e-ISSN: 0975-9506, p-ISSN: 2961-6093

Available online on www.ijpqa.com

International Journal of Pharmaceutical Quality Assurance 2026; 17(10); 140-145

Original Research Article

Retrospective Evaluation of Colonic Abnormalities in Patients with Chronic Diarrhea

Manish Kumar Bhaskar

Assistant Professor, Department of Gastroenterology, Patna Medical College and Hospital, Patna, Bihar, India

Received: 04-09-2026 / Revised: 13-10-2026 / Accepted: 30-10-2026
Corresponding Author: Dr. Manish Kumar Bhaskar
Conflict of interest: Nil

Abstract:

Background: Chronic diarrhoea is a common gastrointestinal condition with a variety of underlying aetiologies. Histopathological examination, coupled with colonoscopy, is an important tool for identifying structural and microscopic abnormalities.

Aim: To retrospectively analyse Colonoscopic findings in patients of chronic diarrhoea and correlate their demographic, clinical, anatomical and histopathological spectrum.

Methodology: This was a retrospective, hospital-based observational investigation carried out over roughly twelve months in the gastroenterology, Patna Medical College and Hospital and Phoenix Gastro solution, Bihar, India. Case records of 120 adults (18 years or older) were reviewed. Demographic profile, presenting symptoms, colonoscopy findings and the histopathology reports on file were analyzed in SPSS v25.0 (IBM).

Results: The 120 patients included 56.7% males and the majority (31.7%) were in the 31-45 age group. The most common associated symptom was abdominal pain (54.2%). Abnormal Colonoscopic findings were noted in 70.0% of the patients and normal in 30.0%. Nonspecific colitis (29.8%) was the predominant abnormality, followed by inflammatory bowel disease (21.4%). The most common anatomical location (36.9%) was the sigmoid colon. Chronic nonspecific inflammation (30.0%) and microscopic colitis (16.7%) were the most common histopathological results among 60 patients biopsied.

Conclusion: Colonoscopy proved to be very valuable in the diagnosis of chronic diarrhea. Endoscopic examination was also supplemented by histopathological evaluation with a view to finding microscopic abnormalities.

Keywords: Chronic Diarrhea; Colonoscopy; Colonic Abnormalities; Histopathology; Microscopic Colitis; Inflammatory Bowel Disease.

DOI: 10.25258/ijpqa.17.10.22

This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0) and the Budapest Open Access Initiative (http://www.budapestopenaccessinitiative.org/read), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

Introduction

The condition of chronic diarrhea involves frequent passing of loose or watery stools persisting for more than 4 weeks [1]. Chronic diarrhea is an important medical condition due to various possible underlying factors that cause this ailment [2]. These include functional gastrointestinal disorders, chronic infections, inflammatory conditions, malabsorption syndromes, neoplastic diseases, etc. The clinical condition may impair a person's nutrition, dehydration, functioning, and quality of life [3]. Moreover, there might be additional accompanying conditions, for instance pain in the abdomen, loss of weight, tiredness and an altered stool pattern, etc. The diverse nature of chronic diarrhea makes proper diagnosis quite complicated and requires a well-structured diagnostic approach [4].

There are many causes of chronic diarrhea depending on a country or geographical region [5]. The most common ones are IBD, microscopic colitis, chronic infectious and inflammatory gastrointestinal diseases, malabsorption syndromes, irritable bowel syndrome, and colorectal neoplasia [6]. In developing countries like India, chronic infectious and inflammatory diseases still remain common diagnoses to be considered [7]. Differences in diet, sanitary conditions, social and economic conditions, healthcare availability, prevalence of certain conditions, etc., should be taken into account while identifying the cause of chronic diarrhea since appropriate treatment and complications prevention depends on it [8].

Colonoscopy is an important diagnostic test for patients with persistent diarrhea symptoms, especially in case of lack of diagnosis or presence of worrying clinical signs, such as gastrointestinal blood loss, weight loss without any reason, anaemia,

and altered bowel habits [9]. This procedure provides a possibility to examine the mucosa of the colon in detail and find abnormalities, such as erythema, ulcers, erosions, mucosal friability, strictures, polypoid masses, etc [10]. In addition, it helps to take tissue samples for histopathological examination of the disease, especially when diagnosing microscopic colitis or IBD [11]. Patients with chronic diarrhea sometimes might have normal colonic mucosa appearance but pathological histopathology results [12].

