The Journal of Turkish Family Physician

Olgu | *Case*

Yıl: 2023 **Cilt:** 14 **Sayı:** 2 / **e-ISSN:** 2148-550X

doi: 10.15511/tjtfp.23.00282

Tekrarlayan kanlı diyare ile başvuran yetişkin erkek COVID-19 hasta olgusu

Recurrent bloody diarrhea in an adult male COVID-19 patient: A Case report

Egemen Tural[1] **Işık Gönenç[2]** **Refik Demirtunç[3]**

[1)] *University of Health Sciences, Haydarpaşa Numune Resh. Hos. Dep. of FM, Dr., Istanbul. {ORCID:0009-0007-4772-796X}*

[2)] *University of Health Sciences, Haydarpaşa Numune Resh. Hos. Dep. of FM, Dr., Istanbul. {ORCID:0000-0003-4615-688X}*

[3)] *University of Health Sciences, Haydarpaşa Numune Resh. Hos. Dep. of Int. Med., Prof., Ist. {ORCID:0000-0003-0056-5645}*

İletişim adresi:
Dr. Egemen Tural
E-mail: egementural1@gmail.com

Geliş tarihi: *02/06/2023*
Kabul tarihi: *22/06/2023*
Yayın tarihi: *30/06/2023*

Informed consent: Written informed consent was obtained from the patient for the case report and publication of the accompanying analyzes (26.05.2023). **No conflict of interest reported.**

Alıntı Kodu: *Turhal E ve ark. Tekrarlayan kanlı diyare ile başvuran yetişkin erkek COVID-19 hasta olgusu. Jour Turk Fam Phy 2023; 14 (2): 82-87. Doi: 10.15511/tjtfp.23.00282.*

The Journal of Turkish Family Physician

Olgu | *Case*

Yıl: 2023 **Cilt:** 14 **Sayı:** 2 / **e-ISSN:** 2148-550X

doi: 10.15511/tjtfp.23.00282

Özet

Ülseratif kolit, karın ağrısı, kanlı ishal ve kilo kaybı gibi belirtilerle ortaya çıkan inflamatuar bir bağırsak hastalığıdır. COVID-19 enfeksiyonu, solunum yolu hastalıkları, cerrahi operasyonlar gibi durumlar sonrasında semptomların süresi ve şiddeti artabilir. Ülseratif kolit alevlenmesi ile COVID-19 arasındaki kesin ilişki tam olarak anlaşılamamış olsa da lokal immün deregülasyon, psikolojik stres ve otoimmünitenin başlaması gibi faktörlerin rol oynayabileceğini gösteren çok az literatür vardır. Bu olgu sunumunda, COVID-19 enfeksiyonu sonrası tekrarlayan kanlı ishal, tenezm ve karın ağrısı şikayeti ile başvuran ülseratif kolitli bir hastayı sunmayı amaçladık.

Anahtar kelimeler: Ülseratif kolit, COVİD-19, diyare, tedavi

Summary

Ulcerative colitis is an inflammatory bowel disease presenting with symptoms such as abdominal pain, bloody diarrhea and weight loss. Following courses like COVID-19 infection, respiratory diseases, surgical operations, etc., the duration and severity of symptoms may increase. Although the exact relationship between exacerbation of ulcerative colitis and COVID-19 is not fully understood, and there is scarce literature demonstrating that factors such as local immune deregulation, psychological stress, and the initiation of autoimmunity may play a role. In this case report, we aimed to present a patient with ulcerative colitis complaining of recurrent bloody diarrhea, tenesmus, and abdominal pain after COVID-19 infection.

Keywords: Ulcerative colitis, COVID-19, diarrhea, treatment

Alıntı Kodu: *Turhal E ve ark. Tekrarlayan kanlı diyare ile başvuran yetişkin erkek COVID-19 hasta olgusu. Jour Turk Fam Phy 2023; 14 (2): 82-87. Doi: 10.15511/tjtfp.23.00282.*

The Journal of Turkish Family Physician

Olgu | Case
Yıl: 2023 Cilt: 14 Sayı: 2 / e-ISSN: 2148-550X
doi: 10.15511/tjtfp.23.00282

Introduction:

Ulcerative colitis (UC) is an edematous, ulcerative, chronic disease characterized by widespread inflammation of the colonic mucosa and superficial submucosa with an indepth involvement in fulminant cases. Lesions typically begin in the rectum in 95% of cases and spread from distal to the proximal continously without leaving any healthy mucosal areas inbetween.[1] Common clinical symptoms are urgency to defecate, tenesmus, severe abdominal pain, and bloody diarrhea. Clinically, UC progresses with remissions and attacks that may occur spontaneously or in response to changes in treatment.[2,3]

