

## Colonoscopy Findings in Patients with Haematochezia in Benin (South-South Nigeria): A 9-Year Prospective Study

### Abstract

**Background:** Colonoscopy is an important armamentarium in the investigation of haematochezia. Patients with haematochezia are very anxious about the presence of blood in their faeces. They are usually referred for diagnostic colonoscopy based on the presence of blood in stool or anaemia. **Aims/Objectives:** To highlight the causes of haematochezia in patients over a 9-year prospective period in the Premier tertiary health centre in the South-South zone of Nigeria. **Materials and Methods:** All Consecutive patients seen in our surgical services (June 1, 2009, to May 30, 2018) requiring colonoscopy for haematochezia were entered into a proforma. The demographics, findings at colonoscopy, and outcome of colonoscopy were analysed. **Results:** Three hundred and sixty-five colonoscopies were done during the study period; of these, 44% (160 patients) had a colonoscopy for haematochezia. Mean age of patients was 54.7 years. Age range was 16–86 years. Cluster age group was fifth to seventh decade (62.5%). The male-to-female ratio was 2:1. Causes of haematochezia were Haemorrhoids 32.5%, large bowel cancer 23.8%, diverticular disease 10%, inflammatory disease of the bowel 6.3%, polyps 3.8%. About 15% of the patients had more than one colonic site of bleeding. The most common subsites for colon cancer were rectum and sigmoid colon (79.6%), in 11 patients (6.8%) was the tumour within reach of the examining finger. Repeat colonoscopy occurred in 3 patients (0.8%). The most common complication of colonoscopy was bleeding (0.8%). Two patients (0.5%) had colonic perforation. **Conclusion:** Forty-four percent (44%) of colonoscopy in Benin, South-South Nigeria has haematochezia as its indication. The cluster age group is the fifth to seventh decade. One in four patients had colon cancer and in 6.8% the tumour was within reach of the examining finger. It is the authors' opinion that colonoscopy should be routinely done in patients with haematochezia in South-South Nigeria.

**Keywords:** Benin (South-South Nigeria), colonoscopy finding, haematochezia

### Introduction

Colonoscopy is an endoscopic procedure that is, used for diagnosis and occasionally therapeutic intervention of colonic lesions. It is one of the surgeons' armamentarium for investigating intraluminal pathologic/anatomical defects or bleeding from the colon.<sup>[1,2]</sup> It is increasingly assuming an important role in the diagnosis of colorectal lesions in many tertiary medical institutions in Nigeria. Since 2009, it has become a routine investigative tool for the diagnosis of colonic lesions in the University of Benin Teaching Hospital (UBTH), South-South of Nigeria. UBTH is the premier tertiary health facility in the South-South of Nigeria. Her catchment area includes Edo, Delta, Bayelsa, Rivers, Akwa Ibom, Cross Rivers, and adjoining South Western states.

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Our experience is a reflection of the disease pattern in this region.

Haematochezia is the presence of blood in stool.<sup>[3]</sup> Haematochezia may occur alone or in association with other symptoms. It remains a major indication for colonoscopy because of its usefulness in making a diagnosis of the source or cause of bleeding from the lower gastrointestinal tract.<sup>[4,5]</sup>

The sources of haematochezia (of surgical importance) usually range from arteriovascular malformations, polyps to malignant lesions of the colon. In as much as 40% of cases, there is more than one source of bleeding and in 25% of cases, the source may not be identified.<sup>[6]</sup> These groups of patients occasionally present a diagnostic dilemma.

This study highlighted the colonoscopy findings of patients presenting with

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haematochezia over a 9-year period in the University of Benin Teaching Hospital, a premier tertiary centre in the South-South of Nigeria.

## Materials and Methods

This was a prospective investigative study between May 2009 and May 2018. All consecutive patients' information who presented with haematochezia was entered into a proforma. The demographics, indication for colonoscopy and outcome were analysed. All the patients had bowel preparation and mild sedation during the procedure.

The bowel preparation protocol consisted of low residue (plain Pap) 3 days before the procedure. A day before the procedure 20mg of Dulcolax (Bisacodyl) tablet is taken orally at 6:00 a.m. and a bottle (45 mL) of Fleet Phospho-Soda—sodium dihydrogen phosphate dihydrate/disodium phosphate dodecahydrate—(CASEN FLEET Laboratories) mixed with 600mL of water is taken at 6:00 p.m. On the procedure day, another bottle (45mL) of Fleet Phospho-Soda mixed with 600mL of water is taken at 6:00 a.m. After 30 min, the patient commences the drinking of a minimum of 1200mL of water. The patient presents to the endoscopy suite at 8:00 a.m. on the procedure day. Rectal examination is done for the adequacy of bowel preparation.