Therefore, the interpretation of Colonoscopic results along with the results of histopathological examination in case of need is an important diagnostic tool, providing the information about the range of gastrointestinal disorders leading to chronic diarrhea [13]. Evaluation of the anatomical location and frequency of different abnormalities might be helpful for identifying disease patterns of certain regions [14]. In this regard, hospital-based retrospective studies are very useful since they provide an opportunity to assess the previously obtained clinical, endoscopic, and histopathological data [15].

That is why, the objective of the present research was to carry out the retrospective evaluation of the Colonoscopic results of patients presenting with chronic diarrhea at the gastroenterology unit of Patna Medical College and Hospital in Bihar, India. The specific aims were as follows: to estimate demographic and clinical data of patients; to determine the frequency of normal and abnormal Colonoscopic results; to establish types and anatomical locations of Colonoscopic abnormalities; to determine the histopathological range of abnormalities among patients with biopsy and their correlation with Colonoscopic findings.

Methodology

The current research work has been done to determine the Colonoscopic findings in individuals suffering from chronic diarrhea, and to identify the range of GI abnormalities that can be identified by Colonoscopic examination. This study was undertaken using a retrospective approach, wherein previously recorded data about clinical history, Colonoscopic results, and histopathological data were analyzed. The work was conducted in the gastroenterology of Patna Medical College & Hospital and Phoenix Gastro solution, Patna, Bihar, India.

Study Design: This research was carried out as an observational study that had a retrospective design. The systematic review of the medical records of patients with chronic diarrhea who had been examined through colonoscopy within the specified period of time was used. The main emphasis of the study was placed on the assessment of the prevalence and distribution of abnormalities identified through colonoscopy and their clinical significance.

Study Area: The investigation was based in the gastroenterology, Patna Medical College and Hospital, and Phoenix Gastro solution, Patna, Bihar, India. The medical college and hospital acted as the study site, and patient data were retrieved from the hospital's gastroenterology department, endoscopy department, and relevant medical records department. The hospital offered diagnostic and treatment facilities for patients of gastroenterological diseases in Patna and its neighboring areas of Bihar.

Duration of the Study: The records reviewed covered one year from March 2025 to February 2026.

Study Participants: The patient group was made up of patients who reported to the Department of Gastroenterology with complaints of chronic diarrhea and had been subjected to colonoscopy at some point during the study period. Chronic diarrhea is defined as passing of soft or watery stools for more than four weeks.

Patients' charts were studied to collect data on their demographic profiles, clinical manifestations, findings of colonoscopy and histopathology where available.

Criteria for Inclusion

- Adults aged 18 years or older.
- Individuals having chronic diarrhea that persisted for more than four weeks.
- Patients who have undergone colonoscopy at some time during the study period.
- Patients with properly documented colonoscopy reports.
- Patients whose records contain sufficient demographic and clinical information.

Criteria for Exclusion

- Patients with acute or subacute diarrhea lasting less than four weeks.
- Patients aged below 18 years.
- Patients who were known to have inflammatory bowel disease or colorectal malignancy and who only underwent colonoscopy for surveillance purposes.
- Patients with undocumented or incomplete colonoscopy reports.
- Patients with improper bowel preparation making it impossible to evaluate the colonic mucosa.
- Patients with insufficient demographic or clinical information in their records.

Size of the Sample: A total of 120 patients formed the study sample. It consisted of the patients' records that met the eligibility (inclusion and exclusion) conditions defined above and fell within the one-year window.

Consecutive sampling technique was used, in which every eligible patient record from the review period

was enrolled consecutively until the required number was achieved. The study sample comprised of patients' records where the clinical and Colonoscopic findings were complete enough for the analysis.

Study Procedure: Patients' records were retrieved from the gastroenterology unit's archives at Patna Medical College & Hospital and Phoenix Gastro solution, Patna, Bihar, India. Relevant information on patients' demographic characteristics, clinical presentation, duration of diarrhea and Colonoscopic reports were reviewed. Colonoscopy findings, including erythematous mucosa, ulcers, erosion, friable mucosa, stricture, polyps, and other abnormalities were recorded according to the specific locations. The patients' records were divided into two groups: normal and abnormal Colonoscopic findings. Histopathological reports if available were reviewed to find microscopic abnormalities.

