

Original research article

COLONOSCOPIC EVALUATION FOR LOWER G.I. BLEED AS SCREENING

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Abstract

Background: Little data exist on the yield of colonoscopy in its different indications, especially lower gastrointestinal (GI) bleeding. Furthermore, there are no formal guidelines regarding the timing of its performance in the work up for lower GI bleeding.

Aims and Objectives: Detection of diseases which modify the treatment of lower GI bleed and its incidence. Detection of miscellaneous condition associated with lower GI bleed

Methods: In a retrospective study, spanning from October 2014 to October 2016, the clinical data of all the patients undergoing colonoscopy were retrieved from the hospital records including the predominant symptom which mandated colonoscopy The type of GI bleed (overt or occult) along with the presence or absence of iron deficiency anemia (IDA) was noted.

Results: The incidence of causes for Lower G.I Bleed through colonoscopic evaluation as screening are as follows:- Haemorrhoids - 27%, Carcinoma Colon - 21%, Inflammatory Bowel Disease - 17%,Colorectal Polyps - 16%,Carcinoma Rectum - 12%,Diverticulosis - 4%,Others (abdominal tuberculosis) - 1%,Idiopathic causes - 2%.

Conclusion: For hematochezia and occult bleed, colonoscopy is important whether IDA is present or not. In this study, the incidence of Colorectal malignancies in patients presenting with Lower G.I Bleeding is predominantly high (35%). Henceforth, a Complete Colonoscopic Evaluation is a must in patients presenting with Lower G.I Bleeding with age more than 40years with more than 6 months duration of Bleeding Per Rectum.

Keywords: Colonoscopic evaluation, lower G.I. bleeding

Introduction

Lower gastrointestinal bleeding (LGIB) refers to blood loss of recent onset originating from a site distal to the ligament of Treitz ^[1]. Hemorrhage from the lower gastrointestinal (GI) tract accounts for about 20% of all cases of acute GI bleeding. Acute LGIB is defined as bleeding of recent duration (arbitrarily designated as <3 days) and might result in instability of vital signs, anemia and/or the need for blood transfusion. Chronic LGIB is the passage of blood from the rectum over a period of several days or longer and usually implies that blood loss is intermittent or slow.

The etiology and the epidemiology of LGIB varies according to the environmental conditions depending upon the life style, dietary habits, the prevalence of smoking, history of drug intake, age, longevity of the population, etc. Most of the data from the west suggests that colonic diverticula are the most frequent source of LGIB followed by angiodysplasias, colitis (ischemic, infectious, chronic inflammatory bowel disease [IBD]), neoplasms, small bowel bleeding and postpolypectomy bleeding. However, in the Indian experience, the etiology differs significantly. Nonspecific ulcers account for 30% of cases while as the rest are enteric ulcers 15%, tubercular ulcers 6%, neoplasm 6%, amoebic ulcers 6%, angiodysplasia 6% and others.

Colonoscopy is the most convenient and effective preliminary investigation. Actual visualization during the acute episode is uncommon because the view is poor. In a study on colonoscopy without any bowel preparation, it was concluded that the procedure was safe and accurate and allowed the performance of therapeutic procedures with minimal complications. Accurate localization of lesions was possible in 97% of patients. The treatment options available are therapeutic colonoscopy or angiography and surgery. The various colonoscopic therapeutic modalities currently in use are injection, laser coagulation electrocautery and "heater probe." Surgical treatment is reserved for those who continue to bleed or re-bleed after initial cessation. LGIB has a mortality rate ranging from about 10% to 20%, with patients of advanced age (>60 y) and patients with comorbid conditions. LGIB is more likely in the elderly because of a higher incidence of diverticulosis and vascular disease in these groups. The incidence of LGIB is higher in men than in women.

The present study is undertaken as most cases of colon cancers and polyps were asymptomatic or presents with hematochezia and colonoscopy is the initial investigation of choice because, besides being readily available, it may prove therapeutic as well in addition to being diagnostic. This along with the fear of missing important lesion makes its performance pressing and so often nonselective.

