Northwestern Med J. 2022;2(2):129-131
doi: 10.54307/NWMJ.2022.30592

Case Report

A new neurological complication of COVID-19 infection; ulnar sensory neuropathy

COVID-19 enfeksiyonunun yeni bir komplikasyonu; ulnar duyusal nöropati

Fatih Kurt

Atıf/Cite as: Kurt F. A new neurological complication of COVID-19 infection; ulnar sensory neuropathy. Northwestern Med J. 2022;2(2):129-131.

ABSTRACT

Coronavirus Disease 2019 (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was first detected in Wuhan, China, in December 2019. Since then, it has become a severe global health problem that has affected the whole world. COVID-19 has a wide range of symptoms, including asymptomatic to severe respiratory symptoms, extrapulmonary problems, and death. With each passing day, new complications arise due to coronavirus. Many neuropathic complications have been described, the most common being anosmia. Ulnar sensory neuropathy due to COVID-19 infection, included in our article, has not been previously reported in the literature.

Keywords: COVID-19 infection, neurological complication, ulnar sensory neuropathy

ÖZ

Şiddetli akut solunum sendromu koronavirüs 2'nin (SARS-CoV-2) neden olduğu "Coronavirus Disease 2019 (COVID-19)'' ilk olarak Aralık 2019'da Çin'in Wuhan kentinde tespit edildi. O günden beri tüm dünyayı etkisi altına alan çok ciddi bir küresel sağlık sorunu haline geldi. COVID-19'un klinik spektrumu asemptomatik ile şiddetli solunum semptomları, ekstrapulmoner belirtiler ve ölüm arasında değişmektedir. Her geçen gün Coronavirüse bağlı yeni komplikasyonlar ortaya çıkmaktadır. En sık anosmi olmak üzere bir çok nöropatik komplikasyon tanımlanmıştır. Makalemizde yer alan COVID-19 enfeksiyonuna bağlı ulnar duyusal nöropati literatürde daha önce bildirilmemiştir.

Anahtar kelimeler: COVID-19 infeksiyonu, nörolojik komplikasyon, ulnar duyusal nöropati

Received: 23.09.2021
Accepted: 17.05.2022
Publication date: 30.06.2022

Corresponding Author:
F. Kurt
ORCID: 0000-0003-1975-6492
Düzce University, Faculty of Medicine, Department of Pediatrics, Duzce, Turkey
✉ fatihkurt_04@hotmail.com

INTRODUCTION

"Coronavirus Disease 2019 (COVID-19)" caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was first detected in Wuhan, China, in December 2019. With the rapid spread of this virus worldwide, the World Health Organization (WHO) declared an internationally alarming public health situation and was described as a pandemic in March 2020 (1). COVID-19 has a wide range of symptoms, including asymptomatic to severe respiratory symptoms, extrapulmonary problems, and death. (2). Symptoms in children are generally mild compared to adults. Rarely, a hyperinflammatory clinical picture called "Multisystem Inflammatory Syndrome in Children (MIS-C)" is seen (3). In this article, we wanted to contribute to the literature by presenting the patient who showed neuropathic symptoms such as pain, numbness, and tingling in the left-hand ulnar area 1 week after COVID-19.

CASE REPORT

The 14-year-old male patient was asymptomatic when his parents' COVID-19 PCR test were

positive about one month ago, but the COVID-19 PCR test was positive. While the case was asymptomatic for 10 days, symptoms of burning, stinging, electric shock-like pain, numbness, and tingling started in the left-hand ulnar area about 20 days ago. It was learned that the patient's complaints were continuous and did not increase with movement. There was no feature in the patient's medical history and family history. In the physical examination, the skin was normal, cranial nerves were normal, distal muscle strength was 5/5 in four extremities, and deep tendon reflexes were normal in the neurological examination. The patient's COVID-19 IgG test was positive. Vitamin D level 18.5 mg/dl, Vitamin B12 427 pg/ml, thyroid stimulating hormone 3,6 mIU/L, free T4 1,6 ng/dl, hemoglobin 13,9 g/dl, ferritin 30 ng/ml detected In laboratory tests. The other laboratuary tests were normal. No pathology was found in the cervical MRI. Electromyography (EMG) was found to be normal. The patient was evaluated as peripheral neuropathy after COVID-19 infection in this state.

