

# Correlation Between Clinical Symptoms Of Various Colorectal Diseases And Colonoscopic Findings

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## ABSTRACT

**Background:** About 30% of patients presenting to surgical outpatient department has lower gastrointestinal (LGI) symptoms. Colonoscopy is a low risk and at the same time investigation of choice in these patients which allows visualization of the entire colon and the terminal portion of ileum. This study was done to find out the diagnostic accuracy of colonoscopy in relation to the clinical symptoms of the disease. **Methods:** This was a prospective, hospital based study from February 2014 to March 2019, carried out at Nepalgunj Medical College and Teaching Hospital. The colonoscopic diagnosis was compared with the clinical symptoms and further confirmed with histological examination. **Results:** 341 patients underwent colonoscopy. There were 234 (68.62%) males and 107 (31.37%) females with the male to female ratio of 2.18: 1. The age ranged from 16 to 81 with the mean age of 59.63±10.37. The most common presenting symptom was per rectal bleeding (40.34%) the after were alteration in bowel habit (17.30%), constipation (12.90%), hematochezia (11.43%). The least common indication for colonoscopy was unexplained anemia. Haemorrhoids were the most common findings consisting 32.55%. In 19.94% it was normal. Majority had various inflammatory conditions, among them 10.85% had proctocolitis, 2.34% were suspected to have ulcerative colitis. There were 17(4.98%) patients with colonic and 13(3.18%) with rectal carcinoma. 10.55% had colorectal polyps. Out of 111 patients suspected to have hemorrhoids clinically 102 had same findings on colonoscopy. Similarly 34 patients presenting with chronic diarrhea with bleeding and 59 with alteration in bowel habit where inflammatory conditions were suspected had similar findings on colonoscopy in 29 and 34 patients respectively. Similarly the suspicion of malignancy on clinical basis was also correlated on colonoscopy. The inflammatory conditions diagnosed on colonoscopy were confirmed in 85.04 % by histology. Similarly malignancy and the presence of polyps diagnosed on colonoscopy were confirmed by histology in 97.05% and in 97.22% cases respectively. **Conclusion:** Colonoscopy is a safe and effective investigation to diagnose various colorectal conditions. There was a correlation between the clinical symptoms and the colonoscopic diagnosis especially in conditions like inflammatory and neoplastic colorectal diseases. When combined with histology the diagnostic accuracy can be near 100% in conditions like inflammatory and benign or malignant diseases.

**Key words:** Colonoscopy, Clinical symptoms, Histopathology

## INTRODUCTION

Various conditions like neoplastic, inflammatory, infectious and vascular malformations can affect the colon and rectum. The clinical presentation of these conditions is different but many times the symptoms may be common for different diseases. Colonoscopy is now accepted as a gold standard modality for the diagnosis of different colorectal conditions. Colonoscopy has not only revolutionized the diagnostic aspect

of colorectal diseases but also the therapeutic aspect. Conditions like polyps and lower gastrointestinal (GI) bleeding can be treated by colonoscopy which required a surgical intervention in the past<sup>1</sup>.

Entire colon and the terminal part of the ileum can be visualized with the help of colonoscopy. One of the greatest advantages of colonoscopy is to take biopsy for histological examination. The indications of colonoscopy are lower GI bleeding, alteration in bowel habit, constipation, chronic diarrhea etc.<sup>2</sup> presence of fecal occult blood is a strong indicator of colonoscopy<sup>3</sup> colonic polyps are frequently found in colonoscopy and polypectomy is a routine a routine part of colonoscopy<sup>4</sup>.

This study aimed to find out the diagnostic accuracy of colonoscopy in relation to the clinical symptoms of the disease. The accuracy was confirmed by histological diagnosis.

## METHODS AND MATERIALS

It was a prospective, hospital based study from February 2014 to March 2019, carried out at Nepalgunj Medical College and

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Teaching Hospital, department of surgery. All patients who underwent colonoscopy were included. Patients below 16 years age and patients with severe cardiopulmonary disease were excluded. Informed consent was taken from the patients and ethical clearance was also taken from the ethical board. Bowel preparation was done with polyethelene glycol. Colonoscopy was done without sedation. Sedation was given only when needed. The procedure was performed using a fibre optic video colonoscope (Fujinon). Biopsy was taken as per the requirement. The colonoscopic findings were compared with the clinical symptoms to find out the accuracy of diagnosis and further confirmed with histological diagnosis.

## RESULTS

341 patients underwent colonoscopy during the study period. There were 234 (68.62%) males and 107 (31.37%) females with the male to female ratio of 2.18: 1. The age ranged from 16 to 81 with the mean age of 59.63±10.37. The clinical symptoms are showed in table I.

Clinical symptoms	No. of patients (%)
Per rectal bleeding	141(40.34%)
Alteration in bowel habit	59(17.30%)
Constipation	44(12.90%)
hematochezia	39(11.43%)
Chronic diarrhea with bleeding	34(9.97%)
Abdominal masses	13(3.81%)
Unexplained anemia	11(3.22%)

**Table I: Clinical symptoms**

Hemorrhoids were the most common finding followed by inflammatory conditions and then were the neoplastic lesions (Table II)

Colonoscopic Finding	No. of patients (%)
Haemorrhoids	111(32.55%)
Normal	68(19.94%)
Colorectal polyps	36(10.55%)
Proctocolitis	37(10.85%)
Colitis	29(8.50%)
Proctitis	19(5.57%)
Carcinoma colon	17(4.98%)
Carcinoma rectum	13(3.81%)
Tuberculosis	11(3.22%)
Ulcerative colitis	8(2.34%)
Carcinoma anal canal	4(1.17%)

