

FREQUENCY OF DIFFERENT INDICATIONS AND FINDINGS FOR COLONOSCOPY IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Colonoscopy is one of the most important diagnostic tools to assess the structural abnormalities of the large intestine and distal ileum. To date, there is a paucity of data in Pakistan on indications and findings of colonoscopy. Therefore, our study aimed to evaluate the indications and endoscopic findings of patients who underwent colonoscopy at a tertiary care hospital in interior Sindh, Pakistan. This prospective cross-sectional study of 125 patients who underwent lower gastrointestinal endoscopy was conducted in the Endoscopy Unit of LUMHS Civil Hospital Hyderabad / Jamshoro from April 2020 to September 2020. To be eligible participants had to be 14 years or older, of either gender and giving informed consent. Data regarding demographic characteristics, indications, and endoscopic findings were gathered on a pre-designed proforma.

A total of 125 participants were recruited with a mean age of 39 ± 20 , out of which 60% were males. Rectal bleeding was the most common indication (70.4%) followed by abdominal pain (9.6%), chronic diarrhea (8%), altered bowel habits (6.4%), constipation (2.4%), post-cancer surveillance (1.6%), weight loss, and anemia (0.8%) each. The most common colonoscopy findings were hemorrhoids (29.6%), and suspected tumor/growth (14.4%), while 22.4% were normal. The most common indication in our study was per rectal bleeding with hemorrhoids as the most common endoscopic finding on colonoscopy.

Key Words: Colonoscopy, Hemorrhoids, Rectal bleeding

INTRODUCTION

Colonoscopy is one of the most important tools to assess the structural abnormalities of the large intestine and distal ileum. It is a safe and effective procedure and plays a pivotal role in the diagnosis of myriads of large intestinal disorders such as infective colitis, colonic adenomas, polyps, inflammatory bowel disease, and carcinomas. Nevertheless, it is an essential tool in therapeutic intervention including polypectomy, electrocoagulation, stricture dilation and stent placement(1-3). It is a gold standard screening tool for early detection of colorectal carcinoma which has been shown to improve disease outcomes (3-5).

Although it's a relatively safe procedure, some complications have been noted in rare instances. The post colonoscopy complications like perforation, bleeding and mortality rate range from 0 to 1.7/1000, 0 to 22.3/1000, and 0 to 2 /1000 colonoscopies respectively. Globally, different gastrointestinal

professional societies have adopted the safety standards for colonoscopy practice to minimize post colonoscopy complications (6-10).

Throughout the world, there is a high demand for colonoscopy services (11). In a resource-poor and highly populated countries, there is an utmost need to identify colonic disease burden and to ascertain that colonoscopies are performed only in appropriately indicated cases such as suspicious malignancy and other high-risk abnormalities (12).

To date, there is a paucity of data in Pakistan on indications and findings of colonoscopy. Therefore, we aimed to evaluate the indications and endoscopic findings of patients who underwent colonoscopy at a tertiary care hospital in interior Sindh, Pakistan.

METHODS

This was a prospective cross-sectional study, carried out at the endoscopy unit of Liaquat University of Medical and Health Sciences, Hyderabad / Jamshoro from April 2020 to September 2020. One hundred and twenty-five patients were included, which were referred from inpatient, outpatient, and emergency department. It was carried out after approval by the Institutional Ethical Review Committee.

The patients of either gender, who gave informed consent were included in the study while non-consenting patients were excluded. Data regarding demographic characteristics including age, gender, indications, colonoscopy findings, and the type of therapeutic intervention was recorded on a predesigned proforma. All the colonoscopies were performed without sedation.

As per indications, colonoscopy was performed to observe abnormalities and to send biopsy samples for histopathology. The preparation for the procedure included a digital rectal examination to rule out any contraindication and bowel preparation. For bowel preparation, patients were kept on a liquid diet, bisacodyl 5 mg tablets, 6-10 tablets of sodium docusate 100 mg per-oral, and sodium phosphate (Kleen enema) 24 hours before the procedure. All patients were kept under observation for 2 hours after the procedure, and discharged with counseling on restarting normal diet and reporting any complication immediately. The histopathological findings were not included as the objective of this study was to document indications and colonoscopic findings only.

