Case Report

Ulcerative colitis initially misdiagnosed as irritable bowel syndrome: A case report

Swathi Nalla[1*], Burra Sai Ruthvik[2], G. Tulja Rani[3], Illa Asha Latha[4]

[1]*Department of Pharmacology, Malla Reddy Pharmacy College, Affiliated to JNTUH, Maisammaguda, Hyderabad*
[2]*Department of Pharmacy Practice, Malla Reddy Pharmacy College, Affiliated to JNTUH, Maisammaguda, Hyderabad*
[3]*Department of Pharmaceutical analysis, Malla Reddy Pharmacy College, Affiliated to JNTUH, Maisammaguda, Hyderabad*
[4]*Department of Pharmacy Practice, Vikas College of Pharmaceutical Sciences, Affiliated to JNTUH, Suryapet*

Article Info

[*]***Corresponding Author:***
Swathi Nalla
HOD Department of Pharmacology
Malla Reddy Pharmacy College
E-mail: nalla.swathi90@gmail.com
Phone: 7095532999

Keywords

Inflammatory Bowel Disease (IBD), Ulcerative Colitis (UC), Irritable Bowel Syndrome (IBS), Remission

Abstract

Background: Irritable bowel syndrome (IBS) and early ulcerative colitis (UC) share overlapping gastrointestinal symptoms, which may lead to misdiagnosis and delay in appropriate treatment.

Case presentation: The patient presenting with abdominal pain and altered bowel habits was initially diagnosed with IBS based on symptoms, physical examination, and past medical history, in the absence of alarm features. However, despite one week of symptomatic treatment, the patient's condition worsened.

Diagnostic assessment: Further evaluation including complete blood profile, abdominal ultrasonography, colonoscopy, and colonic biopsy was subsequently performed, which confirmed a diagnosis of inflammatory bowel disease consistent with ulcerative colitis.

Conclusion: This case highlights the diagnostic pitfalls in differentiating IBS from early UC based solely on clinical presentation. Clinicians should maintain a high index of suspicion and pursue appropriate laboratory and endoscopic investigations when symptoms persist or worsen, to avoid misdiagnosis, treatment delay, and disease progression.

Introduction

Inflammatory bowel disease (IBD) is a chronic inflammation and immune-associated illness involving dysbiosis in the intestinal microenvironment. It is a lifelong progressive disorder characterized by unpredictable inflammation and an overactive immune system [1-2].

Case presentation

A 22-year-old male presented with a six-month history of pain during defecation, abdominal pain, bloating, nausea, intermittent blood in stools, and unintentional weight loss. There was no history of fever or acute gastrointestinal infection.

Past medical and surgical history

The patient had a past medical history of irritable bowel syndrome (IBS) diagnosed three years earlier, for which he was treated with chlordiazepoxide and clidinium bromide for 20 days, with symptomatic relief. He also had a history of right-sided inguinal hernioplasty performed at the age of seven years. Six months before the current presentation, the patient developed pain during defecation and hematochezia and was evaluated at a local hospital, where an anal fistula was suspected. He was managed conservatively with symptomatic treatment and advised increased oral fluid intake, following which the anal symptoms improved.

Family History and Allergies

Family history was significant for inguinal hernia, appendicitis, and hypertension in the father, and inguinal hernia in the brother. The patient reported an allergy to fluoroquinolones.

Clinical Examination

On physical examination, the patient appeared anxious. Vital signs revealed a blood pressure of 140/75 mmHg, pulse rate of 74 beats per minute, and he was afebrile. Abdominal examination showed mild tenderness without guarding or rigidity. Further laboratory and diagnostic investigations were subsequently performed.

Table 1: Complete Blood Picture.

Hematology	Observed Values	Normal Values
Hemoglobin	11.8 gm%	12-18 gm%
RBC Count	4.34 m/cmm	3.6-6.0 m/cmm
Total WBC Count	5000 cells/cmm	4,000-11,000 cells/cmm
Neutrophils	73%	45-75%
Lymphocytes	22%	20-45%
Eosinophils	2%	1-6%
Monocytes	3%	1-9%
Basophils	0%	0-1%
Total Platelets count	3.8 L/cmm	1.5-4.5 L/cmm

Table 2: Thyroid Profile.