**Table II: Colonoscopic finding**

There were 141 patients with per rectal bleeding. Among them 102 (91.81%) had hemorrhoids. Among the patients with alteration in bowel habit, in 36 (61.01%) the findings were suggestive of various inflammatory diseases, in 6 (16.66%) suggestive of malignancy and in 17 the colonoscopy was unremarkable. 39 (88.63%) patients with constipation had normal colonoscopy, 5 (11.36%) had features of colorectal malignancy. Those who presented with hematochezia, 21 (53.84%) had inflammatory diseases and 7 (17.94%) had features of colorectal cancer. The colonoscopic finding of patients with chronic diarrhea with bleeding was also suggestive of inflammatory (70.58%) and colorectal cancers (8.82%). Eleven patients were suspected to have intestinal tuberculosis on colonoscopy. Among them 6 (54.54%) presented with abdominal mass. (Table III)

Symptoms	Haemorrhoids	Normal	CR polyp	Proctocolitis	Colitis	Proctitis	Ca colon	Ca rectum	TB	UC	Ca anal canal
PR bleeding	102	0	31					4	1		4
Alteration in bowel habit		17		19	11	4	3	3	1	1	
Constipation		39					1	4	1		
Haematochezia	5	4	3	6	5	9	7		1		
Chronic diarrhea with bleeding		0		11	12	6	3		1	7	
Abdominal mass		3					4		6		
Anemia	4	2	2	1			2				

**CR polyp: colorectal polyp, TB: tuberculosis, UC: ulcerative colitis**  
**Table III: Correlation of clinical symptoms with colonoscopy findings**

Histology	No. of patients
Non specific inflammatory diseases	91 (52.90%)
Juvenile polyp	17 (9.88%)
Ca colon (adenocarcinoma)	16 (9.30%)
Ca rectum (adenocarcinoma)	13 (7.55%)
Adenomatous polyp	10 (5.81%)
Hamartomatous polyp	8 (4.65%)
Tuberculosis	8 ((4.65%)
Ulcerative colitis	5 (2.90%)
Ca anal canal (squamous cell carcinoma)	4 (2.32%)

**Table IV: Histopathological examination was done in 172 patients with various findings**

Clinical findings were correlated with histological findings. Colonoscopy overall could diagnose the inflammatory condition in 85.04 %. Similarly malignancy and the presence of polyp could also be suspected in 97.05% and in 97.22% cases respectively.

## DISCUSSION

Colonoscopy is the investigation of choice in the diagnosis of the disease affecting the colon and rectum. The most common indication for colonoscopy was per rectal bleeding followed by alteration in bowel habit and constipation. There was a male dominance which is in consistency with other studies<sup>5</sup>. The mean age in this study was 59.63. The relatively younger age group may be explained by the commonest findings being haemorrhoids which occur commonly after the fifth decade of life<sup>6</sup>. The colonoscopy was normal in 68 (19.94%). The rate of normal findings were higher in the beginning when it was started and with time, started decreasing which may be due to improvement in patients selection. Other similar studies also showed same data<sup>7</sup>.

The most common finding was haemorrhoids, followed by nonspecific inflammatory bowel disease, colorectal polyps and colorectal carcinomas. The prevalence of haemorrhoids was similar to other studies<sup>7,8</sup>. The second common finding was nonspecific inflammatory bowel disease. Many of them were of infective etiology and resolved with antibiotics, antiamoebic and antihelminthics.

The occurrence of colorectal polyps is generally thought to be lower in this part of the world and in this series the colorectal polyps were third common finding commonly found in younger patients. We found a prevalence of 10.55% which is in consistent with other studies<sup>9</sup>. All of them were less than five in numbers and none showed any morphologic or histologic characteristics of any syndromic colorectal diseases. The incidence of colorectal cancer in Nepal is uncertain. In our study it was found to be in 9.97% patients.

When the clinical symptoms were correlated with colonoscopic findings, it was found that the findings were correlated in patients with per rectal bleeding, alteration in bowel habit, hematochezia and chronic diarrhea with bleeding. Haemorrhoids were common in patients who presented with fresh bleeding during defecation (PR bleeding), which is the common symptom of haemorrhoids. Similarly when symptoms like altered bowel habit, chronic diarrhea and hematochezia underwent colonoscopy, inflammatory diseases and malignant lesions were common findings. Colonoscopy could detect colorectal polyps in almost all patients. Overall colonoscopy could identify the pathology depending on the symptoms but could not differentiate between specific inflammatory disease like ulcerative colitis or nonspecific inflammatory disease. Similarly polyps were easily diagnosed but colonoscopy was not able to categorize the type. Depending on clinical

symptoms malignancy could be suspected on colonoscopy but cannot be confirmed.

Overall 107 patients had findings suggestive of inflammatory bowel disease on colonoscopy among them 91 had nonspecific inflammation, 8 patients had tuberculosis and 5 had ulcerative colitis. Only 3 patients where inflammatory disease was suspected didn't have inflammation on histology. Nonspecific inflammation is commonest<sup>10</sup>. Similarly malignant lesion on colonoscopy were proved to be malignancy in 97.05%. The polyps which were diagnosed on colonoscopy turned out to be different types of polyps on histology also.

## CONCLUSION

Colonoscopy is an important modality of investigation in patients with lower gastrointestinal symptoms. The diagnostic yield is significant with an added advantage of biopsy. The diagnostic accuracy when compared with clinical symptoms was also high, specially for malignancy, colorectal polyps and inflammatory conditions and when adjuncted by histology, diagnostic yield may reach near 100% in conditions like polyps, colorectal cancers, and in differentiating between specific (e.g. ulcerative colitis) and nonspecific inflammatory diseases.

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