Original Article

# Contribution Of Colonoscopy In The Diagnosis Of Chronic Diarrhea At The Digestive Endoscopy Centre

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## Abstract

**Background and Aim:** Diarrhea is a condition where the stool water content rises, causing stool softness and frequent bowel movements. The incidence of chronic diarrhea is estimated to affect 4%-5% of the general population. The present study aimed to determine the role of colonoscopy in chronic diarrhea diagnosis at the digestive endoscopic centre.

**Patients and Methods:** A total 110 chronic diarrhea patients were retrospectively investigated in the Endoscopic Unit of Medicine Department of MTI Lady Reading Hospital, Peshawar from February 2018 to February 2021. Each individual underwent colonoscopy and data regarding demographic details such as age and gender, pathological results, and clinical findings were recorded. Data analysis was done using SPSS version 27.

**Results:** The overall mean age was 44.82±4.6 years. Majority of patients 30.9% (n=34) belonged to the age range 46-60 years. There were 48 (43.6%) male and 62 (56.4%) females. The incidence of glairo-bloody, glairy, and liquid cases were 52.7% (n=58), 29.1% (n=32), and 18.2% (n=20) respectively. Based on colonoscopy findings, the prevalence of normal, inflammatory lesions, neoplastic lesions, hemorrhoids, and others were 58.2% (n=64), 27.3% (n=30), 15.5% (n=17), 59.1% (n=65), and 16.4% (n=18) respectively.

**Conclusion:** The present study observed that chronic diarrhea exploration by colonoscopy use remains significant and enabled 80% or above cases to be diagnosed of chronic diarrhea based on endoscopic examination.

**Keywords:** Chronic diarrhea, Colonoscopy, Digestive Endoscopy

## INTRODUCTION

Diarrhea is a condition where the stool water content rises, causing stool softness and frequent bowel movements. It typically occurs in conjunction with a clinical disease and, in the majority of instances, is acute, lasting less than four

weeks [1]. Acute diarrheal disease is easy to diagnose; the probable pathogeneses are mostly restricted to various etiologies such as toxic, infectious, and food-related etiologies. The chronic diarrhea etiologies might last for > 4 weeks and convoluted resulting challenges in identification of etiologies in various conditions [2]. Chronic diarrhea is a frequent clinical disorder that affects around 5% of the global population [3]. According to the Schiller et al the chronic diarrhea is the bowel transit alterations marked by increased frequency of daily evacuation, decreased consistency of stool, and routine stool weight >300 g. Its etiologies are many and diverse, with colonic and distal ileal causes predominating [4]. Ileocolonoscopy is important in the identification and treatment of persistent diarrhea and used to diagnose colonic disorders [5]. Additionally, it might investigate the colonic mucosa and biopsies collection in infected areas offering the treatment potential in certain conditions.

Gastrointestinal endoscopic examinations (Upper and lower) are routinely used to rule out persistent diarrhea. Endoscopy can detect organic gastrointestinal illnesses such as neoplasia and inflammatory bowel disease (IBD) [6]. Furthermore, the British Society of Gastroenterology's recommendations for the examination of persistent diarrhea propose a colonoscopy test to exclude the microscopic colitis and colon cancer [7]. Endoscopic results are insufficient for detecting diarrhea causing conditions and etiologies; therefore, diarrhea investigation by endoscopy must be carried out with extreme caution in order to maximize its diagnostic usefulness. IBD is the most common organic illness observed in endoscopic examinations, followed by microscopic colitis. Middle-aged and elderly population are susceptible to microscopic colitis whereas the young population are more likely to suffer from IBD [8, 9]. Several of these are uncommon, and difficult to diagnose irrespective of physical examination, medical history and various laboratory tests such as stool samples, urine, and blood test using colonoscopy procedure [10]. In Asia, unlike acute diarrhea, overall statistics on chronic diarrhea are scarce. To our knowledge, there is limited study done on syndromes like chronic diarrhea, therefore, the present study aimed to determine the colonoscopy contribution in chronic diarrhea diagnosis in the digestive endoscopic unit.

## METHODOLOGY

A total of 110 chronic diarrhea patients were retrospectively investigated in the Endoscopic Unit of Medicine Department of MTI Lady Reading Hospital, Peshawar from February 2018 to February 2021. Each individual underwent colonoscopy and data regarding demographic details such as age and gender, pathological results, and clinical findings were recorded. The inflammatory conditions induced with diarrhea and chronic infection disease are more susceptible to inflammatory bowel disease indicated by fever. The first critical step for laboratory analysis is the stool samples investigation. Patients who had endoscopy for reasons other than chronic diarrhea, such as odynophagia, dysphagia, gastrointestinal hemorrhage, and abdominal pain were excluded. Data analysis was done using SPSS version 27. Quantitative variables were expressed as mean and standard deviation whereas qualitative variables were described as frequency and percentage.