Aims and Objectives

1. Detection of diseases which modify the treatment of lower GI bleed and its incidence.
2. Detection of miscellaneous condition associated with lower GI bleed

Materials and Methods

- Colonoscopy was carried out in 100 patients who had complaints of lower G.I bleed under sedation for a period of 3 years from October 2020-October 2023, in Kanachur Institute of Medical Sciences, Mangalore.

- All the colonoscopy was done in in-patient basis.
- All patients presenting with bleeding per rectum were enquired regarding the history followed by which detailed clinical examination was done. Proctoscopy was done subsequently to examine the rectum and anal canal.
- **Sample Size:** 100 patients

Inclusion Criteria

- Patients with lower gastrointestinal bleeding (bleeding PR)
- **Age group:** 18-80yrs

Exclusion Criteria

- Patients not willing for colonoscopy
- All patients with co-morbidities and unfit for anaesthesia
- End stage/advanced proven rectal malignancy
- Acute painful condition of anal/perianal area, which are considered for colonoscopy after the treatment of the condition

Observation and Results

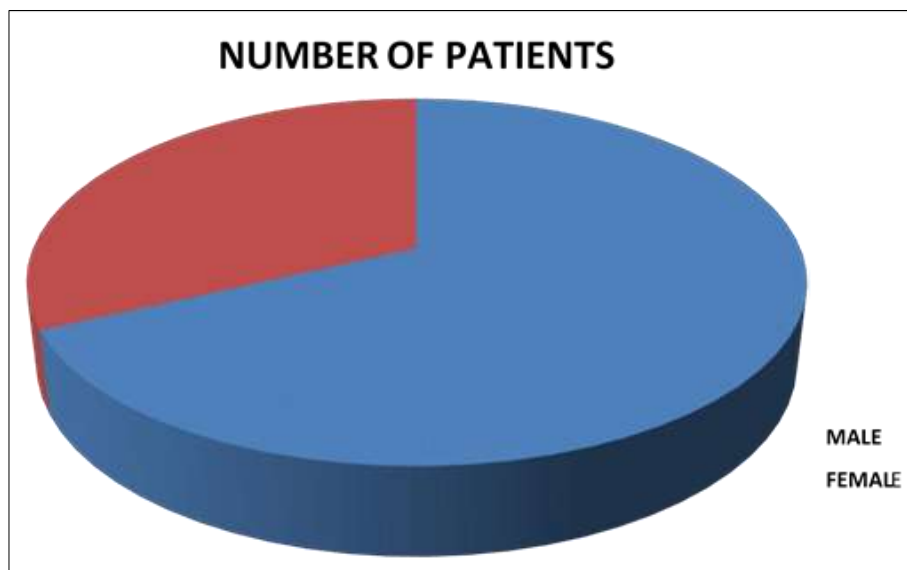


Fig 1: Graph Distribution

Table 1: Distribution of colonoscopic findings

Colonoscopic findings	No. of patients	Percentage
Haemorrhoids	27	27%
Ca COLON	21	21%
I B D	17	17%
Polyps	16	16%
Ca RECTUM	12	12%
Diverticulum	4	4%
Others	1	1%
Normal	2	2%
Total	100	

Of these 100 patients, 27 patients were diagnosed to have Haemorrhoids of different Grades. 16 patients had Polyps.

Out of these 16, 9 polyps were found in transverse colon, 2 in ascending colon, 3 in rectum, 1 in descending colon and 1 in sigmoid colon. Out of these 16 polyps, 9 are proved as adenomatous polyps, 5 were proved as inflammatory polyps and 2 were proved as malignant polyps.

17 patients had inflammatory bowel disease

Out of these 17 patients, 12 patients had ulcerative colitis, 3 patients had crohn's disease and 2 patients had proctitis.

