ENDOSCOPIC EVALUATION OF THE COLORECTUM IN PATIENTS PRESENTING WITH HAEMATOCHEZIA AT KORLE-BU TEACHING HOSPITAL ACCRA

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SUMMARY

Background: Colorectal endoscopy is the gold standard investigation of the large bowel in patients with rectal bleeding and is employed as a means of secondary prevention of colorectal cancer.

Aim: To determine the frequency of benign lesions and carcinomas in patients who underwent colorectal endoscopy because of rectal bleeding and to evaluate the role of endoscopy in secondary prevention of colorectal carcinoma in our centre.

Method: A retrospective study was undertaken on patients who underwent colorectal endoscopy between January 1995 and December 2000 for rectal bleeding.

Results: Five hundred and ninety six (596) patients were studied. Males were 403 and females 93, mean age 50.9 (SD 7.07). Three hundred and ten patients (52%) had rigid proctosigmoidoscopy, flexible sigmoidoscopy 105 (17.6%) and colonoscopy 181 (30.4%). Of those who had colonoscopy complete examination of the colon was achieved in 55 patients (30.4%). Those in whom colonoscopy was incomplete had double contrast barium enema. Haemorrhoids were the commonest disease diagnosed, 316 patients (53%). Colorectal carcinoma 39 patients (6.7%), non-specific colitis 34 patients (5.7%), diverticular disease 27 patients (4.5%) and adenomatous polyps 17 patients (2.9%) were the next common disease. Less common conditions were ulcerative colitis, rectal schistosomiasis and angiodysplasia. In 125 patients (21.0) the cause of bleeding could not be found.

Conclusion: An appreciable number of the patients with rectal bleeding had serious pathology that was diagnosed early by endoscopy confirming the important role of endoscopy in secondary prevention of colorectal carcinoma. The low success rate of full colonoscopy underscores the need for training in this procedure.

Keywords: Rectal bleeding, haematochezia, colorectal cancer, sigmoidoscopy, colonoscopy

INTRODUCTION

Direct visualization of the gastrointestinal mucosa following the development of the flexible fibre-optic endoscope, three decades age, has afforded the gastroen terologist and the surgeon an easy and reliable means of investigating and treating conditions of the upper and lower gastrointestinal tract.

Lower gastrointestinal endoscopy is used to investigate a myriad of symptoms due to diseases of the rectum and colon. Colorectal endoscopy is mandatory in average risk patients who are faecal occult blood test (FOBT) positive or bleed per rectum.[1-5] The procedure aids in the diagnosis of pre-malignant lesions and early carcinomas. It has been shown in many studies that this approach significantly reduced mortality from colorectal carcinoma.[6-11]

Bleeding per rectum is a common problem that prompts patients to seek medical help. It remains a diagnostic challenge, on the basis of bleeding alone, to distinguish a benign anal condition from a serious underlying colorectal disease. Bleeding is the index symptom in early stage (Duke A &B) colorectal carcinoma and merits urgent and full investigation. [12] Anal lesions, especially haemorrhoids and to some extent fissures, are a frequent cause of rectal bleeding that could co-exist with colorectal carcinoma and endoscopy is indicated in the presence of these lesions in average risk patients.[5,6]

There is no national screening programme for colorectal cancer in Ghana because of the relatively low incidence of the disease compared to the scourge of communicable and some non-communicable diseases and malnutrition which consume the greater proportion of a limited health budget.[13-15]

Many of the reports on endoscopic screening have been in patients with positive faecal occult blood tests detected in population studies.[16,17] Few studies have focused on endoscopic evaluation of the colorectum in patients presenting with haematochezia especially in

populations with low incidence of colorectal carcinoma.[18-21]

A review of colorectal endoscopies performed over an eleven-year period on patients presenting at the Korle-Bu Teaching Hospital (KBTH) with bleeding per rectum was therefore undertaken to determine the frequency of benign and malignant lesions in these patients and to evaluate the role of endoscopy as a method for secondary prevention of colorectal carcinoma in our centre.

MATERIAL AND METHODS

This is a retrospective study, from January 1995 to December 2005, on patients who presented with rectal bleeding and underwent endoscopic examination of the colorectum.