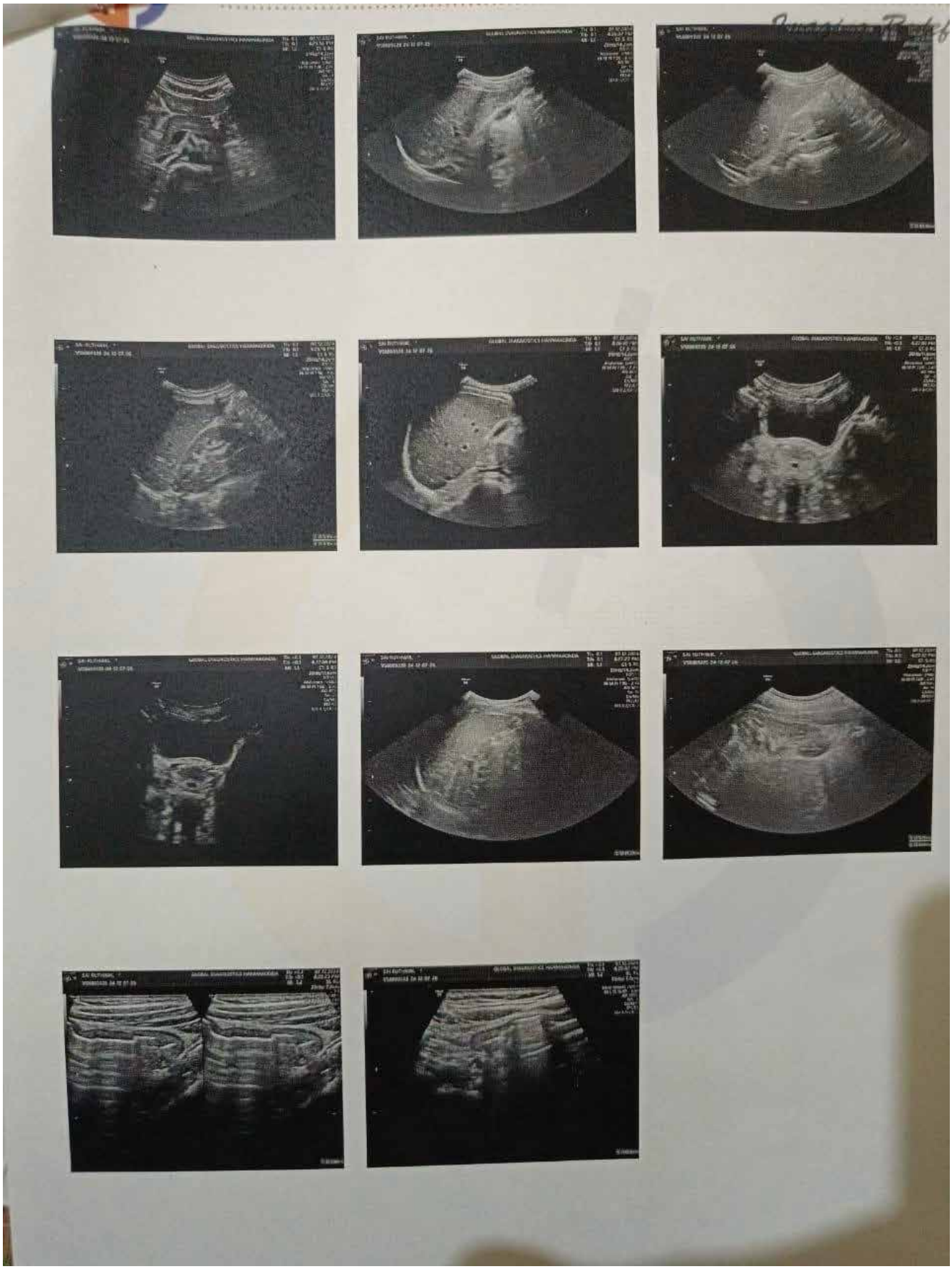
Thyroid Profile	Observed Values	Normal Values
Triiodothyronine (T3)	154.9 ng/dL	60-181 ng/dL
Thyroxine (T4)	10.66 ug/dL	4.6-12.5 ug/dL
Thyroid Stimulating Hormone (TSH)	0.869 uIU/mL	0.35-5.50 uiU/mL

Ultrasound

Impression

Descending colon, sigmoid colon appears minimally thickened and edematous (Maximum
thickness up to 5.0 mm)-? Colitis (Figure 1).