## RESULTS

The overall mean age was 44.82±4.6 years with an age range 15 to 75 years. Majority of patients 30.9% (n=34) belonged to the age range 46-60 years. Age-wise distribution of patients are shown in Table-I. Of the total patients, there were 48 (43.6%) male and 62 (56.4%) females. The incidence of glairo-bloody, glairy, and liquid cases were 52.7% (n=58), 29.1% (n=32), and 18.2% (n=20) respectively as illustrated in Figure-1. Based on colonoscopy findings, the prevalence of normal, inflammatory lesions, neoplastic lesions, hemorrhoids, and others were 58.2% (n=64), 27.3% (n=30), 15.5% (n=17), 59.1% (n=65), and 16.4% (n=18) respectively as shown in Table-II. Biopsy examinations were done in 106 (96.4%) cases but 79 (71.8%) biopsy results were found and recorded. Based on pathological examination on colonoscopy, the incidence of microscopic colitis, ulcerative colitis, Crohn’s disease, colonic adenocarcinoma, and normal histology with diarrhea the major functional disorder was 29.1% (n=23), 15.2% (n=12), 6,3% (n=5), 15.2% (n=12), and 12.7% (n=10) respectively as depicted in Figure-2. About 17 (21.5%) patients had non-specific colitis with nil etiology.

**Table-I Age groups (n=110)**

| Age group (years) | N (%) |
|---|---|
| 15-30 | 23 (20.9) |
| 31-45 | 28 (25.5) |
| 46-60 | 34 (30.9) |
| 61-75 | 25 (22.7) |
| **Total** | 110 (100) |

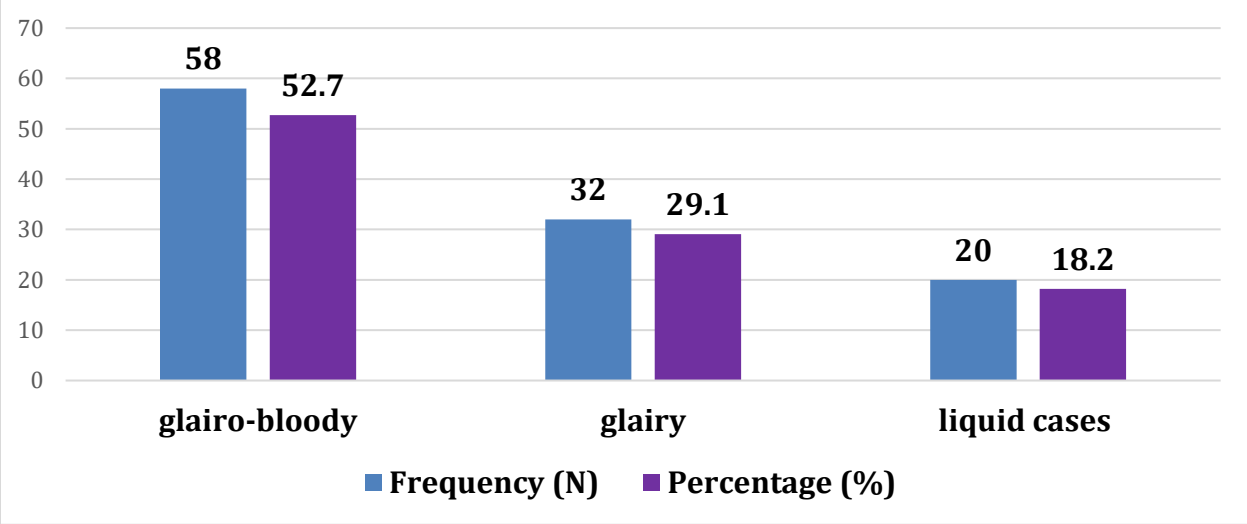


**Figure-I different types of specimen (n=110)**

**Table-II colonoscopy findings**

| Colonoscopy findings | N (%) |
|---|---|
| Normal lesions | 64 (58.2) |
| Inflammatory lesions | 30 (27.3) |
| Neoplastic lesions | 17 (15.5) |
| Hemorrhoids | 65 (59.1) |
| Others | 18 (16.4) |