21 patients had Carcinoma Colon

Out of these 21 patients, 7 patients were diagnosed to have carcinoma of ascending colon, 5 patients were diagnosed to have carcinoma of descending colon, 3 patients were diagnosed to have carcinoma of hepatic flexure, 3 patients were diagnosed to have carcinoma of caecum, 2 patients were diagnosed to have carcinoma of sigmoid colon, 1 patient was diagnosed to have carcinoma of transverse colon. 14 of these 21 carcinoma colon patients were Moderately differentiated adenocarcinomas, 3 were poorly differentiated adenocarcinomas and 4 were well differentiated adenocarcinomas.

12 patients had Carcinoma Rectum

Out of these 12 patients, 8 patients underwent Abdomino-Perineal Resection and 4 patients underwent Anterior Resection with Neo-adjuvant therapies (wherever required).

4 patients had Diverticulosis

Out of these 4 patients, 2 patients were diagnosed to have diverticulosis at sigmoid colon, 1 patient was diagnosed to have solitary caecal diverticulum and 1 patient was diagnosed to have diverticulosis in ascending colon.

1 patient had Ileo-Caecal Stricture which was diagnosed as Abdominal Tuberculosis. 2 patients had Round worm Infection associated with haemorrhoids.

1. Patient had Chronic Fissure - in - ano.
2. Patients colonoscopic findings were Normal (Idiopathic Lower G.I Bleed).

TABLE 2: Age distribution of lesions

No. of patients with colonic pathology											
Age	No. of patients	Hemorrhoids	Polyp	Inflammatory bowel disease			Ca Colon	Ca Rectum	Diverticulosis	Others	Normal
				UC	CD	PC					
<40yrs	35	18	6	6	1	1	0	1	1	Ic-TB +Round worm	1
40-60yrs	34	6	7	4	2	1	8	3	2		1
>60yrs	31	3	3	2	0	0	13	9	1	-	-

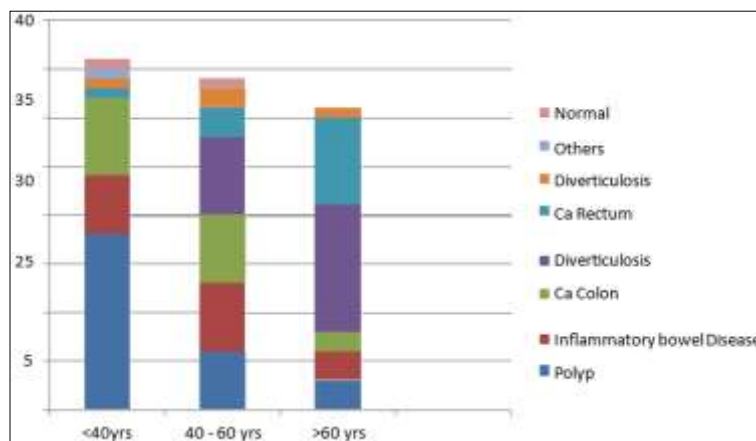


Fig 2:

35 out of 100 Patients presented as lower G.I Bleed under the age of 40 yrs. Out of these 18 patients had haemorrhoids, 6 patients had polyps, 6 patients had ulcerative colitis, 1 patient had crohn's disease, 1 patient with proctitis, 1 patient with diverticulosis and 1 presented as ileo-caecal tuberculosis and 1 patients colonoscopic findings were normal.

34 out of 100 Patients between the age of 40-60 yrs with Lower G.I Bleed, 6 of them were Haemorrhoids, 7 patients had polyps, 4 patients had ulcerative colitis, 2 patients had crohns disease, 1 patient had proctitis, 8 patients had Carcinoma colon, 3 patients had Carcinoma rectum, 2 patients had diverticulosis and 1 patient was Normal (idiopathic lower g.i bleed).

31 out of 100 patients with age group more than 60 yrs, 3 patients had haemorrhoids, 3 patients had polyps, 2 patients had ulcerative colitis, 13 patients had carcinoma colon, 9 patients had carcinoma rectum, 1 patient had diverticulosis.

