Original Article

Colonoscopy in Zaria: Indications and Findings

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ABSTRACT

Background: Colonoscopy is an important procedure in the management of colorectal diseases. During a colonoscopy, one can visualize the mucosa of the large bowel and perform therapeutic procedures. **Aim:** The aim of this study is to review the indications and findings of colonoscopy in our center. Data on age, gender, indications, and findings at endoscopy were extracted from the endoscopy unit register. **Patients and Methods:** The study is a retrospective descriptive one and included all patients who underwent colonoscopy between June 2017 to December 2019 at the endoscopy unit of Ahmadu Bello University Teaching Hospital (ABUTH), Zaria. Data on age, gender, indications, and findings at endoscopy were extracted from the endoscopy unit register. The data obtained were analyzed using the Statistical Package for the Social Sciences (SPSS) statistical software version 20. **Results:** One hundred and twenty-five patients had a colonoscopy during the period under review with a male to female ratio of 1.9:1. The age range of the patients was 3 to 85 years and the mean age was 46.7 ± 16.7 The most common indications for colonoscopy in our center were lower gastrointestinal bleeding (40 (32%)), followed by suspected colonic tumors (37 (29.6%)), and hemorrhoids (18 (14.4%)). The commonest findings were hemorrhoids (50 (40%)), colonic tumors (25 (20%)), and colitis (21 (16.8%)). **Conclusion:** A colonoscopy is an effective tool in the management of colorectal diseases. Lower gastrointestinal bleeding was the commonest indication for colonoscopy in our center and hemorrhoids and colorectal tumors were the commonest findings.

Keywords: *Colonoscopy, colorectal cancer, findings, indications, Zaria*

Introduction

Lower gastrointestinal diseases are a significant cause of morbidity and mortality worldwide. Colonoscopy plays a key role in the diagnosis and treatment of these conditions. During a colonoscopy, one can visualize the entire mucosa of the large bowel and terminal ileum as well as take biopsies and perform therapeutic procedures such as polypectomy. Indications for colonoscopy include surveillance, diagnosis, and treatment of colorectal cancer (CRC) and its precursors, lower gastrointestinal bleeding, inflammatory bowel disease, diarrhea, and for therapeutic purposes such as polypectomy, control of bleeding, and dilation of stenotic areas.[1] CRC is the third most common cancer in men and second in women and even though it is more common in developed nations compared to less developed ones, its incidence is increasing in some parts of Africa.[2] Colonoscopy is regarded as the "gold standard" for early detection and resection of CRC and its precursors.[3] This underscores the role of colonoscopic procedures in reducing the burden of CRC globally. Although generally considered to be a safe procedure, colonoscopy can be associated with complications such as bleeding and perforation.[4,5] The demand for colonoscopy is increasing and this may be challenging in low resource settings where facilities and expertise are not adequate. In Nigeria, for instance, most colonoscopy services are only available in a few tertiary centers across the country. Lack of easy access to colonoscopy services can lead to delay in diagnosis

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and management of important lower gastrointestinal conditions such as CRC with a consequent increase in mortality associated with these conditions. We, therefore, reviewed the indications and findings of colonoscopy in our center with a view to have a basis for further research as well as aid policy formulation in the provision of colonoscopy services to our patients in the face of paucity of resources.

Subjects and Methods

The study is a retrospective descriptive one and included all patients who underwent colonoscopy between June 2017 to December 2019 at the endoscopy unit of Ahmadu Bello University Teaching Hospital (ABUTH), Zaria. ABUTH Zaria is a first-generation tertiary hospital in Northern Nigeria that serves as a referral center for the most part of North-Western and North-Central Nigeria. Endoscopy is routinely carried out once or twice a week and patients usually undergo three to four days of bowel preparation before the procedure using a combination of intravenous fluid, mannitol (taken orally), and oral or suppository bisacodyl in addition to dietary restrictions that involve taking only liquid diet such as pap and tea for three days preceding the procedure. Lesser duration bowel preparation using agents such as pegylated electrolyte solution is not practiced in our center due to the lack of availability or affordability of these agents by our patients. Data on age, gender, indications, and findings at endoscopy were extracted from the endoscopy unit register. Indications, past medical history, and drug allergies were reviewed before the procedure. Informed written consent was obtained from each patient and the procedure was carried out using Sonoscape or Karl Storz video colonoscope. Intravenous midazolam 2.5 mg stat with or without intravenous pentazocine 30 mg stat was administered to achieve conscious sedation before the introduction of the scope.

The data obtained were analyzed using the Statistical Package for the Social Sciences (SPSS) statistical software version 20.

Results

One hundred and twenty-five patients had a colonoscopy during the period under review. Of these, 82 were males and 43 were females with a male to female ratio of 1.9:1. The age range of the patients was 3 to 85 years [Table 1] and the mean age was 46.7 ± 16.7 The most common indication for colonoscopy in our center is lower gastrointestinal bleeding (LGIB) (40 (32%)), followed by suspected colonic tumors (37 (29.6%)) and hemorrhoids (18 (14.4%)). Other indications include constipation, chronic diarrhea, inflammatory bowel disease, and so on [Table 2]. The commonest findings were hemorrhoids (50 (40%)), colonic tumors (25 (20%)), and colitis (21 (16.8%)). Other findings were diverticulosis, colonic ulcers and rectal polyps, anal warts, and rectal fistula [Table 3].