DISCUSSION

The COVID-19 pandemic continues to manifest itself with different clinical findings and threatens the world. The most common symptoms observed in the course of this disease are fever (98.6%), cough (59.4%), and weakness (69.6%). Cases with nonspecific findings such as anorexia (39.9%), muscle pain (34.8%), diarrhea (10.1%), nausea (6.5%), vomiting (3.6%), abdominal pain (2.2%), headache (6.5%) have been reported (4). There have also been examples documented in the literature with neurological symptoms such as cerebrovascular disease, Guillian Barre syndrome, acute transverse myelitis, and acute encephalitis. Hyposmia has been reported most frequently among peripheral neuropathy findings (5).

Peripheral neuropathy is any condition that affects peripheral nerves and impairs their functioning (6). Peripheral neuropathy is one of the most common neurological conditions encountered by physicians of all specialties. Sensory symptoms (eg numbness, tingling), weakness, autonomic symptoms (e.g. early satiety, orthostatic hypotension, sweat abnormalities), or neuropathic (burning, stabbing, electrical) pain may indicate the presence of peripheral neuropathy. Etiologies of peripheral neuropathy include diabetes mellitus, vitamin B12 deficiency, hypothyroidism, sarcoidosis, amyloidosis, neoplastic, paraneoplastic, vasculitic, infectious and inflammatory immune-mediated causes (such as chronic inflammatory demyelinating polyradiculoneuropathy), and toxic causes (7).

The literature reports that EMG is found to be normal in 20% of peripheral neuropathy cases, and the prognosis of these cases is good (6). Although the patient's EMG was normal, peripheral neuropathy was accepted because his sensory complaints were obvious. Symptoms of ulnar sensory neuropathy started 10 days after the patient had a COVID-19 infection. The results of the laboratory, cervical MRI, and EMG tests for the etiology were all normal, indicating that peripheral neuropathy develops as a result of COVID-19 infection, and the case was given as a contribution to the literature because no similar case had been reported previously.

Conflict of Interest: The author declare that he have no conflict of interest

REFERENCES

1. Guo Y, Cao Q, Hong Z, et al. Transmission and Clinical Therapies on Coronavirus Disease 2019 (COVID-19) Outbreak-an Update on the Status. Military Med Res. 2020; 7: 11. https://doi.org/10.1186/s40779-020-00240-0
2. Greenhalgh T, Knight M, A'Court C, et al. Management of Post-Acute COVID-19 in Primary Care. BMJ. 2020; 370: 3026. https://doi.org/10.1136/bmj.m3026
3. Riphagen S, Gomez X, Gonzalez-Martinez C, et al. Hyperinflammatory Shock in Children During COVID-19 Pandemic. Lancet. 2020; 395(10237): 1607-1608. https://doi.org/10.1016/S0140-6736(20)31094-1
4. Wang D, Hu B, Hu C, Zhu F, Liu X, Zhang J, et al. Clinical Characteristics of 138 Hospitalized Patients With 2019 Novel Coronavirus-Infected Pneumonia in Wuhan, China. JAMA 2020; 323: 1061-9. https://doi.org/10.1001/jama.2020.1585

5. Ahmad I, Rathore FA. Neurological Manifestations and Complications of COVID-19: A Literature Review. J Clin Neurosci. 2020 Jul; 77: 8-12. https://doi.org/10.1016/j.jocn.2020.05.017
6. Misra UK, Kalita J, Nair PP. Diagnostic Approach to Peripheral Neuropathy. Ann Indian Acad Neurol. 2008 Apr; 11(2): 89-97. https://doi.org/10.4103/0972-2327.41875
7. Watson JC, Dyck PJ. Peripheral Neuropathy: A Practical Approach to Diagnosis and Symptom Management. Mayo Clin Proc. 2015 Jul; 90(7): 940-51. https://doi.org/10.1016/j.mayocp.2015.05.004