Table 3: duration of bleeding pr

Positive colonoscopic findings											
Duration of bleeding	No. of patients	Hemorrhoids	Polyp	Inflammatory bowel disease			Ca Colon	Ca Rectum	Diverticulosis	Others	Normal
				UC	CD	PC					
Upto 6 months	60	20	14	10	3	2	3	2	3	1	2
6 months-1yr	22	5	5	1	-	-	11	3	1	-	-
> 1yr	18	2	2	1	-	-	7	7	-	-	-

60 out of 100 patients presented with lower g.i bleed within duration of 6 months. Out of them 20 patients had haemorrhoids, 14 patients had polyps, 10 patients had ulcerative colitis, 3 patients had crohns disease,2 patients had proctitis,3 patients had carcinoma colon, 2 patients had carcinoma rectum,3 patients had diverticulosis,1 patients with ileo-caecal tuberculosis and 2 patients had normal colonoscopic study.

22 out of 100 patients presented with lower g.i bleed within duration of 6 months – 1 year. Out of them, 5 patients had haemorrhoids,5 patients had polyps, 1 patient had ulcerative colitis, 11 patients had carcinoma colon,3 patients had carcinoma rectum,1 patient had diverticulosis.

18 out of 100 patients presented with lower g.i bleed with duration more than 1year. Out of them, 2 patients had haemorrhoids, 2 patients had polyps,1 patients had ulcerative colitis,7 patients had carcinoma colon, 7 patients had carcinoma rectum.

Table 4: Relation of bowel habits to colonoscopic findings:

No. of patients with colonic pathology											
Alteration of bowel habits	No. of patients	Hemorrhoids	Polyp	Inflammatory bowel disease			Ca Colon	Ca Rectum	Diverticulosis	Others	Normal
				UC	CD	PC					
Constipation	58	25	8	-	1	-	11	10	3	-	-
Diarrhoea	9	-	2	3	2	2	-	-	-	-	-
Alternating diarrhoea and constipation	19	-	4	9	-	-	5	-	-	1	-
Normal bowel habits	11	2	2	-	-	-	2	2	1	-	2
Tenesmus	13	-	-	-	-	-	3	10	-	-	-

On analyzing the patients, symptoms other than bleeding per rectum, it was found that alternation in bowel habits was commonly associated with malignancies

58 out of 100 patients presented with lower g.i bleed associated with constipation. 25 patients had haemorrhoids, 8 patients had polyps, 1 patient had crohns disease, 11 patients had carcinoma colon, 10 patients had carcinoma rectum, 3 patients had diverticulosis.

9 out of 100 patients presented with lower g.i bleed associated with diarrhoea. 2 patients had polyps, 3 patients had ulcerative colitis, 2 patients had crohns disease, 2 patients had proctitis.

19 out of 100 patients presented with lower g.i bleed associated with alternating diarrhoea and constipation.4 patients had polyps, 9 patients had ulcerative colitis, 5 patients had carcinoma colon, 1 patient had ileo-caecal tuberculosis.

11 out of 100 patients presented with lower g.i bleed with normal bowel habits. 2 patients had haemorrhoids, 2 patients had polyps, 2 patients had carcinoma colon, 2 patients had carcinoma rectum, 1 patient had diverticulosis and 2 patients had normal colonoscopic findings.

13 out of 100 patients presented with lower g.i bleed associated with tenesmus.3 patients had carcinoma colon, 10 patients had carcinoma rectum.

Table 5: Relation of the haemoglobin gm % to colonic pathology

Colonoscopic findings											
Hb %	No. of patients	Hemorrhoids	Polyp	Inflammatory bowel disease			Ca Colon	Ca Rectum	Diverticulosis	Other	Normal
				UC	CD	PC					
< 11	46	11	3	4	1	1	13	10	1	1	1
>11	54	16	13	8	2	1	8	2	3	-	1

On analyzing the blood investigations, reduced haemoglobin and increased ESR were found to have more colonoscopic findings.

