Exploration of Clinical Characteristics and Drug Treatment of Inflammatory Bowel Disease Complicated with Autoimmune Diseases

Jiawei Guo
Shandong Second Provincial General Hospital, Jinan 250023, Shandong, China
DOI: 10.32629/jcmr.v4i3.1260

Abstract: Objective: To analyze the clinical characteristics and drug treatment outcomes of inflammatory bowel disease (IBD) complicated with autoimmune diseases. Methods: A total of 200 patients with IBD and autoimmune diseases were selected as the observation group from January 2022 to June 2023. In addition, 200 patients with simple IBD during the same period were selected as the control group. The general and clinical data of the two groups of patients were collected and analyzed to compare their clinical characteristics and drug treatment outcomes. Results: ① There were no significant differences in gender, age, lesion location, and clinical type between the two groups ($P > 0.05$). However, the two groups differed significantly in terms of disease duration, severity of the condition, and extraintestinal symptoms ($P < 0.05$). ② There was no significant difference in the use of microbial preparations between the two groups ($P > 0.05$). The observation group had a higher usage rate of steroids compared to the control group, while the usage rate of aminosalicylate suppositories was lower in the observation group than in the control group ($P < 0.05$). ③ There was no significant difference in treatment efficacy between the two groups ($P > 0.05$). Conclusion: Patients with IBD complicated by autoimmune diseases have longer disease duration, more severe conditions, and more extraintestinal symptoms compared to those with simple IBD. The usage rate of steroids is higher, while the usage rate of aminosalicylate suppositories is lower in the treatment plan for the former group. Nevertheless, the overall effectiveness is comparable to that of patients with simple IBD, and the overall prognosis is relatively favorable.
***Keywords*:** inflammatory bowel disease, autoimmune diseases, clinical characteristics, drug treatment outcomes

1. Introduction

Inflammatory bowel disease (IBD) refers to idiopathic inflammatory disorders affecting the rectum, ileum, and colon, including Crohn's disease and ulcerative colitis [1]. Crohn's disease is a chronic granulomatous disease of unknown etiology, primarily involving the terminal ileum and adjacent colon. It can also affect any part of the digestive tract from the mouth to the anus, typically in a segmental distribution. The disease manifests with symptoms such as abdominal pain, diarrhea, weight loss, fever, and fatigue, often leading to local symptoms like perianal abscesses and fistula formation. It can also trigger extraintestinal symptoms like arthritis, skin rashes, and oral mucosal involvement, often affecting patients aged 18 to 35 [2]. Ulcerative colitis is a nonspecific inflammatory disease of unknown etiology, primarily affecting the rectum and colon. It leads to symptoms like diarrhea, abdominal pain, and bloody stools and can occur in individuals of any age group. Its incidence has been on the rise in recent years [3]. Autoimmune diseases refer to conditions where the immune response targets self-antigens, resulting in organ damage when the immune reaction surpasses physiological limits or persists for an extended period. Current clinical research indicates a close connection between the development of IBD and immune dysregulation, predisposing patients to autoimmune disorders, thereby complicating their medical condition and influencing prognosis [4]. To observe the clinical characteristics and drug treatment outcomes of IBD complicated with autoimmune diseases, this study selected 200 patients with IBD and autoimmune diseases and compared them with 200 patients with simple IBD, as outlined in the following research.

2. Materials and Methods

2.1 Clinical Data

A total of 200 patients with inflammatory bowel disease (IBD) complicated with autoimmune diseases were selected as the observation group from January 2022 to June 2023. Within the observation group, there were 108 males and 92 females, with an age range of 22 to 65 years and an average age of (45.3 ± 8.6) years. Inclusion criteria were as follows: meeting the diagnostic criteria for both IBD and autoimmune diseases, and receiving conservative treatment. Exclusion criteria were: patients with concurrent infectious enteritis and severe cardiorespiratory diseases. Additionally, 200 patients with simple

IBD during the same period were chosen as the control group. Within the control group, there were 110 males and 90 females, with an age range of 23 to 67 years and an average age of (45.3 ± 8.4) years. Inclusion and exclusion criteria for the control group were analogous to those of the observation group.

2.2 Methods

General and clinical data of both groups of patients were collected and organized, including names, gender, age, disease duration, lesion location, severity of the condition, extraintestinal symptoms, treatment plans, and treatment outcomes.

