Journal of Enterocolitis

Case Report

Ustekinumab as Salvage Therapy in a Patient with Acute Severe Ulcerative Colitis

Özge Coşkun[1], Yeşim Özen Alahdab[2], Özlen Atuğ[2], Haluk Tarık Kani[2,3]

[1]Department of Internal Medicine, School of Medicine, Marmara University, Istanbul, Turkiye
[2]Department of Gastroenterology, School of Medicine, Marmara University, Istanbul, Turkiye
[3]Institute of Gastroenterology, Marmara University, Istanbul, Türkiye

Cite this article as: Coşkun Ö, Özen Alahdab Y, Atuğ Ö, Kani HT. Ustekinumab as Salvage Therapy in a Patient with Acute Severe Ulcerative Colitis. *J Enterocolitis.* 2025;4(1):19-20.

Corresponding author: Haluk Tarık Kani, e-mail: tarik.kani@marmara.edu.tr

Received: January 13, 2025 **Accepted:** February 12, 2025

DOI: 10.14744/Jenterocolitis.2025.00529

Abstract

A patient with left-sided ulcerative colitis presented with acute severe ulcerative colitis (ASUC) after experiencing inadequate responses to two advanced therapies. The patient had previously been treated with vedolizumab for 14 months before being switched to infliximab due to secondary unresponsiveness. Ustekinumab was initiated as a rescue therapy for ASUC, leading to clinical improvement. At the six-month follow-up, the patient remained in remission.
Keywords: Salvage therapy, ulcerative colitis, ustekinumab

INTRODUCTION

Acute Severe Ulcerative Colitis (ASUC) is a medical emergency with a 1% mortality rate.[1] Infliximab and cyclosporine are commonly used as salvage therapies for patients who do not respond to intravenous (IV) hydrocortisone treatment. Here, we present a case in which ustekinumab was used as salvage therapy in a patient diagnosed with ulcerative colitis (UC).

CASE

A 35-year-old woman with left-sided UC, diagnosed in 2007, was admitted to the emergency unit in August 2023 with 15–20 episodes of bloody diarrhea per day. She had remained in remission until 2016 under treatment with mesalazine (4.8 g/day) and azathioprine (100 mg/day). From February 2017 to April 2018, she received vedolizumab (400 mg every eight weeks), but her therapy was later switched to infliximab (5 mg/kg every eight weeks) due to secondary unresponsiveness. In October 2021, her infliximab dose was escalated to 10 mg/kg every eight weeks following disease activation. She remained in remission for two years after the dose escalation.

In August 2023, she presented to the emergency unit with approximately 15 episodes of bloody diarrhea per day. Upon admission, her temperature was 36.5°C, arterial blood pressure was 107/68 mmHg, and heart rate was 88/min. Physical examination revealed only mild abdominal tenderness.

Laboratory results showed the following:

- White blood cell (WBC) count: 10,300/mm³
- Platelet (Plt) count: 425,000/mm³
- Albumin: 3.9 g/dL
- Erythrocyte sedimentation rate (ESR): 39 mm/h
- C-reactive protein (CRP): 25.25 mg/L

Rectosigmoidoscopy revealed a Mayo endoscopic score of 3 (Figure 1B). Stool tests for *Clostridium difficile* toxin and *Entamoeba histolytica* antigen were negative. No parasites were observed in direct stool examination, and immunohistochemistry for cytomegalovirus (CMV) was negative in biopsy samples.

Intravenous methylprednisolone (40 mg/day) was initiated as first-line treatment for ASUC. However, on day four of treatment, her bowel movements increased to 25 per day, accompanied by blood and mucus, and she developed abdominal tenderness in the lower left quadrant. Her total Mayo score was 12. Computed tomography revealed a transverse colon diameter of 5.5 cm (Figure 1A).