46 out of 100 patients presented with lower g.i bleed associated with Hb level less than 11 gm %. 11 patients had haemorrhoids, 3 patients had polyps, 4 patients had ulcerative colitis, 1 patient had crohns disease,1 patient had proctitis, 13 patients had carcinoma colon,10 patients had carcinoma rectum, 1 patient had diverticulosis,1 patient had ileo-caecal tuberculosis and 1 patient had normal colonoscopic findings.

54 out of 100 patients presented with lower g.i bleed associated with Hb level more than 11 gm%.16 patients had haemorrhoids, 13 patients had polyps, 8 patients had ulcerative colitis, 2 patients had crohns disease, 1 patient had proctitis, 8 patients had carcinoma colon, 2 patients had carcinoma rectum, 3 patient had diverticulosis and 1 patient had normal colonoscopic findings.

ESR of 44 patients with caricnoma were elevated. Inflammatory bowel disease also had raised ESR.

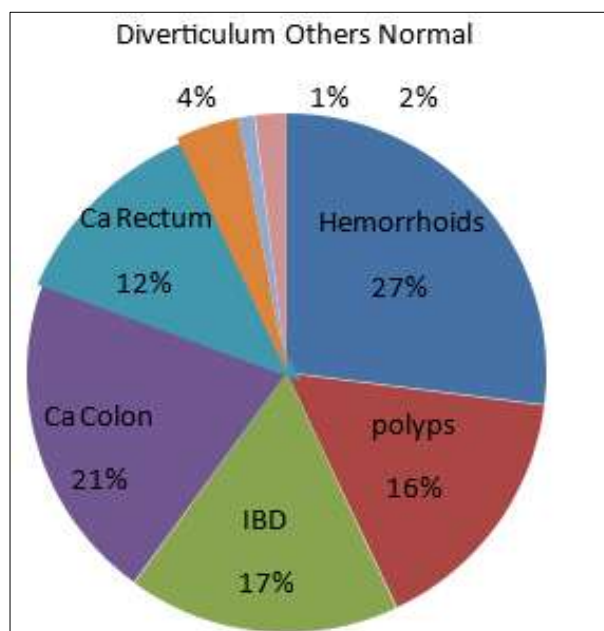


Fig 3:

Discussion

Colorectal malignancies remain one of the major causes of morbidity and mortality worldwide. It represents 9.4% of all malignancies worldwide [2]. The incidence of colorectal neoplasms are less in India as compared to rest of the world.

There have been many clinical and pathological studies to indicate the correlation of colorectal neoplasms and rectal bleeding. Shinya H *et al* [3] study of colonoscopic diagnosis and management of rectal bleeding, presented a study of 2200 cases of bleeding Per Rectum. The distribution of causes of bleeding Per Rectum where polyps (32%), carcinomas (19%), inflammatory bowel disease (6%), haemorrhoids (11%). 1375 patients had internal haemorrhoids associated with other colonic pathologies. 7% patients had only internal haemorrhoids as the cause of the bleeding per rectum. Internal Haemorrhoids, is many times associated with other colonic pathologies.

Clinical studies have shown that 40-60% patients harbouring 1 or more colonic neoplasms have bleeding per rectum as the predominant symptom [4, 5]. Colonoscopy done for bleeding per rectum in various studies has shown 6.6 to 19% incidence of colorectal malignancy [3, 6, 7].

Rafty *et al* [34] in their study of 340 colonic malignancies, have shown that obstruction, perforation and presence of a palpable abdominal mass indicates an advanced pathological stage than symptoms such as change in bowel habit, rectal bleeding and anemia. This study also showed the incidence of the malignancies commonly in the age group of more than 40 years with peak incidence in the 7th and 8th decade. Similar results has been observed in many other studies [8, 9].