2.3 Observation Indicators

Clinical characteristics and drug treatment outcomes of both groups of patients were analyzed. The efficacy criteria for this study were defined as follows: Marked improvement — complete alleviation of clinical symptoms; Effective — significant improvement in clinical symptoms; Ineffective — failure to meet the above criteria.

2.4 Statistical Analysis

Statistical analysis was conducted using SPSS version 22.0. A significance level of $P < 0.05$ was used to determine statistical significance.

3. Results

3.1 Differences in Clinical Characteristics between the Two Groups

There were no significant differences in terms of gender, age, lesion location, and clinical type between the two groups ($P > 0.05$). However, the two groups differed significantly in terms of disease duration, severity of the condition, and extraintestinal symptoms ($P < 0.05$), as shown in Table 1.

Table 1. Differences in Clinical Characteristics between the Two Groups

Group	Sex (Male/ Female)	Age (years)	Disease Duration (years)	Lesion Location				Severity of Condition		Extraintestinal Symptoms			
				Upper GI Tract	Colon	Rectum	Ileum	Mild	Moderate/ Severe	Fatty Liver	Arthritis	Oral Ulcers	Skin Rash
Observation Group（n=200）	108/92	45.3±8.6	2.2±0.5	16	153	16	15	88	112	26	32	8	9
Control Group（n=200）	110/90	45.3±8.4	1.1±0.3	18	148	17	17	51	149	4	8	3	2
X^2/t Value	1.231	1.252	5.432	1.325				5.231		5.326			
P Value	0.114	0.116	0.044	0.123				0.042		0.043			

3.2 Differences in Medication Regimens between the Two Groups

There was no significant difference in the usage rate of microbial preparations between the two groups ($P > 0.05$). However, the observation group had a higher usage rate of steroids compared to the control group, and the usage rate of aminosalicylate suppositories was lower in the observation group than in the control group ($P < 0.05$), as depicted in Table 2.

Table 2. Differences in Medication Regimens between the Two Groups

Group	Aminosalicylate Suppositories	Microbial Preparations	Immunosuppressants	Steroids
Observation Group(n=200)	86（43.0）	112（56.0）	134（67.0）	123（61.5）
Control Group(n=200)	170（85.0）	123（61.5）	0（0.0）	12（6.0）
X^2/t Value	5.231	1.231	5.432	5.526
P Value	0.042	0.114	0.044	0.045

3.3 Differences in Treatment Efficacy between the Two Groups

There was no significant difference in treatment efficacy between the two groups ($P > 0.05$), as indicated in Table 3.

Table 3. Differences in Treatment Efficacy between the Two Groups

Group	Marked Improvement	Effective	Ineffective	Total Effective Rate(%)
Observation Group(n=200)	123	73	4	98.0
Control Group(n=200)	132	65	3	98.5
X^2 Value				1.125
P Value				0.103

4. Discussion

Inflammatory bowel disease (IBD) is an idiopathic inflammatory disorder primarily affecting the gastrointestinal tract and characterized by recurrent episodes, significantly impacting patients' health and well-being [5]. Recent epidemiological surveys have shown a rising incidence of IBD in China, garnering widespread attention within the clinical field.

Currently, IBD comprises mainly Crohn's disease and ulcerative colitis. Although the precise etiology of Crohn's disease remains unclear, most researchers attribute its occurrence to the following factors: ① Immunological Factors: Abnormalities in both humoral and cellular immunity have been observed in Crohn's disease patients, indicating a close relationship between the disease and immune dysregulation. ② Infectious Factors: Clinical investigations have found that Crohn's disease patients are prone to bacterial and viral infections. Additionally, the use of metronidazole has shown some therapeutic benefits, suggesting an infectious component in the disease pathogenesis [6]. ③ Genetic Factors: Crohn's disease displays evident familial clustering, indicating a genetic predisposition. Similarly, the exact cause of ulcerative colitis remains uncertain. Most researchers associate it with the following factors: ① Immunological Factors: Various factors lead to immune dysfunction, resulting in sustained mucosal inflammation and compromised barrier function. ② Genetic Factors: The disease shows familial aggregation, and studies have suggested that chromosomal gene deletions and mutations can trigger its development. ③ Intestinal Microbiota: Patients with ulcerative colitis exhibit altered intestinal microbiota compared to healthy individuals, characterized by abnormal bacterial species, quantities, and functions, reduced overall counts of beneficial bacteria, and increased levels of pathogenic bacteria [7]. ④ Psychological Factors: Clinical research has revealed that patients with ulcerative colitis often experience anxiety and depression, underscoring the role of psychological factors in its development.

