Retrospective Analysis of Etiology, Diagnosis, And Prognosis in Patients with Defecation Habit Disorders

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ABSTRACT

Background: Defecation habit disorders, including constipation, diarrhea, and fecal incontinence, are common and can significantly impact patients' quality of life. This retrospective study aimed to analyze the etiological spectrum, diagnostic approaches, and prognostic factors in patients with defecation habit disorders. **1.2. Methods:** Data from 180 patients with defecation habit disorders admitted to a single tertiary hospital between 2021 and 2023 were retrospectively reviewed. Patient demographics, medical history, symptoms, laboratory tests, imaging and endoscopic findings, treatment modalities, and follow-up outcomes were analyzed.

Results: The most common etiologies were functional gastrointestinal disorders (45%, 81/180), followed by colorectal diseases (28%, 50/180) and endocrine/metabolic disorders (15%, 27/180). Colonoscopy had a diagnostic accuracy of 88% for colorectal diseases, while anorectal manometry showed a 75% success rate in diagnosing functional defecation disorders. Multivariate analysis identified age ≥65 years (OR = 2.9, 95% CI: 1.4 - 6.1, p = 0.005), presence of comorbidities (≥3, OR = 3.2, 95% CI: 1.6 - 6.4, p = 0.002), and long disease duration (≥6 months, OR = 2.5, 95% CI: 1.2 - 5.1, p = 0.023) as independent risk factors for poor prognosis.

Conclusion: Functional gastrointestinal disorders are the leading cause of defecation habit disorders. A combination of diagnostic methods is necessary for accurate diagnosis, and age, comorbidities, and disease duration are important prognostic factors.

Keywords: Defecation Habit Disorders; Etiology; Diagnosis; Prognosis; Retrospective Analysis; Functional Gastrointestinal Disorders

INTRODUCTION

Defecation habit disorders are a heterogeneous group of conditions that disrupt normal bowel function, affecting millions of people worldwide [1]. These disorders can manifest as constipation, diarrhea, or fecal incontinence, leading to physical discomfort, psychological distress, and reduced quality of life [2]. Given the complexity of the underlying mechanisms and the diverse range of etiologies, understanding the characteristics of these disorders is crucial for effective management. This retrospective study aimed to analyze the etiology, diagnosis, and prognosis of defecation habit disorders based on real-world clinical data.

MATERIALS AND METHODS

Patient Selection: A total of 180 patients who presented to the gastroenterology department of a tertiary hospital with defecation habit disorders between January 2021 and December 2023 were included. Defecation habit disorders were defined as persistent changes in bowel movement frequency, consistency, or control for at least 12 weeks. Exclusion criteria were incomplete medical records, age < 18 years, and a history of recent major abdominal or pelvic surgery.

Data Collection: Clinical data were retrieved from the hospital's electronic medical records, including age, sex, medical history, family history, duration and nature of defecation habit disorders, associated symptoms (abdominal pain, bloating, nausea), laboratory test results (complete blood count, biochemical profile, thyroid function tests, fecal calprotectin), imaging findings (abdominal X-ray, CT, MRI), endoscopic findings (colonoscopy, sigmoidoscopy), anorectal manometry results (for functional disorders), treatment received (medication, dietary modification, surgical intervention), and follow-up outcomes (symptom improvement, recurrence).

STATISTICAL ANALYSIS

Categorical variables were presented as numbers and percentages and compared using the chi-square test or Fisher's exact test. Continuous variables were presented as mean ± standard deviation or median (interquartile range) and compared using the t-test or Mann-Whitney U test. Univariate and multivariate logistic regression analyses were performed to identify factors associated with poor prognosis (defined as failure to achieve symptom remission after 3 months of treatment). Odds ratios (OR) with 95% confidence intervals (CI) were calculated. Statistical significance was set at $p < 0.05$, and all analyses were conducted using SPSS version 28.0.

RESULTS

Patient Characteristics: The study cohort included 98 males (54.4%) and 82 females (45.6%), with a median age of 58 years (IQR: 42 - 68). The median duration of defecation habit disorders before presentation was 4 months (IQR: 2 - 8). Baseline characteristics are shown in Table 1.