Guillem *et al* [6] in their study have stressed that both acute and chronic bleeding per rectum should be investigated with colonoscopy and that acute onset of bleeding per rectum than chronic has more incidence of neoplastic lesions.

In various studies of 30 - 56% neoplastic lesions are found proximal to splenic flexure [3, 7]. This advocates the use of a complete colonoscopic study than a flexible sigmoido-

scopy when investigating a case of bleeding per rectum.

In the present study, the aim was to detect significant findings in colon of patients presenting with bleeding per rectum. 100 patients were included in the study, all these patients were inpatients who were subjected to complete blood investigations and other relevant tests.

In this study, 27 patients were diagnosed to have Haemorrhoids of different Grades. 16 patients had Polyps.

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1. Patient had Chronic Fissure - in - ano.
2. Patients colonoscopic findings were Normal (Idiopathic Lower G.I Bleed).

All the neoplastic lesions were seen in the patients of more than 40 years age. The incidence of malignancies increases with age. On an average, in this study, 25% of the neoplastic lesions were located proximal to the splenic flexure and this advocates the need of colonoscopy as a screening device for deducting colonic pathologies associated with bleeding per rectum.

Duration of bleeding per rectum was another symptom found to be important during this study.

60 out of 100 patients presented with lower g.i bleed within duration of 6months. Out of them 20 patients had haemorrhoids, 14 patients had polyps, 10 patients had ulcerative colitis, 3 patients had crohns disease, 2 patients had proctitis,3 patients had carcinoma colon, 2 patients had carcinoma rectum, 3 patients had diverticulosis, 1 patients with ileo-caecal tuberculosis and 2 patients had Normal colonoscopic study.

22 out of 100 patients presented with lower g.i bleed within duration of 6 months - 1year. Out of them, 5 patients had haemorrhoids, 5 patients had polyps, 1 patient had ulcerative colitis, 11 patients had carcinoma colon, 3 patients had carcinoma rectum, 1 patient had diverticulosis.

18 out of 100 patients presented with lower g.i bleed with duration more than 1year. Out of them, 2 patients had haemorrhoids, 2 patients had polyps, 1 patients had ulcerative colitis, 7 patients had carcinoma colon, 7 patients had carcinoma rectum.

Anemia was another significant finding during this study

46 out of 100 patients presented with lower g.i bleed associated with Hb level less than 11gm%. 11 patients had haemorrhoids, 3 patients had polyps,4 patients had ulcerative colitis, 1 patient had crohns disease,1 patient had proctitis, 13 patients had carcinoma colon,10 patients had carcinoma rectum,1 patient had diverticulosis,1 patient had ileo-caecal tuberculosis and 1 patient had normal colonoscopic findings

Altered bowel habits were another parameter indicative of associated colonic pathology. Difficulty in defecation were seen predominantly in haemorrhoids and carcinoma colorectum. Alternating diarrhoea with constipation were seen in inflammatory bowel disease.

Tenesmus was present in carcinoma rectum cases.

Raised ESR was seen in all cases of malignancies and inflammatory bowel diseases

1. Patient with ileo-caecal stricture diagnosed as Tuberculosis subjected to A.T.T with ileocaecal resection and anastomoses.
2. Out of 100 patients presented with lower g.i bleed had Normal Colonoscopic findings.These cases should be considered as Idiopathic Lower G.I bleed (angioectasias and use of N.S.A.I.D.s.)

Conclusion

A complete colonoscopic examination should be considered in a patient presenting with Lower G.I Bleed in the presence of some or any of the following criteria.

1. Age more than 40 years.
2. Recent onset of bleeding per rectum not explainable by the haemorrhoids per se.
- 3.History of altered bowel habits of recent onset with / without Tenesmus.
3. Anemia unexplained by haemorrhoids or any other medical cause.
4. Any palpable colonic mass per rectum or growth on per rectal examination.