In most of the patients endoscopy was performed when the bleeding had stopped and the test was performed once only. Sigmoidoscopy (rigid or flexible) was performed when bleeding was bright red while colonoscopy was employed in patients with altered blood, melaena or in massive bleeding. The proctoscope and rigid sigmoidoscope (25cm long) examined the anorectum and the distal sigmoid colon. There is no flexible sigmoidoscope in our centre and so the colonscope was used for performing flexible sigmoidoscopy, when indicated, by limiting the examination to only the left colon up to the splenic flexure. Colonoscopy and flexible sigmoidoscopy were performed by consultant surgeons and gastroenterologists whilst rigid procto-sigmoidoscopy, on the other hand, was performed mostly by experienced surgical trainees.

The register at the endoscopy unit as well as the individual record forms completed for the patient were the source of relevant data. The demography of the patients, the type of scope used, level of insertion and endoscopic diagnosis were extracted. The histopathology reports of lesions that were biopsied or excised were obtained from the Pathology Department.

RESULTS

Five hundred and ninety six (596) patients underwent lower gastrointestinal endoscopy in the eleven-year period on account of rectal bleeding. Table 1 shows the sex and age distribution of the patients. The male: female ratio was 2:1 and the mean age was 50.9 (SD 7.07) years.

Rigid procto-sigmoidoscopy was performed on 310 patients (52%), flexible sigmoidoscopy on 105 patients (17.6%) and colonoscopy on 181 patients (30.4%). The average ages of the patients for the different examinations were flexible sigmoidoscopy 55.2 years, colonoscopy 52.7 years and rigid sigmoidoscopy 44.8 years.

Table 1 Age and Sex distribution of patients.

Age Range	Males	Females	Total
10-9	2 (0.05)	4(2.1)	6(1.0)
20-29	32(7.9)	11(5.7)	43(7.2)
30-39	59(14.6)	24(12.4)	83(13.9)
40-49	94(23.3)	40(20.7)	34(22.5)
50-59	101(25.1)	55(28.5)	156(26.2)
60-69	69(17.1)	28(14.5)	97(16.3)
70-79	33(8.2)	26(13.5)	59(9.)
80-89	13 (3.2)	5 (2.6)	18(3.0)
Total	403(99.9)	193(100)	596 (100)

(Values in parenthesis are percentages)

Of those who underwent colonoscopy 55 patients (30.4%) had full colonoscopy, insertion into the transverse colon in 87 patients (48.1%), into the ascending colon in 23 patients (12.7%). The extent of examination in 16 patients (8.8%) was indicated only by the length of colonoscope inserted.

The common conditions found on endoscopy were haemorrhoids in 316 patients (53%) and colorectal tumours in 51 patients (8.6%). The colorectal lesions comprised: rectal in 38 patients (74.5%), sigmoid in 9 patients (17.6%), caecal in 2 patients (3.9%), descending colon in 1 patient (2%) and hepatic flexure in 1 patient (2%). Non-specific colitis was diagnosed in 34 patients (5.7%), diverticular disease in 27 patients (4.5%), polyps in 19 patients (3.2%) and upper gastrointestinal bleeding in 9 patients (1.5%). Other conditions that caused rectal bleeding were ulcerative colitis, angiodysplasia and endometriosis. In 125 patients (21.0%) the endoscopic findings were reported as normal. A total of 112 specimens were taken for histopathological examination. Of these one hundred and nine (97.3%) histopathological results were available for analysis. Colorectal adenocarcinoma accounted for 35.8% (39 specimens), non-specific colitis 16.5% (18 specimens), adenomatous polyps 15.6% (17 specimens) normal mucosa 13.8% (15 specimens), ulcerative colitis 7.3% (8 specimens) and hyperplastic polyps 4.6% (5 specimens).

Less common histological diagnoses were rectal schistosomiasis, lieomyosarcoma, squamous cell carcinoma and benign rectal ulcer. Twenty (20) men and 19 women were diagnosed with carcinoma; average ages 53.2 and 51.2 years respectively. The average age of

patients with adenomatous polyps was 56.6 years while that for ulcerative colitis was 51.8 years.

DISCUSSION

Colorectal endoscopy has emerged as the gold standard for investigating the large bowel, replacing barium enema as the first line of investigation in patients with rectal bleeding. Its use has resulted in a significant reduction in both the incidence of and mortality from colorectal carcinoma in many communities where it is employed in screening people with occult rectal bleeding.[3,6,7,8,9] Surprisingly, frank rectal bleeding which is an early symptom of early colorectal carcinoma rather than late disease has not received the same level of discussion.[12] In one large study only 24% of patients with lower gastrointestinal haemorrhage had diagnostic workup including colonoscopy.[22]

In clinical practice clinicians are often uncertain about the extent of investigation necessary for patients presenting with frank rectal bleeding. The clinician has to rely on additional symptoms of large bowel tumour notably change in bowel habit, diarrhoea, recent weight loss, anaemia and /or lassitude (which are usually absent in early disease), the colour and amount of blood passed, and the relative risk of the patient in developing colorectal carcinoma as guides in deciding on the extent of investigation.

