

## Diagnostic Evaluation of Patients Presenting with Rectal Bleeding by Colonoscopy

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### ABSTRACT

#### Introduction

Rectal bleeding indicates the bleeding from lower gastro-intestinal tract occurring distal to ligaments of Treitz. Annual incidence of per rectal bleeding has been estimated to be 20% . Colonoscopy is the examination of choice for investigation. The objective of this study is to know the diagnostic yield of colonoscopy in cases with per rectal bleeding and to know the common causes of per rectal bleeding in adults

#### Methods

One hundred and twenty-nine adult patients, age more than 18years, who presented to Surgical OPD and ward of Dhulikhel Hospital during the year 2018 and 2019 were taken for the study irrespective of their sex. All the patients were subjected to fibre-optic colonoscopy after necessary preparation and the findings were recorded. Diagnosis was based on colonoscopic and histopathologic findings.

#### Results

A total of 129 (77 male and 52 female )patients with per rectal bleeding were evaluated with colonoscopy. The age ranged from 18 years to 79 years with the mean age 42.25 (SD+/- 15.29). Colonoscopy showed abnormalities in 102 patients (79.06%). The most common finding was hemorrhoids in 36 patients (27.90%) followed by colorectal malignant mass in 20 patients (15.50%). Polyps were diagnosed as the cause of rectal bleeding in 14 patients (10.84%).

#### Conclusion

Colonoscopy has good diagnostic yield at evaluating cases with per rectal bleeding. Hemorrhoids, colorectal malignant mass and polyps are the common causes producing PR bleeding in Nepalese adult population .

**Keywords:** Colonoscopy, hemorrhoids, per rectal bleeding,

## INTRODUCTION

Per rectal bleeding (PR Bleeding) is defined as bleeding into the lumen originating distal to the ligament of treitz.<sup>1</sup> PR bleeding is one of the most common presentation in surgery outpatient.<sup>2</sup> Frequent dull aching abdominal pain, gradual changes in bowel habit, anemia and weight loss may be few of the associated symptoms.<sup>3</sup>

Per rectal bleeding occurs in 20% of the population but only 0.7% of the patients per year seek medical advice.<sup>4</sup> Once PR bleeding is suspected to be coming from lower gastro-intestinal tract, it warrants an evaluation and colonoscopy is the examination of choice for the diagnosis.<sup>5</sup> Colonoscopy is the endoscopic examination of large bowel and distal part of the small bowel with fibre- optic camera on a flexible tube passed through the anus.<sup>6</sup> The diagnostic yield of colonoscopy is defined as its capacity for identifying a lesion that is potentially important to care.<sup>7</sup> The diagnostic yield of colonoscopy ranges between 40-45%.<sup>8,9,10</sup> Till date , there is no data validating diagnostic yield of colonoscopy at diagnosing the cause in cases presenting with PR bleeding in our context. We have no data about common disease producing PR bleeding in our country. Hence the aim of our study is to know the common causes of PR bleeding and also to investigate the diagnostic yield of colonoscopy at detecting different lesions in patients with PR bleeding .

## METHODS

The study was hospital based descriptive prospective research done in Dhulikhel Hospital , Kathmandu University hospital in the year 2018 and 2019 by evaluating the Patients with PR bleeding presenting at Surgery OPD and ward of Dhulikhel hospital by colonoscopy . The study was done after approval from institutional review committee of Dhulikhel Hospital.

Patient with age > or = 18 years irrespective of sex, presenting with PR Bleeding in surgical OPD or ward were included in the study. Patients with malena or features of upper gastro-intestinal bleeding were excluded from the study. Patients with acute anal fissure producing PR bleeding were also not included in the study

Patients with PR bleeding presenting to Surgery OPD or Ward were recruited in the study after fulfilling the inclusion criteria. Detail history, physical examination and all baseline investigations were carried out. Demography, history, colonoscopic findings and histopathological finding of the biopsy related to the recruited patients were recorded.

All the patients were prepared by keeping on liquid diet one day prior to colonoscopy. Bowel was

prepared by asking to drink polyethylene glycol solution. Olympus Exera 150 colonoscope was used in all patient. Colonoscopy was done with or without sedation as per the wish of the patient. Bowel was examined upto Terminal ileum except in stenotic lesion where the scope could not be negotiated further. Colonoscopy were done by four endoscopist .All the endoscopist had experience of at least three years of interventional colonoscopy

The procedure was done in lateral position and change of the position was done whenever necessary. Biopsy was taken from the suspected lesion and sent for histopathological examination. The result was recorded in proforma .The data was analyzed by using Microsoft office Excel

## RESULTS

A total of 158 Patients presented to surgery OPD and ward with PR bleeding during the study period. Only 129 cases were included in the study after excluding the rest using exclusion criteria. Out of 129 cases, 77(59.68% ) were male and 52 (40.3%) were female. Age ranged from 18 years to 79 years with the mean age of 45.25 (SD +/- 15.29). Fifty one(39.53%) patients were less than 40years and seventy-eight (60.46%) patients were more than 40 years.

