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Original Research Paper

General Surgery

COLONOSCOPIC EVALUATION OF COLORECTAL PATHOLOGIES

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ABSTRACT To evaluate colonoscopy as a diagnostic tool for patient with lower gastrointestinal tract pathology. We studied 70 patient who underwent colonoscopy at M.L.B. Medical College, Jhansi, Uttar Pradesh. Mostly presenting with symptoms of bleeding per rectum, altered bowel habit , mucous discharge etc. In our study, of all the pathologies, non specific inflammation (25.71%) was the most common pathology encountered followed by malignancy (11.43%), ulcerative colitis (8.57%) solitary ulcer (5.71%), crohn's disease (1.43%), polyp (2.86%), Internal Hemorrhoid (2.86%), Stricture (1.43%), Proctitis (1.43%) and normal study in remaining (38.57%) cases. Colonoscopy is the best and the first procedure of choice in all patients with lower gastrointestinal bleeding.Colonoscopy is also the best modality for diagnosing all the lower GI tract pathologies including inflammatory bowel disease, carcinoma large bowel, rectal polyp etc.

KEYWORDS : Gastro intestinal tract pathology, ulcerative colitis, solitary ulcer, crohn's disease, internal Hemorrhoid.

INTRODUCTION

Examination of the anus and rectum using various instruments has been available since the time of the Egyptians and Romans. Until the development of incandescent light, visualization was difficult, using only mirrors or candlelight. The advent of electricity allowed for development of a lighted rectosigmoidoscope by James P. Tuttle in 1903. isualization proximal to the rectosigmoid junction, however, was difficult due to the rigidity of the instrument and the anatomy of the rectosigmoid junction and the sigmoid colon. In 1928, Hoff a radiologist, used a rubber tube to incubate the cecum in a retrograde fashion using fluoroscopic guidance. However, Bergein F. Overholt is credited with the development of a flexible, fiberoptic sigmoidoscope in 1963.

The first total, closed abdomen, transanal, fiberoptic colonoscopy was performed by **Provenzale and Revignas** at the University of Cagliari, Sardinia, Italy in 1965. Their equipment consisted of a pulley arrangement that permitted one end, attached to a fiberoptic endoscope, to be drawn in when the other end was pulled. The patient was asked to swallow a tube. When it emerged from the anus several days later, the Provenzale Revignas assembly was tied to the end and drawn through the colon with gentle traction. Marketable versions of a flexible colonoscope were championed by Oshiba and Watanabe in the same year.

In 1969 **Olympus** built the first commercial colonoscope. Since then colonoscopy has become a routine procedure in many hospitals all over the world.

In automatic colonoscopies manipulating skills of the surgeon is no longer the dependent factor instead movements of colonoscope are controlled by computers. In robotic colonoscopy a small robot in the shape of caterpillar is designed which is able to propel itself from the anus right upto the caecum, which have the ability to carry camera, optical fibres, surgical tools and other instruments required in a colonoscopy procedure.

AIMS AND OBJECTIVES

To evaluate Colonoscopy as a diagnostic modality in patients presenting with symptoms of Lower Gastrointestinal Tract Pathology.

MATERIALS AND METHODS

We studied 70 patients who were admitted in the OPD or emergency of M.L.B. Medical College, Jhansi and presented with the symptoms suggestive of lower gastrointestinal pathology and colonoscopy was performed in the Department of Surgery between a period of two year from August 2017 to September 2019.

Detailed informed consent was taken before the procedure from every patient, standard colon preparation were accomplished with one day of liquid diet and four liter of polyethylene glycol solution taken over a period of three hours. Patient underwent monitored conscious sedation with IV Tramadol. Patients with cardiac and pulmonary disease were haemodynomically monitored during the procedure. When an abnormality was detected, biopsies were taken for histopathological evaluation. The final diagnosis was made after histopathological assessment.

The fiberoptic colonoscope we worked with have the following specifications and configurations :

1. Angle of View 100°
2. Direction of Observation Straight(0 degree)
3. Depth of Field 5~100 MM
4. Outer Diameter of Insertion Tube 13.5MM
5. Range of Tip Bending Up 180° Down 180°; Left / Right 160°
6. Inner Diameter of Biopsy Channel 3.2 MM
7. Working Length 135 cm
8. Total Length 150 cm

Once patients arrived in procedure room a baseline set of vitals were obtained and pre-medications was given several minutes before examination.

Tramadol (50-100 mg I V) was commonly employed to decrease the discomfort of bowel stretching and insufflation in patients.

Antibiotic prophylaxis was not given as none of them had any history of valvular disease; prosthetic valve replacement, rheumatic heart disease or a past history of endocarditis.

