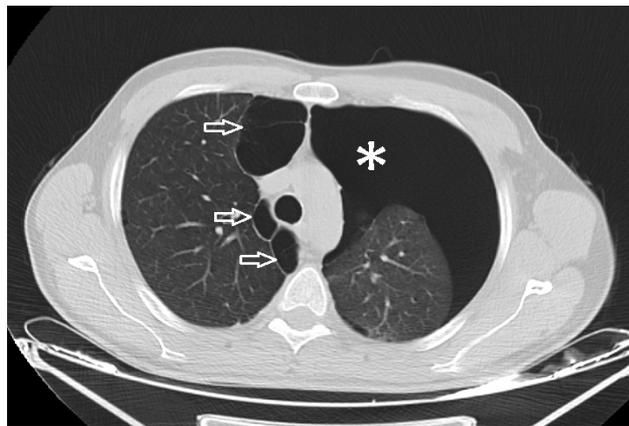


Figure 1: Thoracoabdominal computed tomography without intravenous contrast media. The axial reformatted image reveals multiple bullae in both lungs (arrows), and pneumothorax in left hemithorax (asterisk).

Patient was hospitalized and tube thoracostomy was performed. The thoracic tube was removed on the tenth day of the hospitalization. The patient was discharged asymptotically after a total of fourteen days of follow-up without any complication.

CASE 2

On April 19, 2020, a 31-years-old female admitted to pandemic clinic with exertional dyspnea, cough, sore throat and abdominal pain for two weeks. In his medical history, there were no diseases other than hyperlipidemia. She had no known contact with COVID-19 patient, fatigue or fever and, no overseas travel history. The initial physical examination revealed a body temperature of 36.4 °C, blood pressure of 121/68 mm Hg, pulse of 95 bpm, respiratory rate of 18 breath/min, and oxygen saturation of 98% while the patient was breathing room air. Blood tests revealed normal lymphocyte (1,13 10³/uL), elevated neutrophil count (17,17 10³/uL), and elevated C-Reactive Protein level (15,9mg/L). Other biochemical parameters were evaluated within normal limits. Thorax CT showed that massive

effusion in right pleural space, reaching thickness of 48 mm and air bronchograms in posterobasal of right lung lower lobe (**Figure 2**).

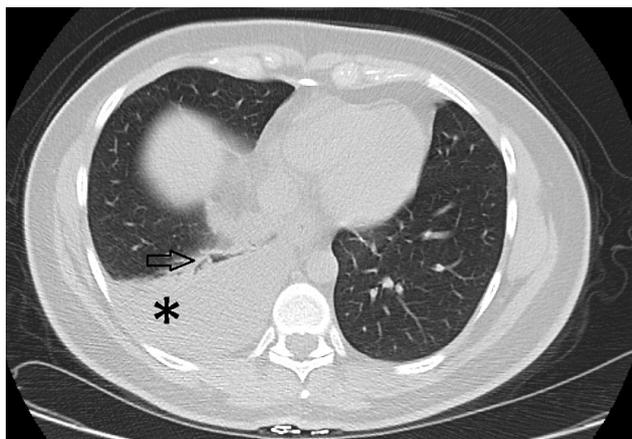


Figure 2: Thoracoabdominal computed tomography without intravenous contrast media. The axial reformatted image reveals massive effusion in right pleural space (asterisk), and air bronchograms in posterobasal of right lung lower lobe (arrow).

Patient's oropharyngeal swab and sputum tested negative for COVID-19 by real-time reverse-transcriptase–polymerase-chain-reaction (RT-PCR) assay three times. Patient referred to oncology clinic for suspected malignancy. The patient was diagnosed with metastatic colon cancer after advanced imaging and biopsies.

CASE 3

On June 14, 2020, an 18-years-old male admitted to pandemic clinic with sore throat for a day. In his medical history, there were no diseases other than he was smoker. He had known contact with COVID-19 patient, and he had the exertional dyspnea. He had no dry cough, fatigue or fever and, no overseas travel history. The initial physical examination revealed a body temperature of 36.4 °C, blood pressure of 122/92 mm Hg, pulse of 75 bpm, respiratory rate of 16 breath/min, and oxygen saturation of 98% while the patient was breathing room air. Electrocardiography was evaluated as normal sinus rhythm. Blood tests revealed normal lymphocyte (2,06 103/uL), neutrophil count (7,02 103/uL), and normal C-Reactive Protein level (<0,2 mg/L). Troponin I level (0,001ng/mL, normal: <0,0262 mg/L) and other biochemical parameters were evaluated within normal limits. Thorax CT showed that air images in mediastinum (**Figure 3**).