Abdominal pain was the most common associated symptom in age less than 40 years . However, in age more than 40years, the most common symptom associated with PR bleeding was constipation. Most of the patients (85.27%) were vegetarian who presented with PR bleeding.

The most Common cause producing PR bleeding was found to be hemorrhoids in 27.90% . Malignant mass was found in colonoscopy in 20 cases (15.5% ) with PR bleeding. Out of these 20 case half of the cases had mass in colon and half of the cases had mass in rectum. Eighteen out of these 20 cases were Nonvegetarian. Polyps were found as the cause of bleeding in 10.85% of the cases. Out of These , 71.42% of the cases were of age less than 40 Years. Mean size of the polyp was 1.69cm +/- 0.65cm. All colitis and proctitis showed infectious origin on hisopathological examination. All malignanat mass were adenocarcinoma . Eighty percentage of the polyps were pedunculated and on left colon. Histopathological examination revealed 40% of these polyps were hyperplastic polyp , 40% were tubulovillous and only 20% were villous type.

Table 1. Associated Symptoms

Symptoms	Age <40yrs	Age >40yrs
Pain abdomen	18(35.29%)	42(53.84%)
constipation	13(25.49%)	51(65.38%)
Loose stool	6(11.76%)	31(39.74%)

Table 2. Colonoscopy findings

Findings	Frequency
Normal findings	27 (20.93)
Hemorrhoids	36 (27.90)
Proctitis	10 (7.70)
Colitis	4 (3.10)
Polyps	14 (10.85)
Ileocaecal ulcer (tubercular)	5 (3.87)
Malignant mass	20 (15.50)
Diverticulitis	2 (1.50)

## DISCUSSION

PR bleeding accounts for 20% gastrointestinal bleed.<sup>4</sup> It is a common problem in adult and most of the cases goes unreported and cause of the bleeding remain unknown.<sup>11</sup>

There are limited studies done in Nepal regarding PR bleeding. As per Tessler et al<sup>12</sup>, which surveyed 2695 individual in Nepal, 55% cases of PR bleeding were male with the mean age of 45.5 years (SD+/-2.2). Though our study sample size is small (n=129), our findings are similar to the above mentioned study.

Abhay D et al<sup>13</sup> had shown PR Bleeding being associated with abdominal pain, constipation and loose stool. As per the study, constipation is more common in elderly age and loose stool is more common in young age group. This is also true in our study.

Colonoscopy is an established procedure in workup and screening of patient with PR bleeding<sup>14,15</sup> Colonoscopy can produce high yield (75%) of positive finding in PR bleeding cases as per the study<sup>14</sup> done in India. There is no study done in Nepal showing the diagnostic yield of colonoscopy. In our study, colonoscopy revealed cause of PR bleeding in 102 cases i.e 79.6%. This diagnostic yield of colonoscopy is well supported by other studies.<sup>11,16</sup>

Many studies<sup>17,14</sup> has shown hemorrhoid as the most common cause producing PR bleeding. In this study also hemorrhoid appeared as the most common cause for PR bleeding. The second common colonoscopic finding in case of PR Bleeding in our series is colorectal malignancy which accounted 15.50%. It is also similar in study done by F. A. Andoulo et al.<sup>18</sup> It had shown 10.8% of colorectal cancer while evaluating cases with PR bleeding. Similarly, Mbengue et al<sup>19</sup> had shown colorectal cancer in 11.9% of the cases with PR bleeding. Our study had revealed similar findings cancer at evaluating 129 cases of PR bleeding.

Meat form carcinogenic heterocyclic amines and polycyclic aromatic hydrocarbons, also carcinogenic

N-Nitroso compounds and heme iron in red meat can promote carcinogenesis.<sup>20</sup> This may explain why 90% of cases with colorectal malignancy diagnosed at colonoscopy were nonvegetarian in our study. However, we need to analyze other risk factors to reach this conclusion.

In a study<sup>18</sup> done in India in 2015, 580 cases of PR bleeding, colonoscopy detected polyps in 14.4% of the cases. Similarly, in Cameroon, colorectal polyps were found in 16.7% of cases with PR bleeding as per F. A. Andoulo et al<sup>19</sup>. Our finding was not different from above mentioned study.

## CONCLUSION

Colonoscopy has high diagnostic yield. Hence it should be considered as investigation of choice in patients presenting with PR bleeding. Hemorrhoids and colorectal malignancy are the common pathologies in our population producing PR bleeding and presenting to hospital.

## CONFLICT OF INTEREST

None declared.

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