Table 1: Age distribution of patients

Age group	Frequency	Percent (%)
<20	4	3.2
20-29	12	9.6
30-39	30	24.0
40-49	28	22.4
50-59	16	12.8
60-69	20	16.0
≥70	15	12.0
Total	125	100.0

Table 2: Indications for colonoscopy

Indication	Frequency	Percent (%)
Lower GI bleeding	40	32.0
Suspected tumour	37	29.6
Haemorrhoids	18	14.4
Constipation	10	8.0
Chronic diarrhea	7	5.6
Fistula in ano	5	4.0
Inflammatory bowel disease	3	2.4
Others*	5	4.0
Total	125	100.0

*Others: anal prolapse, anal warts, painful defecation, rectal prolapse, diverticular disease.

Table 3: Findings at colonoscopy

Finding	Frequency	Percent (%)
Hemorrhoids	50	40.0
Tumor	26	20.8
Colitis	21	16.8
Normal	11	8.8
Diverticulosis	7	5.6
Rectal polyp	4	3.2
Colonic ulcers	4	3.2
Anal and rectal warts	1	0.8
Rectal fistula	1	0.8
Total	125	100.0

Discussion

The mean age of our patients was 46.7 ± 16.7, similar to the findings by Musa *et al*. in Kano.[6] This mean age reflects the prevalence of important colorectal diseases such as CRC and hemorrhoids in this age group. Males are about twice as many as females among our patients, similar to the findings by others.[6-8] The higher number of male patients in this study may be due to the

predominance of male patients with important colorectal diseases such as CRC.[9,10]

The commonest indication for colonoscopy among our patients was LGIB. This is consistent with findings in other parts of Nigeria[6,8,11,12] and elsewhere.[7,13] LGIB commonly presents as hematochezia, which is seen in many colorectal diseases.[14] Hematochezia is an alarming symptom that usually brings the patient to medical attention. Therefore, it is not surprising that our study, as in several other studies, found LGIB as the commonest indication for colonoscopy. Following LGIB closely among the indications is suspected colorectal tumor. This is similar to findings by Gudissa FG *et al*.,[15] where they found that suspected colorectal cancer was the second most common indication for colonoscopy. Another strong indication for colonoscopy in our study is hemorrhoids. It is important to note that both colorectal tumors and hemorrhoids commonly present as LGIB. This further buttresses the finding of LGIB as the commonest indication for colonoscopy in our study. Altered bowel habit in the form of diarrhea and constipation as indications was not as common as LGIB and suspected colorectal tumors in our study. A surprise but important observation in the indications for colonoscopy in our study is the absence of screening colonoscopy. This is despite the fact that colonoscopy is the preferred method for early detection and removal of precancerous and cancerous lesions in the colon and it is usually employed when other screening modalities yield positive results.[3,16,17] The lack of screening colonoscopy among our patients may be due to a lack of awareness by the primary physicians considering the fact that we practice open-access endoscopy, where patients are referred for endoscopy without prior endoscopist clinic consultation.[18] This ugly trend can be reversed by programs such as continuing medical education and the provision of guidelines by local professional bodies.

The most common finding was hemorrhoids. This is similar to the findings by Musa *et al*. in nearby Kano, Nigeria; Duah *et al*. in Ghana; Gudissa *et al*. in Ethiopia; and Kidwai *et al*. in Nepal.[6,7,13,15] The most important consideration for colonoscopy is the early detection of colorectal cancer. In our study, we found about 20% of patients having colonic tumors, which means one in every five patients referred to colonoscopy will probably have a colorectal tumor. This percentage is within the range of findings across other parts of Nigeria.[6,8,12,19] Another important observation is the lower percentage of diverticulosis among our patients as it was reported in Kano when compared with findings in Ilorin, Ibadan, and Ile-Ife.[6,8,12,19] Diet has long been identified as one of the major etiological factors of diverticulosis.[20,21] Could this apparent difference be related to diet as there are differences in diet between majorly Hausa-speaking people of Zaria and Kano, and predominantly Yoruba-speaking people of Ilorin and Ibadan? For instance, Yoruba-speaking people are more likely to be exposed to and adopt a Western diet because of their higher socioeconomic status compared to Hausa-speaking people. Western diet characterized by intake of refined grains, red meat, and high-fat foods and low dietary fiber has been associated with the occurrence of diverticulosis.[22] About 9% of our patients have normal findings with an overall diagnostic yield of 91%. This high yield is similar to findings in Kano by Musa *et al*.[6] This may mean that most referrals were appropriate despite the practice of open access endoscopy.

In conclusion, colonoscopy is an effective and safe method of diagnosing colorectal diseases. The commonest reason for colonoscopy among our patients was LGIB and the major findings were hemorrhoids and colorectal tumors.

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Conflicts of interest

There are no conflicts of interest.

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