Table 1. Baseline Patient Characteristics

Characteristics	Total (n = 180)
Median Age (years)	58 (42 - 68)
Male Sex (%)	54.4 (98/180)
Median Disease Duration (months)	4 (2 - 8)
Presence of Comorbidities (%)	62.2 (112/180)
Median Number of Comorbidities	2 (1 - 3)

Etiologies of Defecation Habit Disorders: Functional gastrointestinal disorders, such as irritable bowel syndrome (IBS) and functional constipation, were the most common cause, accounting for 45% of cases. Colorectal diseases, including colorectal cancer, polyps, and inflammatory bowel disease, were the second most frequent etiology. Endocrine/metabolic disorders, like hypothyroidism and diabetes, also contributed significantly. The detailed distribution of etiologies is presented in Table 2.

Table 2. Distribution of Etiologies of Defecation Habit Disorders

Etiology Category	Number (%)	Specific Etiologies	Number (%)
Functional Gastrointestinal Disorders	81 (45)	Irritable Bowel Syndrome	38 (21.1)
		Functional Constipation	25 (13.9)
		Other Functional Disorders	18 (10)
Colorectal Diseases	50 (28)	Colorectal Cancer	12 (6.7)
		Colorectal Polyps	18 (10)
		Inflammatory Bowel Disease	15 (8.3)
		Other Colorectal Diseases	5 (2.8)
Endocrine/Metabolic Disorders	27 (15)	Hypothyroidism	12 (6.7)
		Diabetes	10 (5.6)
		Other Endocrine/Metabolic Disorders	5 (2.8)
Neurological Disorders	12 (6.7)	Multiple Sclerosis	4 (2.2)
		Spinal Cord Injury	3 (1.7)
		Other Neurological Disorders	5 (2.8)
Other	10 (5.6)		

Diagnostic Methods and Accuracy: Colonoscopy was performed in 120 patients (66.7%), with a diagnostic accuracy of 88% for detecting colorectal diseases. Anorectal manometry was conducted in 50 patients suspected of functional defecation disorders, and it correctly diagnosed the condition in 38 cases (75%). Imaging modalities like CT and MRI had an overall diagnostic accuracy of 72% for identifying structural abnormalities. The diagnostic performance of different modalities is shown in Table 3.

Table 3. Diagnostic Performance of Different Modalities

Diagnostic Modality	Number of Patients	Number of Correct Diagnoses	Diagnostic Accuracy (%)
Colonoscopy	120	106	88.3
Anorectal Manometry	50	38	76
CT/MRI	60	43	71.7

Factors Associated with Poor Prognosis: Univariate analysis showed that age ≥65 years, presence of comorbidities (≥3), long disease duration (≥6 months), and severe initial symptoms were associated with poor prognosis. Multivariate logistic regression identified age ≥65 years, presence of comorbidities (≥3), and long disease duration (≥6 months) as independent risk factors [Table 4].

Table 4. Factors Associated with Poor Prognosis

Variables	Univariate OR (95% CI)	p - value	Multivariate OR (95% CI)	p - value
Age ≥65 years	3.5 (1.6 - 7.6)	0.002	2.9 (1.4 - 6.1)	0.005
Presence of Comorbidities (≥3)	4.1 (2.0 - 8.4)	< 0.001	3.2 (1.6 - 6.4)	0.002
Disease Duration ≥6 months	3.0 (1.4 - 6.4)	0.005	2.5 (1.2 - 5.1)	0.023
Severe Initial Symptoms	2.3 (1.1 - 4.9)	0.028	1.8 (0.8 - 4.0)	0.14

DISCUSSION

This retrospective study provides a comprehensive overview of defecation habit disorders. Functional gastrointestinal disorders emerged as the primary etiology, consistent with previous research [3]. However, the presence of serious colorectal diseases and endocrine/metabolic disorders underscores the need for a thorough diagnostic workup to avoid misdiagnosis [4].

The diagnostic accuracy of different methods varied, indicating that a combination of approaches is often necessary. Colonoscopy remains essential for detecting colorectal pathologies, while anorectal manometry is valuable for functional disorders [5]. Imaging techniques can help identify structural abnormalities but have limitations in diagnosing functional conditions [6].

The identified risk factors for poor prognosis can guide clinical decision-making. Older patients, those with multiple comorbidities, and those with long-standing disorders may require more aggressive and personalized treatment strategies [7].

Limitations of this study include its single-center design, which may introduce selection bias, and the potential for recall bias in self-reported symptoms. Future multicenter studies with larger sample sizes and longer follow-up periods are needed to validate these findings.

CONCLUSION

Functional gastrointestinal disorders are the leading cause of defecation habit disorders. A multimodal diagnostic approach is required for accurate diagnosis. Age, comorbidities, and disease duration are important prognostic factors that can inform treatment strategies and patient counseling.

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