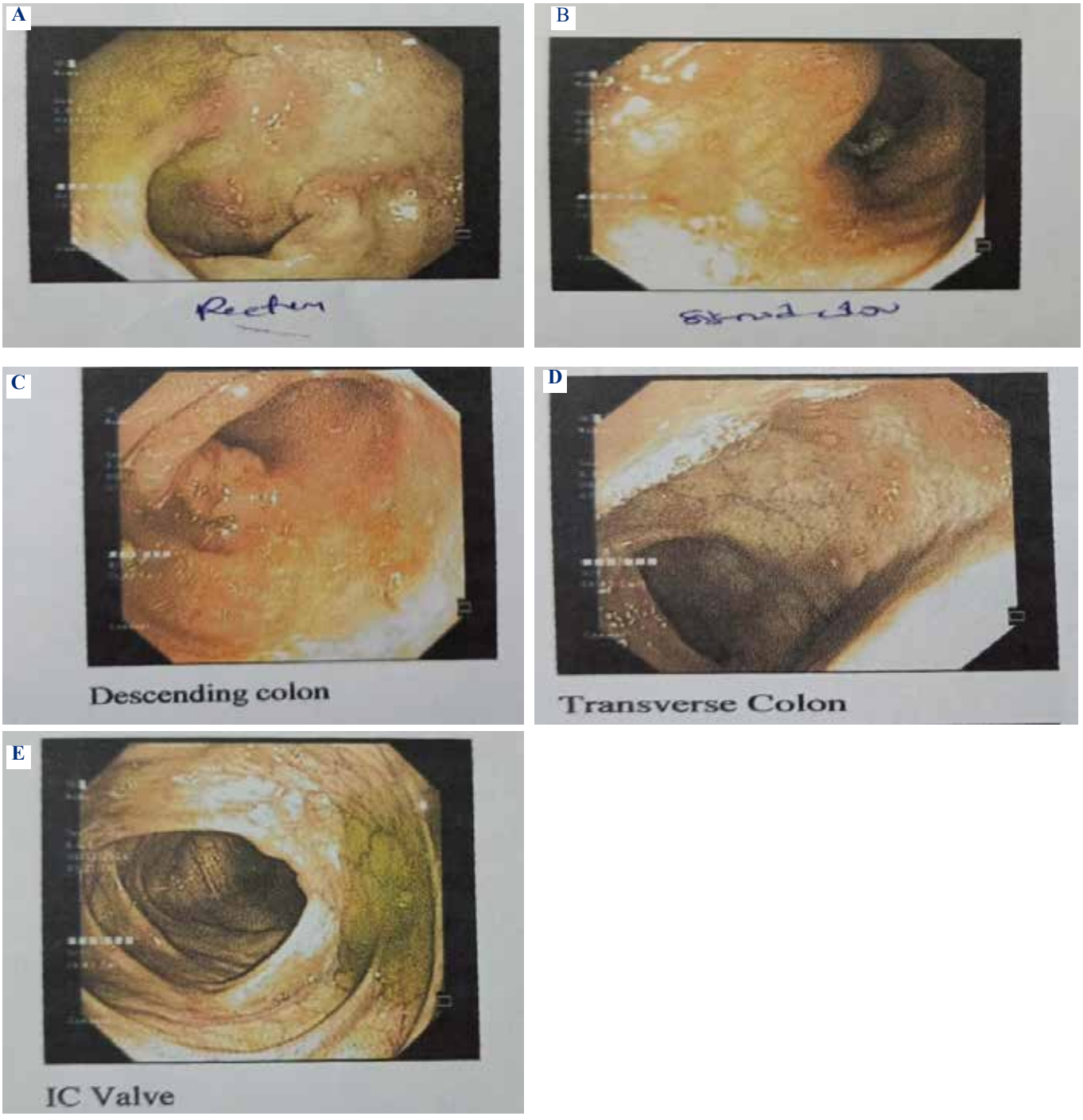
Figure 1: USG Abdomen.



Colonoscopy report
P/R: Hemorrhoids+
Rectum: Mucosal ulcerations with edema, erythema+ (Figure 2A)
Sigmoid Colon: Mucosal ulcerations with edema, erythema+ (Figure 2B)
Descending Colon: Mucosal ulcerations with edema, erythema+ (Figure 2C)
Transverse Colon: Mucosal ulcerations with edema, erythema+ (Figure 2D)
Ascending Colon: Mucosal ulcerations with edema, erythema+
IC Valve: Normal (Figure 2E)
Cecum: Mucosal ulcerations with edema, erythema+
Terminal Ileum: Normal

Impression
Colitis to R/O IBD-UC/Infective (HPE-A waited).