The age of the patients and the volume and colour of blood passed were the guiding factors in the extent of investigation in this study. Of the 181 patients who underwent colonoscopy, full investigation of the large bowel was possible in 55 patients (30.4%); the rest of the patients in whom colonoscopy was incomplete were referred for double contrast barium enema, the results of which were not available for this study.

The skill and experience of the endoscopist, inadequate bowel preparation and patient discomfort were largely the cause of incomplete colonoscopy. The low success rate of full colonoscopy noted in this study may also be explained by the redundancy of the large bowel in the African which makes negotiation of the redundant loops of large bowel (the sigmoid and transverse colon) difficult. Males were twice as common as females in presenting with rectal bleeding (M: F ratio of 2:1).

Rectal bleeding in this study was noted to be uncommon before age 40 years but rose thereafter to a peak in the fifth decade, a decade earlier than the peak age incidence of colorectal cancer in Ghana.[15] This probably explains the small number of colorectal carcinomas detected in this study. Haemorrhoids were the commonest cause of bleeding, 316 patients (53%). This compares with the findings in Western nations[22] and refutes the long held view that haemorrhoids are uncommon in Africans. In some 149 patients (24.7%) there was serious pathology that required endoscopic evaluation and /or treatment.

The incidence of adenocarcinoma of the colon and rectum is rising in Ghana.[15, 23, 24] This is the result of an increase in the life expectancy of the population and modest improvements in diagnosis. Unfortunately some patients still present with advanced disease either because of delayed presentation or delayed referral for diagnosis and treatment.[15] Employing endoscopy routinely to investigate patients who present with rectal bleeding may reduce the incidence of late diagnosis of colorectal cancer. Adenocarcinoma was confirmed in 6.5% of patients. It is important to note the disparity between endoscopic diagnosis of tumour and the eventual histopathological diagnosis. Of the 51 tumours identified endoscopically some 39 specimens were confirmed histopathologically as adenocarcinoma and all except one were located in the left colon and rectum. Three lesions in the splenic flexure of the colon that were not considered to be tumour on endoscopy were shown to be adenocarcinoma histological.

Evaluation of the rectum and left colon was relatively more complete and the findings are in line with the well-established view that majority of carcinomas are located in the rectum and left colon and that these commonly present with fresh bleeding. Males and females were affected equally by carcinoma (20 males and 19 females) but the probability of a female with rectal bleeding having a carcinoma was twice that of males; 10% and 5% respectively.

Adenomatous polyps were excised in 17 patients (2.9%). The average age of the affected patients was 56.6 years which compares with reports from elsewhere.[16] The histological types and polyp sizes were not stated for 11 specimens but 3 were tubular, 2 villous and 1 tubulovillous. There is evidence that the risk of bleeding and malignant transformation increases with the size of the polyp.[25] Excision of the polyps that bled in these patients controlled the bleeding and may reduce the risk of a subsequent colorectal cancer. Unfortunately there were no records of follow-up colonoscopy on the 17 patients who had polypectomy as they were all lost to follow-up.

Hitherto rare in blacks in the tropics, ulcerative colitis was diagnosed in eight people in this series. With a propensity to malignant transformation after 10 -20 years, diagnoses of these patients early with the disease will make follow-up endoscopy and biopsy ultimately rewarding. Non-specific colitis was a frequent cause of

bleeding and discrimination of this entity from ulcerative colitis, histopathologically, was important because of differences in treatment and follow-up.

In 125 patients (21.0%) the cause of bleeding was not found. Many of these patients were investigated with either the flexible sigmoidoscope or the colonoscope and since colonoscopy in majority of them was incomplete lesions in the right colon may not have been diagnosed.
Two important limitation of this study were the failure of patients who had polypectomy to report for follow-up endoscopy and the unavailablility of the Barium enema results of patients who underwent this test to complete their investigation.

However, endoscopic evaluation of the large bowel in this group of patients with haematochezia was rewarding since there was an appreciable number of patients with serious pathology that was diagnosed early. This confirms its value in the secondary prevention of colorectal neoplasia. We recommend that all patients above 40 years of age who present with haematochezia should have large bowel endoscopic evaluation. The small number of patients who had complete colonoscopy in this study underscores the need for training in colonoscopy.

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