In this study the incidence of Colorectal malignancies in patients presenting with Lower G.I Bleeding is predominantly high (35%). Henceforth, a Complete Colonoscopic Evaluation is a must in patients presenting with Lower G.I Bleeding with age more than 40years with more than 6 months duration of Bleeding Per Rectum.

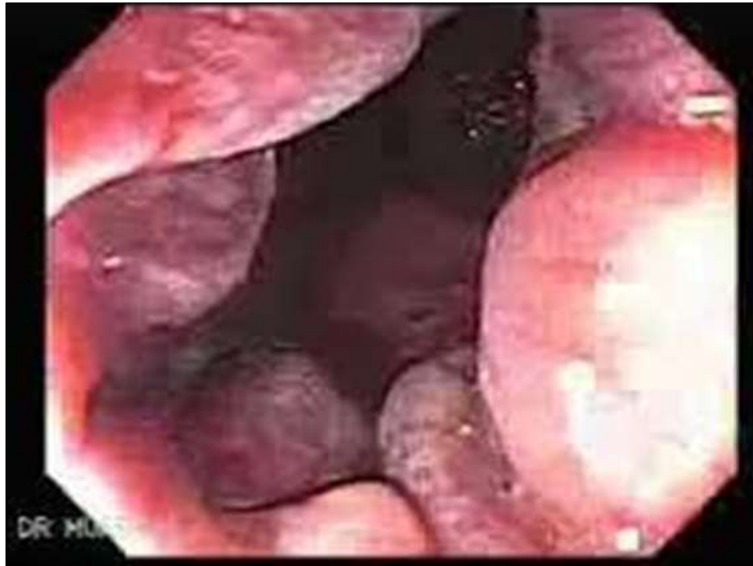


Fig 4: Colonoscopic image of internal hemorrhoids

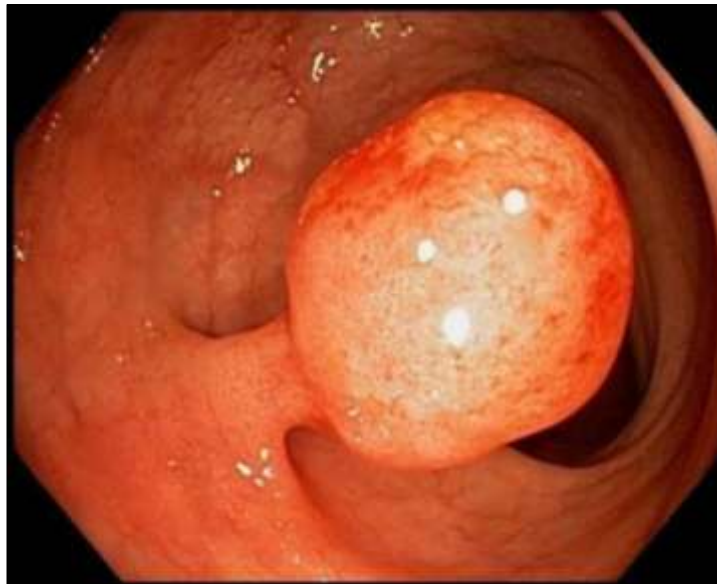


Fig 5: Colonoscopic image of colonic polyp



Fig 6: Colonoscopic image of ulcerative colitis



Fig 7: Colonoscopic image of Crohn's disease (cobblestone appearance)