Figure 2: Colonoscopy of the entire colon starting from rectum (A) with thickening mucosa passing through the sigmoid (B), descending (C) and transverse (D) colon. IC Valve is normal (E).



Biopsy report

The biopsy report shows the microscopic examination with multiple fragments of colonic mucosa with focal erosion of the surface epithelium. It shows evidence of cryptitis, crypt abscesses, and depletion of goblet cells in a focal area. Lamina propria shows dense inflammation comprising neutrophils, lymphocytes, and many plasma cells. Focal areas also show basal plasmacytosis. No evidence of granulomas, amoebiasis, dysplasia/malignancy.

Impression

Feature suggestive of chronic active colitis.

Treatment

Table 3: Treatment plan for IBS and IBD.

Drug Name	Generic Name	Dose	ROA	DOA	DOS	Frequency
T. Sitcom Forte	Euphorbia prostrate extract+ calcium dobesilate	100 mg+ 500 mg	PO	29/11/2024	6/12/2024	OD
Cap. Lopisoz-D	Esomeprazole+ Domperidone	40mg + 30mg	PO	29/11/2024	6/12/2024	OD
T. Benizep	Mebeverine HCl+ Chlorodiazepoxide	13 mg+ 5 mg	PO	29/11/2024	6/12/2024	BD
Oint. Pilorute EP	Euphorbia Prostrate dry extract ethanol	1% w/w	PR	29/11/2024	6/12/2024	TID
T. Hyocimax	Hyoscyamine	0.125 mg	PO	30/11/2024	6/12/2024	OD
T. Rifaximin	Rifaximin	400 mg	PO	7/12/2024	14/12/2024	BD
T. Dolopar	Paracetamol + Caffeine	500 mg + 25 mg	PO	7/12/2024	14/12/2024	BD
T. Mesahenz	Mesalamine	1200 mg	PO	9/12/2024	05/02/2024	BD
Cap. Nexpro RD	Esomeprazole + Domperidone	40mg + 30 mg	PO	9/12/2024	14/12/2024	OD
Cap. Vizylac	Lactic acid Bacillus	120 million spores	PO	9/12/2024	14/12/2024	BD
Cap. Rekool D	Rabeprazole + Domperidone	20 mg + 30 mg	PO	14/12/2024	05/02/2024	OD
T. Folvite	Folic acid	5 mg	PO	14/12/2024	03/01/2024	OD
T. Azilide	Azithromycin	500 mg	PO	14/12/2024	19/12/2024	OD
Syp. Ventryl LS1	Levosalbutamol, Ambroxol HCl & Guaipesinhen	10 ml	PO	14/12/2024	25/12/2024	TID

Clinical summary

A 22-year-old male initially presented with chronic abdominal pain, altered bowel habits, intermittent rectal bleeding, bloating, nausea, and weight loss, without features of acute gastrointestinal infection. Based on the clinical presentation, physical examination, and a prior history of irritable bowel syndrome, a provisional diagnosis of IBS was made, and the patient was managed conservatively. As part of the initial evaluation and follow-up plan, a complete blood picture was advised to assess for anemia, and a thyroid profile was requested in view of unexplained weight loss. However, within one week, the patient returned with worsening abdominal pain, pain during defecation, fever, generalized weakness, and persistent symptoms, raising concern for an underlying organic pathology.

Further investigations were therefore undertaken, including abdominal ultrasonography, which suggested large bowel inflammation, prompting colonoscopic evaluation. Colonoscopy revealed features of chronic colonic mucosal inflammation, and tissue samples were obtained for histopathological examination. Biopsy findings confirmed a diagnosis of chronic ulcerative colitis.

Based on disease severity, treatment with mesalamine 1200 mg twice daily was initiated, leading to progressive clinical improvement, resolution of gastrointestinal symptoms, and steady weight gain on follow-up. Mild upper respiratory symptoms developed during treatment and were managed symptomatically, without objective evidence to establish a drug-related adverse effect. At one-month follow-up, the patient was asymptomatic, and the mesalamine dose was reduced to

1200 mg once daily for maintenance therapy.
This clinical course underscores the importance of reassessment and timely laboratory and endoscopic evaluation in patients initially diagnosed with IBS when symptoms persist or worsen.