Population-based studies have reported that a significant proportion of patients with UC exhibit distinct patterns of colonic inflammation. Specifically, approximately 30-60% of patients present with proctitis, 16-45% with left colitis, and 14-35% with pancolitis. The pathophysiology of UC involves several underlying mechanisms, including defects in the epithelial barrier function, dysregulated immune responses, aberrant recruitment of leukocytes, and alterations in the composition of the colonic flora. These factors collectively contribute to the development and progression of UC.[4]

Although their sensitivity is low, the presence of infections such as hemorrhagic E. coli, Salmonella, Shigella, etc, that may cause a picture similar to UC should be determined by stool cultures. Additionally, medication history especially of non-steroidal anti-inflammatory drugs (NSAID), 5-aminosalicylic acid (ASA) and antibiotics that may cause a similar picture should be questioned. Pelvic radiotherapy application should also be questioned in the history.[5]

The exact relationship between ulcerative colitis and COVID-19 is not proven and there is a lack of literature on this subject. In this case report, the exacerbation of the UC disease after the diagnosis of COVID-19 was described in our patient, whose infectious causes, drug-radiotherapy side effects, and other causes were excluded as a result of anamnesis and cultures, and who was diagnosed with UC by colonoscopy and reported to have regressed after treatment.

Case:

Written informed consent was obtained from the patient for the case report and publication of the accompanying analyzes (26.05.2023).

A non-smoker 32-year-old male patient with no chronic illnesses, having occasional episodes of blood stained defecation due to hemorrhoids, presented at an private clinic with a complaint of bloody diarrhea occurring 12-15 times a day, for the past 17 days, 26 months ago. After the diagnosis of amoebic dysentery was made as a result of stool examination and culture, metronidazole treatment was started. His blood sample examination had revealed leucocytosis with a white blood count of (WBC) 16.85/mm3, hemoglobin (Hgb) level of 12.2 gr/dl and C-Reactive Protein (CRP) level of 47.56 mg/dl.

Despite 24 days of 3x750 mg metronidazole treatment (14 days + 10 days), the complaint of bloody diarrhea did not regress and he was feeling weak and loss of appetite, and had lost about 15 percent of his body weight, colonoscopy was planned for further examina-

Yıl: 2023 Cilt: 14 Sayı: 2 / e-ISSN: 2148-550X
doi: 10.15511/tjtfp.23.00282

tion. The pathology report was consistent with UC.

The patient, whose treatment had started with 40 mg methylprednisolone for 12 weeks and tapered off by 4mg weekly after the 2nd week of treatment, and whose diarrhea regressed after 3x800 mg oral mesalazine treatment, applied to our hospital for the first time, for routine control, 22 months ago. The general condition was well, there were no active complaints. Physical examination was normal, abdomen was relaxed with no bloating, rigidity or rebound. Blood sample examinations showed levels for Hgb, WBC and CRP as11.4 gr/dl, 14.77 /mm3, 4,4 mg/dl respectively.

Mesalazine treatment was continued at 3x800mg. The patient, who did not report any bloody diarrhea and weight loss after methylprednisolone treatment was stopped for about 3 months, the patient came back again with complaints of bloody diarrhea and abdominal pain on the 7th day of the quarantine period, after being found to be positive for COVID-19 with a PCR test. In our hospital, he was taken under 40 mg-methylprednisolone treatment again and was increased to 48 mg when his symptoms did not regress after 5 days and lost 4 kg. After three days, the bloody diarrhea ceased. Methylprednisolone treatment was continued for four weeks more with a decrease of 12 mg per week and was eventually stopped, then the treatment was continued with 3x800 mg of mesalazine only.

Discussion:

In this article, a patient who presented with a UC flare up with bloody diarrhea and weight loss after an episode of COVID-19 infection is introduced although he was in total remission for 4 months. Although the exact relationship between UC and COVID-19 is not known and there are very few publications, in this scarce amount of literature it has been stated that microbiota disorders and local immune deregulation mechanisms can be the culprit to induce chronic colonic inflammation after an COVID-19 infection.[6]

It has been postulated that the worsening of UC symptoms following a COVID-19 infection could be associated with the initiation of mimicking the molecular autoimmunity caused by viral infections, specifically by COVID-19. This leads to the activation of immune responses targeting antigenic epitopes, known as epitope spread, distinct from those implicated in the disease process. Additionally, it involves the activation of T cells in an antigen-independent manner referred to as bystander activation or the expression of hidden epitopes.[7]

Our case provides further evidence supporting these aforementioned studies, as we observed a recurrence of UC symptoms, such as severe bloody diarrhea and abdominal pain, which began subsequent to the COVID-19 infection.