Fig 8: Colonoscopic image of radiation proctitis

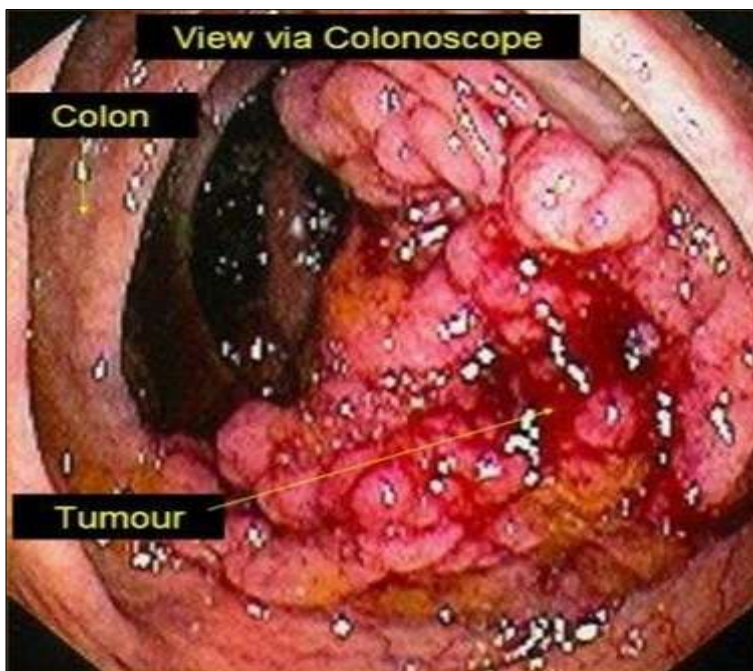


Fig 9: Colonoscopic image of carcinoma colon

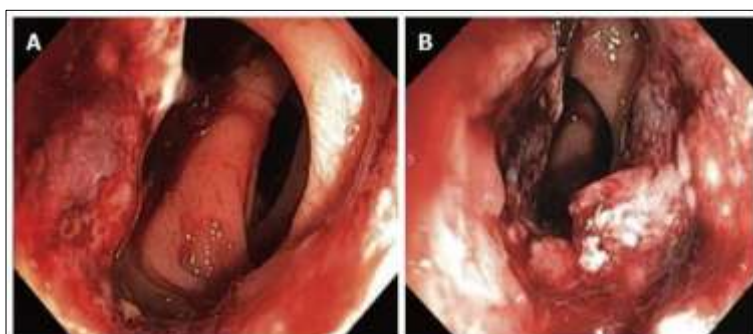


Fig 10: Colonoscopic image of carcinoma rectum

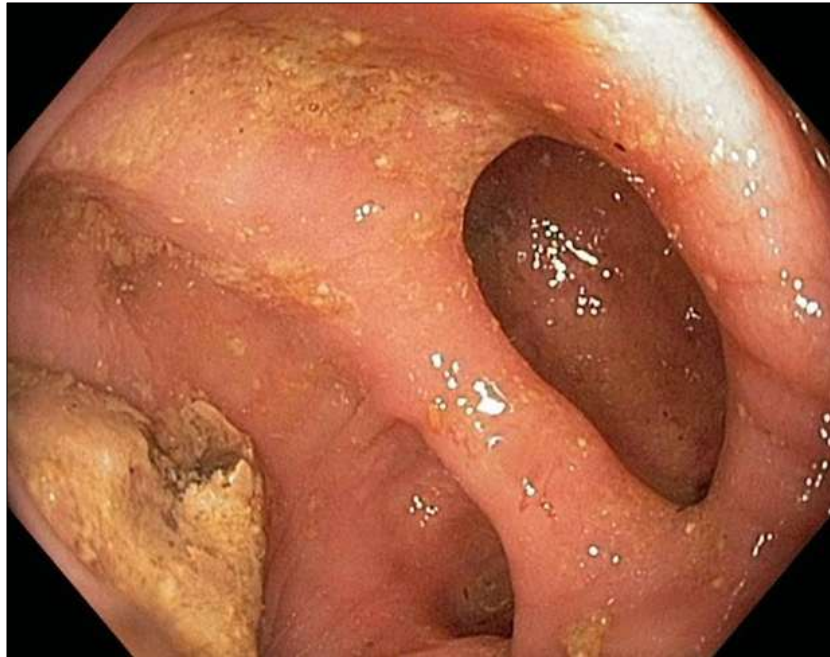


Fig 11: Colonoscopic image of sigmoid diverticulitis



Fig 12: Colonoscopic image of ileo-caecal tuberculosis

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