Final diagnosis
IBD-Chronic Ulcerative Colitis.

Discussion
Our case presentation illustrates several key aspects. Firstly, it shows that functional diseases (IBS) may occur simultaneously with severe organic diseases (IBD) and that differentiation can be challenging and may be overlooked. Gastroenterologists may have overly focused on physical examination and past medical history. While psychosomatic specialists might have been uncertain about their ability to assist this patient. Secondly, it exemplary shows the bidirectional interrelation between IBS and IBD. There can be some overlap, particularly in symptoms presentation but IBS does not automatically progress into IBD. However, research suggests that potentially a higher risk of developing IBD if people with IBS are compared with the general population [3, 4]. The organic disease (IBD) and IBS presented first, then the patient developed a cough after the initiation of Mesalamine therapy. The physician has chosen the rechallenge method, without any alterations in the dose or medication. A symptomatic treatment has been prescribed for cough. By the next follow up the cough has been disappeared. Few studies suggest that the initiated and long-term use of Mesalamine may cause respiratory disease and immediate withdrawal of the drug and starting with the corticosteroids [5-7]. Before discontinuing Mesalamine due to adverse effects, the prescriber needs to choose a rechallenge and dechallenge technique. The drug needs to be discontinued based on the severity of the adverse drug reaction. The treatment needs to be prescribed to cure the adverse effect and follow up with the patient. Thirdly, the case report demonstrates the importance of understanding and explaining the patient's symptoms. Psycho-neuro-immunological connections proved instrumental in explaining these symptoms. The significance of elucidating functional relationships such as the gut-brain axis is emphasized in the German S3 Guideline on IBS (-). However, the German curriculum for medical students does not incorporate the knowledge necessary to explain these linkages. Even in severe cases of IBS that endure for decades, a clear explanation of symptoms and efficient symptom treatment can result in a quick and long-lasting improvement. Treatment guidelines for IBS benefit from self-management measures such as scheduled physical exercise, relaxation techniques, structured daily routines, and dietary alterations. These, however, are insufficient to account for the quick improvement. The patient's drive, ability to comprehend explanation, proactive coping mechanisms, and faith in the attending specialist and the therapeutic process are all factors that contribute to the positive outcome. Finally, integrating probiotics with antibiotic therapy can effectively reduce the incidence and severity of antibiotic-associated diarrhea (AAD) across various age groups. Clinical studies support the use of specific strains, such as Lactobacillus rhamnosus GG and Saccharomyces boulardii, highlighting their potential benefits when administered appropriately [9, 10].
Recent studies suggest adopting a Mediterranean diet, which focuses on fresh fruits, vegetables, monounsaturated fats, complex carbohydrates, and lean proteins, while limiting ultra-processed foods, added sugars, and salt. Reducing the intake of red and processed meat may help manage UC flares. Using Exclusive Enteral Nutrition (EEN) is an effective therapy for inducing clinical remission and endoscopic response in Crohn's disease and may be considered a steroid-sparing bridge therapy for UC patients. Regular screening for vitamin D and iron deficiency is recommended for all patients with IBD, and those with extensive ileal disease or prior ileal surgery should also be monitored for vitamin B12 deficiency. Co-management with a registered dietitian is advised, especially for patients with malnutrition or those requiring complex nutrition therapies [10,11].

Conclusion
The case study emphasizes the difficulties in differentiating between severe organic disorders (IBD) and functional diseases (IBS), as well as the reciprocal relationship between the two conditions. It emphasizes psycho-neuro-immunological links and stresses the significance of comprehending and elucidating symptoms. The importance of clarifying functional links is noted in the German S3 Guideline on IBS, nevertheless, the German medical curriculum does not include the information required to describe these interactions. Self-management practices including planned exercise, relaxation methods, organized daily schedules, and dietary changes can produce immediate and sustained improvement. Positive results are influenced by the patient's motivation, understanding of the explanation, proactive coping strategies, and trust in the attending professional and the therapeutic process.