Statistical Methods: The extracted data were first compiled in a Microsoft Excel spreadsheet and subsequently processed with SPSS v25.0 (IBM). Frequencies with percentages summarised the categorical variables, whereas continuous data were expressed as mean ± SD or median (interquartile range). Group comparisons for categorical data relied on the Chi-square test or Fisher's exact test, and continuous data were compared with the independent t-test or the Mann-Whitney U test as appropriate. A p value below 0.05 was regarded as statistically significant.

Result

The current retrospective study assessed the Colonoscopy results of 120 patients with chronic diarrhea managed in the gastroenterology unit of Patna Medical College and Hospital and Phoenix Gastro solution, Patna, Bihar, India. These findings have been analyzed with regard to demographics, clinical features, Colonoscopy findings, anatomical location and Histopathology where applicable. The results of analysis are shown below in Tables.

From Table 1 it is evident that most of the patients had an age range of 31-45 years (31.7%) followed by those who were 46-60 years old (30.0%). Males comprised 56.7% of the patients and the remaining 43.3% were female.

Table 1: Demographic Profile of the Study Participants

Variables	Frequency (n)	Percentage (%)
Age Group (Years)		
18–30	24	20.0
31–45	38	31.7
46–60	36	30.0
Above 60	22	18.3
Gender		
Male	68	56.7
Female	52	43.3
Total	120	100.0

Table 2 revealed that there was an increase in frequency of stools in all patients, as this was the main presenting complaint. The commonest symptom was abdominal pain (54.2%), with weight loss in 30.8% and blood in stool in 21.7% of the patients.

Table 2: Clinical Presentation Profile of the Study Participants

Clinical Presentations	Frequency (n)	Percentage (%)
Increased stool frequency	120	100.0
Abdominal pain	65	54.2
Unintentional weight loss	37	30.8
Blood in stool	26	21.7
Nocturnal diarrhea	22	18.3
Fever	17	14.2

Table 3 revealed that there were 70.0% of patients with abnormal Colonoscopic findings while 30.0% of patients had normal Colonoscopic findings. This showed that there was a significant number of patients having chronic diarrhea who exhibited abnormalities in Colonoscopy.

Table 3: Overall Distribution of Colonoscopic Findings		
Colonoscopic Findings	**Frequency (n)**	**Percentage (%)**
Normal colonoscopy	36	30.0
Abnormal colonoscopy	84	70.0
Total	120	100.0

From Table 4, it is evident that the most common pathology among those with an abnormal Colonoscopy was non-specific colitis, occurring in 29.8%. The inflammatory bowel disease was the second most common pathology at 21.4%, followed by ileal pathology at 14.3%. There were suspected cases of microscopic colitis and polypoidal lesions in 9.5% and 7.1% of subjects, respectively. Microscopic colitis was determined using histopathology, and not endoscopically.

Table 4: Distribution of Major Colonoscopic Abnormalities Among Patients with Abnormal Findings		
Colonoscopic Abnormalities	**Frequency (n)**	**Percentage (%)**
Nonspecific colitis	25	29.8
Inflammatory bowel disease	18	21.4
Ileal abnormalities	12	14.3
Microscopic colitis (suspected endoscopically)	8	9.5
Polypoidal lesions	6	7.1
Other mucosal abnormalities	15	17.9
Total	84	100.0

Table 5 shows that the sigmoid colon was the most commonly affected anatomic region (36.9%) and then came rectum (32.1%) and ascending colon (26.2%). The terminal ileal pathology was found in 14.3% of patients showing abnormal colonoscopic results.

Table 5: Anatomical Distribution of Colonoscopic Abnormalities		
Anatomical Site	**Frequency (n)**	**Percentage (%)**
Rectum	27	32.1
Sigmoid colon	31	36.9
Descending colon	19	22.6
Transverse colon	14	16.7
Ascending colon	22	26.2
Terminal ileum	12	14.3

As can be seen from Table 6, chronic non-specific inflammation was the most common histopathological diagnosis, which was observed in 30.0% of all biopsies. Changes associated with inflammatory bowel diseases accounted for 20.0%, and microscopic colitis in 16.7%. No histopathological abnormalities were detected in 11.7% of all biopsies.