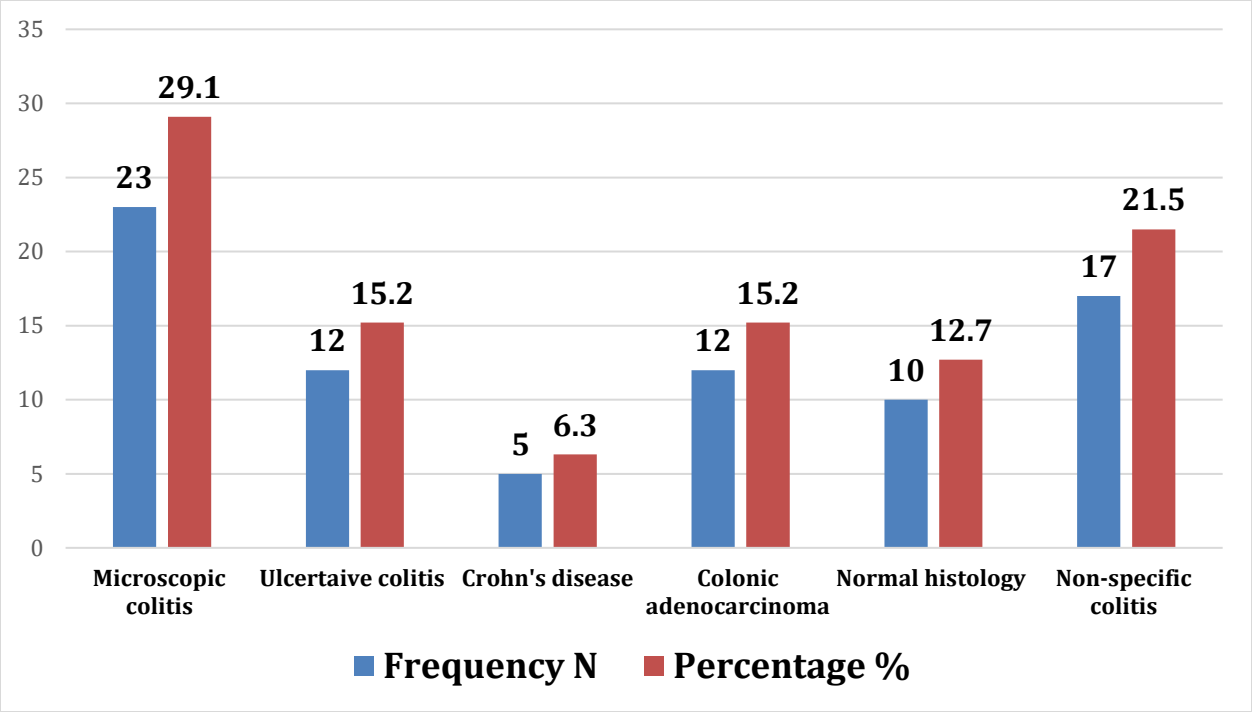


**Figure-2 Pathological findings of 79 biopsies examined**

## DISCUSSION

The present study mainly investigated the colonoscopy contribution in the chronic diarrhea diagnosis and found that the use of colonoscopy for chronic diarrhea investigation remains considerable, allowing 80% or more patients to be identified with chronic diarrhea based on endoscopic examination. The overall mean age was 44.82 years with an age range 15 to 75 years. The similar result was observed in a study on colonoscopy use in patients of chronic diarrhea [11]. The prevalence of functional intestinal problems may explain the young average age reported in individuals with chronic diarrhea. Indeed, the average age in numerous IBS investigations was between 40 and 50 years old [12, 13]. Second, the prevalence of IBD, which is steadily growing, is higher in the young adult population.

Females are more predominant than male patients in the current investigations, which might explain the functional intestinal issues prevalence and with diarrhea being more common in women. Certainly, the abnormalities related to functional intestines approximately affected three times more common in females as compared to male population [14, 15]. Similarly, a comprehensive analysis of various studies on the incidence and functional bowel disorders associated risk factors undertaken revealed that women had a considerably greater prevalence of functional bowel disorders than males [16]. The hypersensitivity of the female population to specific hormonal conditions makes her more sensitive to functional bowel diseases explained by frequency of chronic diarrhea cases [17].

On Colonoscopy, the normal patients were 58.2% similar with previous research. Similarly, Okuda et al [18], Fukunaga et al [19], and Iida et al [20] reported that normal colonoscopy was found in 70.9%, 71.8%, and 53.6% respectively. A routine colonoscopy is commonly used in the study of persistent diarrhea. Microscopic colitis is also a common cause of prolonged diarrhea when colonoscopy is normal. Indeed, MCs, which were once thought to be rare, have shown a significant increase in occurrence over the last 20 years [21, 22]. The incidence of microscopic colitis is 29.1% in the current study which is higher than 18.6% reported in a previous investigation [23].

Histological confirmation of neoplastic lesions on colonoscopy was obtained in 17 individuals (15.5%), all of whom had adenocarcinoma. Similarly, similar findings have been reported in the literature. Indeed, Kinoshita et al. [24]

observed cancer in 5.5% of patients, while two additional studies [25, 26] reported rates of 6%, 2.5%, and 3%, respectively. The presence of colorectal malignancies, which are most commonly indicated by persistent diarrhea, might explain the high prevalence of neoplastic lesions in our series [27].

The diarrhea was most likely caused by a diarrheal IFT. After eliminating other organic causes of persistent diarrhea, this is an elimination diagnosis. Despite living in a tropical region where infectious reasons are common and frequently connected to immunodepression, our investigation found no infectious causes, particularly parasitic or bacterial.

## CONCLUSUSION

The present study observed that chronic diarrhea exploration by colonoscopy use remains significant and enabled 80% or above cases to be diagnosed of chronic diarrhea based on endoscopic examination. In order to identify recurrent diarrhea, endoscopists should consider obtaining biopsy samples from even normal-appearing gastrointestinal mucosa.

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