Statistical analysis was done with IBM SPSS software (version 22 for windows Inc., Chicago, IL, USA). A descriptive analysis was done for demographic features, which were presented as mean \pm the standard deviation for quantitative variables and number (percentage) for qualitative variables.

RESULTS

There were 75 (60%) males out of 125 patients. The mean age of patients was 39 (Standard deviation (SD) \pm 20) years. Seventy-six (60.8%) patients were in the age group 20-50 while 33 (26.4%) were greater than 50 years of age. The demographics for age, gender, and ethnicity are described in table 1. Eighty-one (64.8%) patients were referred from the outpatient department while the rest were from different inpatient departments.

Per rectal bleeding (Hematochezia) was the commonest indication ($n=88$; 70.4%) followed by abdominal pain representing 12 (9.6%) patients. Other common colonoscopy indications are shown in Table 1.

Colonoscopy findings showed that 28 (22.4 %) of the patients had normal colonoscopy while many different abnormalities were detected in the 97 (77.6%) patients. The most common findings were

hemorrhoids (32.2 %), and suspected tumor/growth (14.4%), followed by other findings which are shown in Table 2.

Table 1. Summary of the primary characteristics and indication of colonoscopy

Age group (years)	Frequency (%)
<20	15 (12%)
20-50	76 (60.8%)
>50	34 (27.2%)
Total	125 (100%)
Gender	Frequency (%)
Male	75 (60%)
Female	50 (40%)
Ethnicity	Frequency (%)
Sindhi	85 (67.5%)
Urdu	15 (11.9%)
Punjabi	9 (7.1%)
Balochi	8 (6.3%)
Pathan	5(4%)
Siraiki	4 (3.2%)
Indication	Frequency (%)
Hematochezia	88 (70.4%)
Abdominal pain	12 (9.6%)
Chronic diarrhea	10 (8%)
Altered bowel habits	8 (6.4%)
Constipation	3 (2.4%)
Postcancer Surveillance	2 (1.6%)
Anemia	1 (0.8%)
Weight loss	1 (0.8%)

In patients that presented with hematochezia (Rectal bleed), the most frequent colonoscopic abnormalities were hemorrhoids in 31 (35.2%), suspected colorectal tumor/growth in 12 (13.6%), normal in 10 (11.4%), and rectal polyps also in 9 (10.2%) patients. Among patients with abdominal pain as their indication, the findings were normal in 7 (58.3%), hemorrhoids in 4 (33.3%), and stricture in 1 (8.3%) patients. The colonoscopy findings found in patients that presented with chronic diarrhea were normal and ulcers in 4 (40%) patients each, suspected colorectal tumor/growth, and hemorrhoids in 1(10%) patient each.

The colonoscopy was diagnostic in 118 (94.4%) patients and therapeutic interventions were carried out in 7 (5.6%) patients. Therapeutic procedures included polypectomy.

Table 2. Summary of the diagnosis made on colonoscopy

Findings	Frequency (%)
Hemorrhoids	37 (29.6%)
Normal	28 (22.4%)
Suspected growth	18 (14.4%)
Ulcers	10 (8%)
Rectal polyp	9 (7.2%)
Polyp at other location	4
Ulcer + Hemorrhoids	4
Loss of vascularity+Erythema	3
Fissure in ano + Hemorrhoids	3
Stricture	2
Anal Fissure	1
Colopathy	1
Hard impacted stool	1
Growth + Hemorrhoids	1
Ulcers + Loss of vascularity+pseudopolyps	1

DISCUSSION

Colonoscopy is frequently used for diagnostic, and therapeutic purposes, and as well as the screening tool for colorectal carcinoma in patients older than 50 years as recommended by guidelines (5). Our study had a majority of male patients (60%) which was consistent with the finding of Olokoba et al. (1), Mohammad et al. (3), Akere et al. (4), Betes M et al. (13), Imperial T et al. (14), Salamat et al.(15) and Mudawi et al. (16) Shrestha et al. (17) while Joukar F et al. (18) and Manzoor et al. (19) had more female patients compared to men.