Abbreviations

5-ASAs	5-aminosalicylates
AAD	Antibiotic-associated diarrhea
AIG	Asian Institute of Gastroenterology
BD	Twice daily
BP	Blood Pressure
CBP	Complete blood picture
CD	Crohn's disease
EEN	Exclusive Enteral Nutrition
GIT	Gastrointestinal Tract
HPE-A	Histopathological Examination
IBD	Inflammatory bowel disease
IBS	Irritable bowel syndrome
IMs	Immunomodulators

OD	Once daily
OP	Outpatient
P/A	Per Abdomen
P/R	Per Rectum
PO	Per Oral
PR	Per Rectum
R/O	Rule out
RBC	Red Blood Cells
TID	Three times a day
UC	Ulcerative colitis
WBC	White Blood Cells

Ethical approval and consent to participate
Not Applicable.

Consent for publication
Applicable and uploaded as supplementary file.

Availability of data and material
The data is obtained from the vamshi gastro and liver clinic.

Competing interest
The authors have no conflict of interest.

Funding
Not applicable.

Author's contribution
Swathi Nalla- Manuscript Preparation and Plagiarism check.
Sai Ruthvik Burra- Case collection & Manuscript preparation.
Asha latha Illa- Grammarly check.
G.Tulja Rani- Reviewed overall manuscript.

Acknowledgement
The authors are thankful to Dr. G. Tulja Rani and Dr. K. Naresh for their support.

References

1. Meng, Wei. Novel Molecular Characteristics of Ulcerative Colitis. 2025. UiT The Arctic University of Norway, Doctoral thesis. munin.uit.no, https://munin.uit.no/handle/10037/36055.
2. Fischer, Aren, et al. "Cost Effectiveness of Sequencing Vedolizumab as First-Line Biologic in Ulcerative Colitis and Crohn's Disease in Canada: An Analysis Using Real-World Evidence from the EVOLVE Study." PharmacoEconomics - Open, vol. 9, no. 1, Jan. 2025, pp. 41–56. Springer Link, https://doi.org/10.1007/s41669-024-00523-5.
3. IBS vs IBD: Key Differences. https://sesamecare.com/blog/ibs-ibd-differences. Accessed 12 Mar. 2025.
4. Ford, Alexander C. "Overlap Between Irritable Bowel Syndrome and Inflammatory Bowel Disease." Gastroenterology & Hepatology, vol. 16, no. 4, Apr. 2020, pp. 211–213. PubMed Central, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8132685/.
5. "Mesalamine: Uses & Side Effects." Cleveland Clinic, https://my.clevelandclinic.org/health/drugs/20045-mesalamine-delayed-release-capsules-delzicol. Accessed 12 Mar. 2025.
6. Ferrusquía, José, et al. "Gastroenterology Case Report of Mesalazine-Induced Cardiopulmonary Hypersensitivity." World Journal of Gastroenterology : WJG, vol. 21, no. 13, Apr. 2015, pp. 4069–4077. PubMed Central, https://doi.org/10.3748/wjg.v21.i13.4069.
7. Pereira, Francisca M., et al. "Mesalazine-Induced Hypersensitivity Pneumonitis." European Journal of Case Reports in Internal Medicine, vol. 8, no. 1, Jan. 2021, p. 002194. PubMed Central, https://doi.org/10.12890/2021_002194.
8. Cernomaz, Andrei Tudor, et al. "Nonasthmatic Eosinophilic Bronchitis in an Ulcerative Colitis Patient – a Putative Adverse Reaction to Mesalazine: A Case Report and Review of Literature." World Journal of Clinical Cases, vol. 8, no. 18, Sept. 2020, pp. 4162–4168. www.wjgnet.com, https://doi.org/10.12998/wjcc.v8.i18.4162.
9. Lakatos, P., et al. "Is There a Change in the Natural History of Crohn's Disease; Surgical Rates and Medical Management in a Population-Based Inception Cohort from Western Hungary between 1977–2008." Zeitschrift Für Gastroenterologie, vol. 49, no. 5, May 2011, p. A48. www.thieme-connect.com, https://doi.org/10.1055/s-0031-1278479.
10. "Diet and Nutritional Therapies in Patients with IBD." American Gastroenterological Association, https://gastro.org/clinical-guidance/diet-and-nutritional-therapies-in-patients-with-ibd/. Accessed 12 Mar. 2025.
11. Gheonea, Theodora, et al. "Recent Clinical Evidence on Nutrition, Novel Pharmacotherapy, and Vaccination in Inflammatory Bowel Diseases." Frontiers in Pharmacology, vol. 15, Sept. 2024. Frontiers, https://doi.org/10.3389/fphar.2024.1380878.