Table 6: Distribution of Histopathological Findings Among Patients Who Underwent Biopsy		
Histopathological Findings	**Frequency (n)**	**Percentage (%)**
Chronic nonspecific inflammation	18	30.0
Inflammatory bowel disease-related changes	12	20.0
Microscopic colitis	10	16.7
Infective/inflammatory changes	8	13.3
Neoplastic changes	5	8.3
No significant histopathological abnormality	7	11.7
Total	60	100.0

Discussion

The current study investigated the Colonoscopic findings among 120 patients with chronic diarrhea. There were 70.0% of patients with abnormal Colonoscopic findings and 30.0% had normal Colonoscopic examinations. The male patients made up 56.7% of the study sample, and the majority were within the 31–45 years age category. Pain in the abdomen was the leading accompanying symptom (54.2%), followed by unintentional weight loss (30.8%) and blood in stool (21.7%).

It can be seen that the diagnostic yield observed in the current study has shown the importance of performing Colonoscopy in evaluating chronic diarrhea. Similar findings were also documented in a retrospective analysis by Limsrivilai et al. (2021)

[16], where the diagnostic yield for Colonoscopy in 550 Thai adults was 40.0%. It can be assumed that the larger proportion of abnormal Colonoscopic findings in the current study was associated with the differences in patient selection, referrals, and diagnostic criteria.

Considering the Colonoscopic abnormalities distribution, nonspecific colitis predominated (29.8%), with inflammatory bowel disease next (21.4%). In the retrospective study by Pektas et al. (2018) [17] involving 54 patients, nonspecific colitis was also found to be common, accounting for 57.4% of the cases. The findings have confirmed the importance of considering inflammatory and microscopic abnormalities when diagnosing chronic diarrhea.

Atieh et al. (2021) [18] performed Colonoscopy in 1,022 patients with chronic diarrhea and reported the presence of positive colonic histology in 13.3% of the patients with macroscopically normal colonic mucosa. Microscopic colitis made 10.6% of those cases. Microscopic colitis was seen in 16.7% of the biopsied patients here.

Similar findings have been published in a pooled systematic review (meta-analysis) conducted by Loganathan et al. (2023) [19] involving 3,322 patients, which indicated the pooled prevalence of 15% for microscopic colitis and 20% for nonspecific colitis on random colonic biopsies. The findings have been consistent with the results of the histopathological study in the current research.

Moreover, the complementary role of Colonoscopy and histopathological examination in diagnosing lower gastrointestinal lesions has been emphasized by Moussa et al. (2020) [20]. Hence, our findings reaffirm the diagnostic value of Colonoscopy with biopsy evaluation in patients with chronic diarrhea.

Conclusion

In this retrospective review of 120 patients with chronic diarrhea, colonoscopy revealed abnormalities in 70.0% of cases, most often nonspecific colitis followed by inflammatory bowel disease, with the sigmoid colon and rectum being the sites most frequently involved. Among the 60 patients who underwent biopsy, histopathology most commonly showed chronic nonspecific inflammation, inflammatory bowel disease-related changes and microscopic colitis. Pairing Colonoscopic examination with biopsy therefore strengthens the diagnostic work-up of chronic diarrhea and supports timely, targeted management.