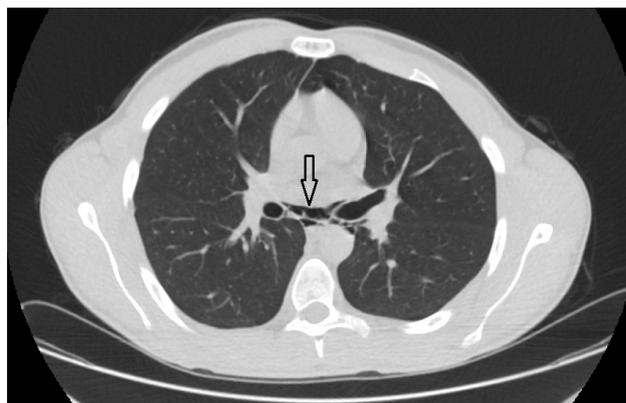


Figure 3: Thoracoabdominal computed tomography without intravenous contrast media. The axial reformatted image reveals gas images in mediastinum at the level of tracheal bifurcation (arrow).

Patient's oropharyngeal swab and sputum tested negative for COVID-19 by RT-PCR assay. The patient was discharged asymptotically after 24 hours of follow-up.

DISCUSSION

In the COVID-19 pandemic process, emergency services and emergency triage have been restructured worldwide to ensure the isolation and management of SARS-CoV-2 infected patients. While the total number of the visits to the emergency departments decreased during this period, the number of patients admitted with COVID-19 infection related symptoms increased (4). In our county patients with suspected SARS-CoV-2 infection defined according to the COVID-19 Outbreak Management and Working Guideline created and published by the Turkish Ministry of Health (5). Patients who meet the criteria in this guideline were tested for SARS-CoV-2 infection by RT-PCR in pandemic clinics. Our first case was referred for sore throat and dyspnea; second case was referred for dyspnea, cough, sore throat and third case was referred for sore throat to pandemic clinic according to the COVID-19 Outbreak Management and Working Guideline created and published by the Turkish Ministry of Health.

RT-PCR testing is highly specific, but its sensitivity is about 60–70% (6). Therewithal, especially on early periods of pandemic, the RT-PCR result has taken longer than two days in our hospital. CT reports to be available earlier, thus CT has taken an important role in a comprehensive as-

assessment of patients, for demonstrating high sensitivity (although low specificity), to detect the most frequent pulmonary findings of the disease (5, 7). Radiological evaluation is important for making decision of hospitalization and early results in determining the severity of the disease in outpatients (5).

Shoji et al. reported an increase in requests of thorax CT since the first records of cases in Brazil (7). However, they expressed their concerns about exceeding install capacity of the system to analyze and produce the CT reports on their report. As opposed to this, in their study from US, Houshyar et al. reported the decrease in daily emergency department radiology volume ranged from 32–40% and, decrease in the non-trauma chest subspecialty volumes by 18% (8). Although, they expressed same concerns about chest radiology demand might increase with an increase in COVID-19 cases.

In our department, 1206 thorax CT performed in March 2019, 1167 thorax CT performed in April 2019 and 1213 thorax CT performed in May 2019. After first case diagnosed in our country, 2599 thorax CT performed in March 2020, 6278 thorax CT performed in April 2020 and 4911 thorax CT performed in May 2020 (**Figure 4**).

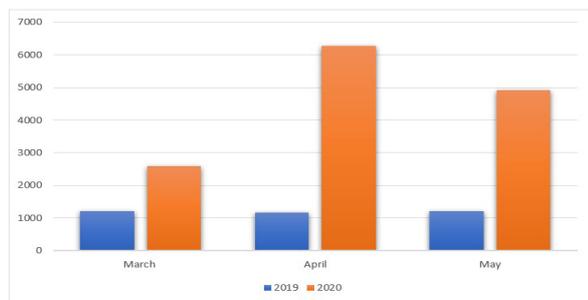


Figure 4: Numbers of thorax CT

An increase in the frequency of further imaging may also lead to an increase in the diagnosis of thoracic pathologies. In patients applying to the pandemic clinic, clinicians try to exclude SARS-CoV-2 infection firstly. If there is no evidence of viral pneumonia in physical examination or thorax CT, patients are referred to other clinics for differential diagnosis.

As a conclusion, we think that the increased number of thoracic imaging during the pandemic proses will lead to an increase in the inci-

dence of asymptomatic and subclinical thoracic pathologies. This increase of incidence should be reveled with further epidemiological studies.

Informed consent

We asked the patients to help us to publish the case report in an international journal for discussion, including disease symptoms, diagnosis, and image related content. The patients agreed us to use his medical records and signed the consent form.

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