Immune system disorders are diseases resulting from abnormal autoimmune reactions and include conditions like systemic lupus erythematosus, ankylosing spondylitis, psoriasis, rheumatoid arthritis, among others. Clinical research has revealed that individuals with inflammatory bowel disease (IBD) have a 2 to 3 times higher likelihood of developing immune system disorders compared to the general population. This may be due to overlapping mechanisms between the pathogenesis of IBD and immune system disorders [8]. Patients with concomitant IBD and immune system disorders often experience more severe symptoms and extraintestinal manifestations, significantly affecting their health and well-being. Therefore, it is essential to gain a deeper understanding of the clinical characteristics and treatment outcomes for such patients.In this study, the two groups did not significantly differ in terms of gender, age, lesion location, and clinical type ($P > 0.05$). However, they differed significantly in disease duration, severity of the condition, and extraintestinal symptoms ($P < 0.05$). This suggests that patients with both IBD and immune system disorders have more complex disease profiles, necessitating proactive treatment strategies.

Currently, IBD can be managed through medication and surgery. Due to its high relapse rate, many patients opt for conservative treatment. When conservative treatment fails, surgical intervention is considered. All patients in this study received conservative treatment to facilitate a comparison of drug treatment outcomes.In this study, the usage rate of microbial preparations did not significantly differ between the two groups ($P > 0.05$). The observation group had a higher usage rate of steroids compared to the control group, and the usage rate of aminosalicylate suppositories was lower in the observation group than in the control group ($P < 0.05$). This discrepancy primarily stems from the fact that steroid medications exhibit favorable efficacy in immune system disorders, resulting in a higher frequency of their use among patients in the observation group. On the other hand, aminosalicylate preparations are more effective in treating simple IBD, leading to a higher usage rate in the control group. However, there was no significant difference in treatment efficacy between the two groups ($P > 0.05$). This indicates that both patients with simple IBD and those with concomitant IBD and immune system disorders can achieve satisfactory treatment outcomes through proactive therapeutic interventions.

5. Conclusion

In conclusion, patients with the combination of inflammatory bowel disease (IBD) and autoimmune disorders tend to have longer disease duration, more severe conditions, a higher prevalence of extraintestinal symptoms, and a higher usage rate of steroids but a lower usage rate of aminosalicylate suppositories, when compared to patients with isolated IBD. However, the overall effectiveness rate is comparable between the two groups, and the overall prognosis is generally favorable.

References

[1] Zhang ZY, Huang L, Huang JQ, et al. Immune regulation: A new perspective on the treatment of inflammatory bowel disease from the perspective of lung. Chinese Journal of Clinical Medicine, 2023, 15(13): 112-116.

[2] Wu Y, Chen L, Ni PP, et al. Study on the predictive value of systemic immune inflammation index and prognostic nutritional index for muscle loss in patients with inflammatory bowel disease. China Medical Journal, 2023, 58(5): 494-498.

[3] Shen J. Impact of immunosuppressive and biological therapies on vaccination in patients with inflammatory bowel disease. Journal of Gastroenterology and Hepatology, 2022, 31(4): 372-375.

[4] Hao YP, Han J, Teng SZ, et al. Effects of combination therapy of biologics and immunosuppressants on nutritional status and inflammatory response in patients with inflammatory bowel disease. Chinese Journal of Medical Research, 2022, 20(18): 43-46.

[5] Zu XM, Xu S, Lin LH, et al. Diagnosis and treatment strategies for inflammatory bowel disease concomitant with rheumatic immune diseases. Chinese Journal of Inflammatory Bowel Disease, 2021, 5(1): 21-26.

[6] Liu WD, Feng F. Effects of enteral immune microecological nutritional support on serum inflammatory factors and intestinal mucosal Th17A expression in rats with inflammatory bowel disease. Journal of Shanxi Medical University, 2021, 52(8): 1029-1033.

[7] Li BY, Bu XD, Chen WX, et al. Current research status of pathogenesis and treatment of inflammatory bowel disease: miRNAs and intestinal immunity and barrier function. Gastroenterology, 2020, 25(11): 687-691.

[8] Yang H, Zhang MG, Wang ZD, et al. Correlation study of serum immune-inflammatory related protein complexes, 25-hydroxyvitamin D, adipocytokines with disease activity and intestinal flora of patients with inflammatory bowel disease. Modern Advances in Biomedicine, 2022, 22(14): 2653-2657.