References

1. Yamauchi Y, Arai M, Akizue N, Ohta Y, Okimoto K, Matsumura T, Fan MM, Imai C, Tawada A, Kato J, Kato N. Colonoscopic evaluation of diarrhea/colitis occurring as an immune-related adverse event. Japanese Journal of Clinical Oncology. 2021 Mar;51(3):363-70.
2. Kamboj AK, Zylberberg HM, Lane CM, Voth E, Tome J, Cuir ND, Lennon RJ, Khanna S, Lebwohl B, Pardi DS. Microscopic colitis and risk of colon adenomas: a multicenter retrospective cohort study. Clinical Gastroenterology and Hepatology. 2022 Apr 1;20(4):e902-4.
3. Kamboj A, Lane C, Sahil Khanna MD, Darrell Pardi MD. The Incidence of Colonic Neoplasia in Patients With Microscopic Colitis and Chronic Diarrhea: A Retrospective Case Control Study. The American Journal of Gastroenterology. 2018 Oct 1;113:S107-.
4. Gudissa FG, Alemu B, Gebremedhin S, Gudina EK, Desalegn H. Colonoscopy at a tertiary teaching hospital in Ethiopia: a five-year retrospective review. PAMJ Clinical Medicine. 2021 Jan 26;5(37).
5. Djalal H. Analysis and Nursing Care of Chronic Diarrhea Patients with Negative Colonoscopy.
6. Mohammed A, Ghoneim S, Paranji N, Waghray N. Quantifying risk factors for microscopic colitis: A nationwide, retrospective cohort study. Indian Journal of Gastroenterology. 2022 Apr;41(2):181-9.
7. Ebeid B, Eid RA, Attia D, Daoud SA, Tawfik MM, Fattah AM. Prevalence of microscopic colitis in diarrhea-predominant irittable bowel syndrome patients: cohort study from Upper Egypt. Journal of Clinical Gastroenterology. 2022 Mar 1;56(3):e232-8.
8. Borsotti E, Barberio B, D'Incà R, Bonitta G, Cavallaro F, Pastorelli L, Rondonotti E, Samperi L, Neumann H, Viganò C, Vecchi M. Terminal ileum ileoscopy and histology in patients undergoing high-definition colonoscopy with virtual chromoendoscopy for chronic nonbloody diarrhea: A prospective, multicenter study. United European Gastroenterology Journal. 2019 Aug;7(7):974-81.
9. Costa S, Gattoni S, Nicolardi ML, Costetti M, Maimaris S, Schiepatti A, Biagi F. Prevalence and clinical features of bile acid diarrhea in patients with chronic diarrhea. Journal of Digestive Diseases. 2021 Feb;22(2):108-12.
10. SHEELADEVI C, ARADHYA H. Clinico-pathological Evaluation of Chronic Diarrhea with Microscopic Colitis: A Cross-sectional Study. Journal of Clinical & Diagnostic Research. 2022 Jun 1;16(6).
11. Kenfack GU, Eloumou SA, Nga WT, Wafeu GS, Tolefac PN, Malongue A, Kowo MP, Tzeuton C, Andoulo FA, Njoya O, Luma HN. Indications, Yield and Outcome of Colonoscopy: A 7-Year Retrospective Study in

a Resource-Limited Setting. Open Journal of Gastroenterology. 2019 Mar 30;9(03):49.
12. Kinoshita Y, Ariyoshi R, Fujigaki S, Tanaka K, Morikawa T, Sanuki T. Endoscopic diagnosis of chronic diarrhea. DEN open. 2022 Apr;2(1):e53.
13. Abdel Monem SM, Sharaf AL, Alabiad MA, Ibrahim IM. Microscopic Colitis in Patients with Unexplained Chronic Watery non- Bloody Diarrhea: A Cross Sectional Study. Afro-Egyptian Journal of Infectious and Endemic Diseases. 2022 Jun 1;12(2):124-33.
14. Burgers K, Lindberg B, Bevis ZJ. Chronic diarrhea in adults: evaluation and differential diagnosis. American family physician. 2020 Apr 15;101(8):472-80.
15. Sakdyyah A, Bestari MB, Suryanti S. Description of colonoscopy and histopathology of chronic diarrhea causes in non-neoplasm: literature review. The Indonesian Journal of Gastroenterology, Hepatology, and Digestive Endoscopy. 2021 May 12;22(1):52-9.
16. Limsrivilai J, Sakjirapapong C, Sattayalertyanyong O, Geeratragool T, Sathirawich P, Pongpaibul A, Apisarnthanarak P, Phaophu P, Subdee N, Charatcharoenwitthaya P, Pausawasdi N. Diagnostic yield of esophagogastroduodenoscopy, colonoscopy, and small bowel endoscopy in Thai adults with chronic diarrhea. BMC gastroenterology. 2021 Nov 6;21(1):417.
17. Pektas G, Sozen MS, Vurmaz A, Ersoy O. Prevalence of microscopic colitis in patients with chronic diarrhea. Medicine. 2018;7(4):841-4.
18. Atieh J, Chedid V, Khoshbin K, Kane S, Camilleri M. Development of a score to predict positive colonic histology in chronic diarrhea assessed in open-access colonoscopy. Journal of clinical gastroenterology. 2021 Sep 1;55(8):694.
19. Loganathan MP, Mohan MB, Ramai MD, Muthusamy MA, Chandan MS, Schwartz MD, Adler MD. Diagnostic yield of random colon biopsy sampling in patients with chronic diarrhea and normal colonoscopy: a systematic review and meta-analysis. iGIE. 2023 Jun 1;2(2):178-98.
20. Moussa F, Abd El Gawad W, Nosseir NS, Hassan M. Colonoscopic and histopathological findings in patients with various lower gastrointestinal symptoms: a single-center experience. Suez Canal University Medical Journal. 2020 Mar 1;23(1):62-70.