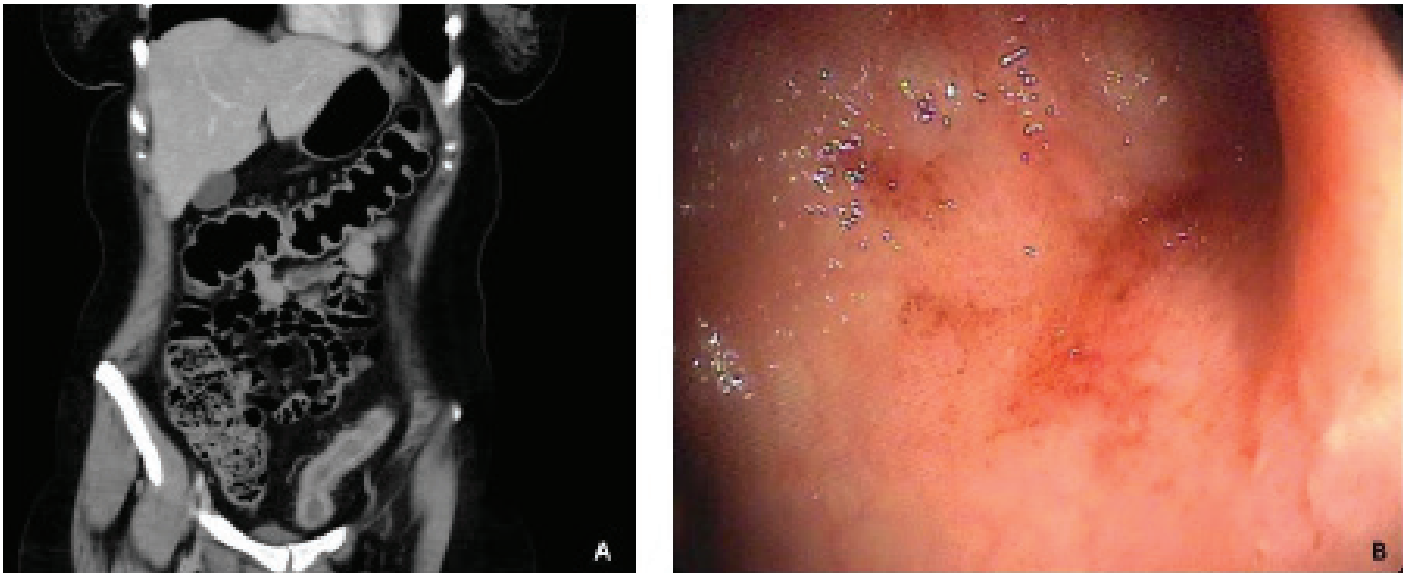

Figure 1. (A) Enlarged transverse colon on computed tomography imaging. (B) Endoscopic image of the sigmoid colon before methylprednisolone induction therapy.

The patient was evaluated for surgical intervention and closely monitored for the need for emergency surgery. On day six of methylprednisolone treatment, ustekinumab (UST) 390 mg IV was administered as an induction dose for severe UC. Within 24 hours of induction, her bowel movements decreased to 10 episodes per day with reduced bleeding, and her Modified Mayo Score was calculated as 7. She was discharged on day three following UST induction.

At the six-month follow-up, while receiving ustekinumab (90 mg every eight weeks) and mesalazine (4.8 g/day), she had two formed bowel movements per day without blood or mucus, and her Modified Mayo Score was 0. Laboratory results were as follows:

- White blood cell (WBC) count: 5,000/mm³
- Platelet (Plt) count: 425,000/mm³
- Albumin: 4.6 g/dL
- Erythrocyte sedimentation rate (ESR): 11 mm/h
- C-reactive protein (CRP): 4.19 mg/L

A computed tomography scan showed that colon diameters were within normal limits.

Artificial intelligence-assisted technology was not used in the preparation of this manuscript, and written informed consent was obtained from the patient.

DISCUSSION

In the treatment of UC, numerous biological agents and small-molecule therapies have emerged over the past decade.[2] Although some studies have investigated Janus kinase (JAK) inhibitors for ASUC in recent years, research on interleukin-23 antagonists, phosphodiesterase inhibitors, and sphingosine-1-phosphate receptor modulators remains limited.[3] The rapid efficacy of these newer therapeutic options may offer an alternative to conventional rescue therapies for ASUC.

Although current guidelines still recommend traditional therapies,[4-6] future data on emerging treatment options may shift the current approach to ASUC management.

Informed Consent: Written informed consent was obtained from the patient.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept – O.C., H.T.K.; Design – O.C., H.T.K.; Supervision – H.T.K.; Resource – O.C., Y.O.A., O.A., H.T.K.; Materials – O.C., Y.O.A., O.A., H.T.K.; Data Collection and/or Processing - O.C., H.T.K.; Analysis and/or Interpretation - O.C., H.T.K.; Literature Review – O.C., H.T.K.; Writing – O.C., Y.O.A., O.A., H.T.K.; Critical Review – O.C., Y.O.A., O.A., H.T.K.

Use of AI for Writing Assistance: AI was not used for writing assistance.

Conflict of Interest: Haluk Tarik Kani has been speaker or advisor for Abbvie, Takeda, Janssen and Sanofi.

Funding: The authors declared that this study received no financial support.

REFERENCES

1. Dong C, Metzger M, Holsbø E, Perduca V, Carbonnel F. Systematic review with meta-analysis: mortality in acute severe ulcerative colitis. *Aliment Pharmacol Ther*. 2020;51(1):8-33. [CrossRef]
2. Calméjane L, Laharie D, Kirchgesner J, Uzzan M. Review article: Updated management of acute severe ulcerative colitis: From steroids to novel medical strategies. *United European Gastroenterol J*. 2023;11(8):722-732. [CrossRef]
3. Gisbert JP, García MJ, Chaparro M. Rescue Therapies for Steroid-refractory Acute Severe Ulcerative Colitis: A Review. *J Crohns Colitis*. 2023;17(6):972-994. [CrossRef]
4. Feuerstein JD, Isaacs KL, Schneider Y, Siddique SM, Falck-Ytter Y, Singh S; AGA Institute Clinical Guidelines Committee. AGA Clinical Practice Guidelines on the Management of Moderate to Severe Ulcerative Colitis. *Gastroenterology*. 2020;158(5):1450-1461. [CrossRef]
5. Tamir-Degabli N, Maharshak N, Cohen NA. Salvage Therapy in Acute Severe Ulcerative Colitis: Current Practice and a Look to the Future. *Turk J Gastroenterol*. 2023;34(6):576-583. [CrossRef]
6. Evirgen S, İliaz R, Akyüz F, et al. Cyclosporine Therapy as a Rescue Treatment in Steroid Refractory Acute Severe Ulcerative Colitis: A Real Life Data From a Tertiary Center. *Turk J Gastroenterol*. 2022;33(6):463-469. [CrossRef]