Antibiotic prophylaxis ideally being used in colonoscopic procedure: I.V. Ampicillin 2 gm with Gentamicin 80 mg given 30 minutes before the procedure followed by Amoxicillin 1.5 gm orally 6 hours after the initial dose.

DISCUSSION

We studied 70 patients with the symptoms suggestive of lower Gastrointestinal pathology and were admitted in the Outpatient department (OPD) and Emergency of the department of Surgery of M.L.B Medical College, Jhansi between **August 2017 to September 2019**, and colonoscopy was performed in the Department of Surgery. The study was done to evaluate colonoscopy in diagnosing different intestinal pathologies in the patients presenting with lower gastrointestinal tract symptoms and to find the pathologies in the order of commonness.

The age of the patients who underwent colonoscopy ranged from 10 yrs to 80 yrs and the maximum number of patients who presented with the lower GI symptoms and underwent colonoscopy were in the age group of 36-70yrs (54.24%) followed by age group11-35yrs (42.85%).

A similar study was conducted in the Department of surgery in the year 2008-2009, in the year of 2012-2013, in the year 2013-2015, and in the year 2015-2018 and the results are compared. The males in our study constituted 60.00% of the patients and females constituted 40.00% which shows slightly more number of female patients as compared to previous latest study (42.85%). Most of the cases (90.00%) were admitted in OPD.

The colonscopy was perfomed in all of our cases (100 %) with tramodol (I/V) only after counseling the patients.

We were able to intubate the caecum in 21.43% cases, hepatic flexure in 72.86% cases, the splenic flexure in 88.57% cases and sigmoid colon in 100% cases, which were the areas containing the pathology and either we intentionally did not go beyond that or scope was not negotiable beyond that.

In our study, of all the pathologies included non specific inflammation (25.71%) was the most common pathology encountered followed by malignancy (11.43%), ulcerative colitis (8.57%) solitary ulcer (5.71%), chrohn's disease (1.43%), polyp (2.86%), Internal Hemorrhoid (2.86%), Stricture (1.43%), Proctitis (1.43%) and normal study in remaining (38.57%) cases.

In previous recent studies performed in department of surgery, M.L.B. Medical College, Jhansi during year 2013-2015 and 2015-2018 non specific inflammation as most common pathology detected.

The percentage of patient diagnosed with non specific inflammation who underwent colonoscopy during year 2013-2015 was 25% and 2015-2018 was 24.28%. So the current study is matching with the previous one.

Out of 70 patients biopsy was taken in 20 (28.57%) patients. Abdominal pain (15.71%) was the most common complication after colonoscopy which relieved spontaneously within half to two hours after passing flatus. Abdominal Distension (5.71%) that occurred during the procedure is the next common complication which was managed with conservative treatment.

Fernández E & Linares A studied 536 colonoscopies, The exploration was normal until the caecum in 146 patients (32%). In the remaining cases, the findings were: polyps (25.1%), diverticular disease (24%), neoplasia (12.6%), inflammatory bowel disease (9.4%), unspecific proctitis (2.4%), ischemic colitis (2.4%), angiodysplasia (1.9%), infectious colitis (1.1%), and miscellaneous (0.7%). An age of less than 40 years and the existence of anal pathology were significantly more frequent among patients with a normal examination ($p < 0.001$), but with a sensitivity of only 66%.Colonoscopy is an established procedure in the workup and screening of patients with lower gastrointestinal symptoms. Colonoscopy rapidly establishes a specific diagnosis and determines the extent of inflammatory activity and this may dictate further management and prognosis. More over the information may be valuable to guide the surgeon preoperatively if required and may rule out other concomitant neoplasm in the patient with longer history. Colonoscopy accomplishes these goals during the early stage of acute disease with more reliability than any other investigation including barium enema.

CONCLUSIONS

Following conclusions were drawn from this study

1. Colonoscopy is an invaluable technique for the diagnosis of disorders of the large bowel.
2. The most common indication of colonoscopy was bleeding per rectum.
3. The colonoscopy can be performed with only analgesia or minimum sedation
4. Colonoscopy is best modality for diagnosing early inflammatory disease.
5. Colonoscopy is also the best and the first procedure of choice in all patients with lower gastrointestinal bleeding.
6. Colonoscopy is also the best modality for diagnosing malignancy of large bowel and for surveillance in high risk patients and also in those patients who have undergone previous colorectal surgery for malignancy and long standing inflammatory bowel disease.
7. Most common pathology found in our study included non-specific inflammation.
8. Diagnostic sigmoidoscopy can be performed without sedation.

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