Based on the findings of Megyeri et al., it has been determined that diarrhea is the predominant gastrointestinal symptom observed in individuals with COVID-19. This occurrence can be attributed to the widespread expression of the ACE2 receptors and other essential elements necessary for viral binding to different cell types within the gastrointestinal tract. Consequently, viral infection triggers an inflammatory response in the intestines, characterized by the release of various pro-inflammatory cytokines and chemokines. Many of

Yıl: 2023 Cilt: 14 Sayı: 2 / e-ISSN: 2148-550X
doi: 10.15511/tjtfp.23.00282

these molecules are known to enhance intestinal permeability, thereby contributing to the manifestation of diarrhea in COVID-19 patients.[8]

During the initial phase of the pandemic, a meta-analysis conducted by Cheung et al. revealed that the identification of SARS-CoV-2 RNA in stool samples, anal swabs, and gastrointestinal histological samples through reverse transcription polymerase chain reaction (RT-PCR) testing in individuals infected with COVID-19 indicated the potential involvement of the gut as a site for viral replication and activity. This suggests that the gastrointestinal tract may serve as a location where the virus can replicate and exhibit its effects.[9] In our case, neither anal swabs nor gastrointestinal histological sampling were performed, therefore viral analysis could not be performed.

According to the results obtained retrospectively by Suda et al., which included 289 UC patients' evaluations, it was determined that UC showed exacerbations after COVID-19 infection, and they were likely to be caused by physiological reasons and psychological stress.[10]

While in our case the exacerbation is mainly attributed to physiological reasons, the effect of the psychological stress factors on the prognosis of UC cannot be excluded. It should be kept in mind that exacerbations may be experienced in inflammatory bowel diseases such as UC, especially after the COVID-19 infection, and that the treatment dose may need to be increased and it should be evaluated without delay.

Informed consent: Written informed consent was obtained from the patient for the case report and publication of the accompanying analyzes (26.05.2023).

Conflict of interest: The authors declared no conflict of interest. The authors declared that they received no financial support for this study.

Author Contributions: All authors; declared that they participated in the design, supervision, analysis and/or interpretation, literature search, writing and references.

Yıl: 2023 Cilt: 14 Sayı: 2 / e-ISSN: 2148-550X
doi: 10.15511/tjtfp.23.00282

Kaynaklar:

1. Kalkan Ç, Törüner M. İnflamatuvar bağırsak hastalıklarında striktürler. Güncel gastroenteroloji. 2013;17(4):302–6.
2. Kornbluth A, Sachar DB. Ulcerative colitis practice guidelines in adults: American college of gastroenterology, practice parameters committee. American Journal of Gastroenterology. 2010;105(3):501-23.
3. Tripathi K, Feuerstein JD. New developments in ulcerative colitis: latest evidence on management, treatment, and maintenance. Drugs Context. 2019;22(8):1–11.
4. Lynch WD, Hsu R. Colitis, Ulcerative (internet). StatPearls. 2018 (cited 2019 Sep 22). Accessed from http://www.ncbi.nlm.nih.gov/pubmed/29083748 on 11/05/2023.
5. Demir N, Erzin YZ. İnflamatuvar bağırsak hastalıklarında klinik belirtiler. Güncel gastroenteroloji. 2014;18(4):423-39.
6. Kartsoli S, Vrakas S, Kalomoiris D, Manoloudaki K, Xourgias V. Ulcerative colitis after SARS-CoV-2 infection. Autops Case Rep. 2022;12:e2021378.
7. Venkatachalam S, Nathan J. S2450 COVID-19-associated ulcerative colitis flare: A bad breakout. Am J Gastroenterol. 2021;116(1):1036.
8. Megyeri K, Dernovics Á, Al-Luhaibi ZII, Rosztóczy A. COVID-19-associated diarrhea. WJG. 2021;27(23):3208-22.
9. Cheung KS, Hung IFN, Chan PPY, Lung KC, Tso E, Liu R, vd. Gastrointestinal manifestations of SARS-CoV-2 ınfection and virus load in fecal samples from a Hong Kong cohort: Systematic review and meta-analysis. Gastroenterology. 2020;159(1):81-95.
10. Suda T, Takahashi M, Katayama Y, Tamano M. COVID-19 pandemic and exacerbation of ulcerative colitis. WJCC. 2021;9(36):11220-7.

Alıntı Kodu: *Turhal E ve ark. Tekrarlayan kanlı diyare ile başvuran yetişkin erkek COVID-19 hasta olgusu. Jour Turk Fam Phy 2023; 14 (2): 82-87. Doi: 10.15511/tjtfp.23.00282.*