Furthermore, the mean age of participants was observed to be 39 (\pm 20) years, in which the majority were in the 21-50 years age group, while in other studies the mean age is quite variable. In a study conducted at Ghulam Muhammad Mahar Medical College and Teaching Hospital, Sukkur, Pakistan in 2019, the mean age was found to be 56 (\pm 17) years, majority proportion was above 50 years (3), while another study conducted at Military Hospital, Rawalpindi, Pakistan in 2007 had a mean age of 50 years (15). Rehman et al. (20) and Farhan et al. (21) had mean age of 44.86 (\pm 16.22) and 43.7 years.

In this study, we found 28 (22.4 %) of the patients had a normal colonoscopy. In literature, we observed a higher rate of normal colonoscopy findings as compared to our study except for a study done in Nepal by Shrestha et al. (17) which found normal findings in 19.3%. Farhan et al. (21) Salamat et al. (15) and Joukar F et al. (18), Akere et al. (4) reported normal colonoscopy in 40%, 38%, 35.5%, and 26% respectively. The normal colonoscopic findings were as significant as abnormal results since they are reassuring for patients and physician. Efforts should be made to properly screen and weigh the risks and benefits of colonoscopy to reduce unnecessary discomfort, complications, and overutilization of already scarce resources.

Our study showed rectal bleeding as the most common indication for colonoscopy accounting for 70.4 %. Salamat et al. (15), Akere et al. (4), and Olokoba et al. (1) had similar observations. However,

in the study by Farhan et al. in Lahore Pakistan, the most common indication was altered bowel habits whereas, Elbatea et al. (2) in Egypt, Mudawi et al. (16) in Sudan found abdominal pain to be the most common indication of colonoscopy. In the study by Wang et al. in Chinese and American hospital (22), screening for colorectal carcinoma was the most common indication which showed how much developing country like ours is still far from preventive medicine.

Hemorrhoids (29.6%) accounted for the majority of cases of colonoscopy findings in our study which is consistent with Mohammad et al. (3), Joukar F et al. (18), Rehman et al. (20), Nazish et al. (23). Whereas, another study conducted by Salamat et al. (15) Farhan et al. (21), Mudawi et al. (16) found hemorrhoids in only 10%, 10%, 6.4% respectively.

In our study, we found 14.4% had suspected tumor/ growth whereas, Salamat et al. (15), Mudawi et al. (16), Shrestha et al. (17), Akere et al. (4), and Elbatea et al. observed 10%, 11%, 11%, 12%, 15% respectively. The third most common finding was ulcers (8%) in this study.

The range of various findings on colonoscopy can be explained by variations based on lifestyle, ethnicity, geography, diet, socio-economic factors, and expertise and experience of the gastroenterologist.

The gender discrepancy in terms of male preponderance could be attributed to the lesser tendency of women to undergo such procedures in developing countries with conservative culture, social inhibition, and lack of awareness. This could lead to the underestimation of the actual risk that colonic diseases would be posing on the females. This warrants community interventions to spread awareness and mitigate the risk of colonic cancer and other diseases in womenfolk.

This study, to the best of our knowledge, is one of the few studies from interior Sindh to delineate the indications and findings of colonoscopy. However, it can't provide the prevalence and incidence in the population since it's a single hospital-based study. Several such large-scale multi-center studies and population-based registries are required to identify the actual burden of the colonic diseases in the country, which would help to direct the health care services and calculated allocation of limited resources.

CONCLUSION

Per rectal bleeding constituted the most common indication of colonoscopy followed by abdominal pain and chronic diarrhea. Hemorrhoids, suspected growth/tumor, and ulcers were the most frequent pathology in patients who underwent colonoscopy. Approximately, one-quarter of patients had a normal examination of colonoscopy.

Conflict of Interest

All authors declare no conflict of interest

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