The mild sedation used for the study consisted of 30mg of Pentazocine, 12.5mg of Promethazine and 1mg of Midazolam. All were given intravenously at least 5 min before commencement of the colonoscopy. Medications were administered by the endoscopist and patients' vital signs and oxygen saturation were monitored during the procedure by the endoscopy nurse.

The Evis Exera III model of Olympus video endoscopy equipment was used for the colonoscopies.

Complete colonoscopy was achieved by demonstrating at least 3 of the 5 landmarks of ileocecal valve opening, appendiceal opening, convergence of the tinea coli (Crow's foot), transillumination of the right iliac fossa and one on one indentation in the right iliac fossa.

All the patients were administered the colonoscopy procedure information sheets and the consent forms at the time of collecting the written instructions for bowel preparation. The consent forms were returned signed by each patient and a witness on the morning of the procedure. No identifiable patients' health information was used in the study.

It is worthy to state that all patients had prior proctoscopy by their primary care physician before referral for colonoscopy to rule out other sources of bleeding.

## Results

Three hundred and sixty-five patients had colonoscopy over the study period (i.e., 41 patients/year). Haematochezia

either singly or in combination with other symptoms (altered bowel habit, the passage of mucus in stool, tenesmus, feeling of incomplete bowel evacuation and weight loss) occurred in 44.0% of patients (160 patients). Singly it accounted for 29.0%.

There were 103 males and 57 females. Male:female ratio = 2:1 [Figure 1]. The mean age was 54.7 years. The cluster age was from the fifth to the seventh decades of life (62.5%) [Figure 2].

Malignant tumours (colon cancer) 23.8% (38 patients), polyps 3.8% (6 patients), Diverticular disease 6.3% (10 patients), inflammatory bowel disease 6.3% (10 patients). In 32.5% (52) of patients who had prior diagnosis of haemorrhoids, the colon was normal. Of clinical note, 15% (24 patients) there was more than one potential site of bleeding [Figure 3]. The primary site of bleeding in these patients with multiple findings was delineated by signs of recent bleeding—clots adherent to the lesion and oozing of blood the lesion but some remained a dilemma.

There was the need to repeat colonoscopy in 3 patients; poor bowel preparation – characterised by presence of faecal matter in 0.5% (2) patients and doubtful/inconclusive histology report in 0.3% (1) patient. In 4.4% of patients,

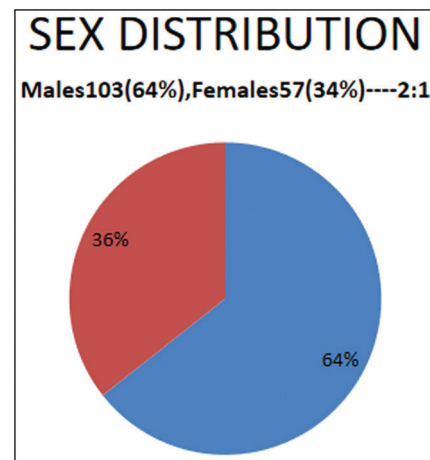


Figure 1: Sex distribution of patients with haematochezia

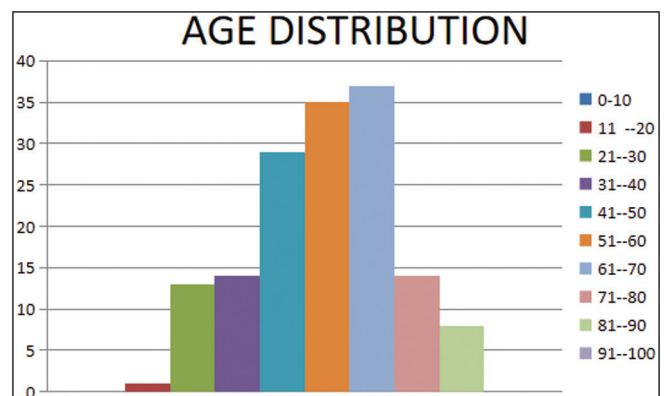


Figure 2: Age distribution of patients with haematochezia

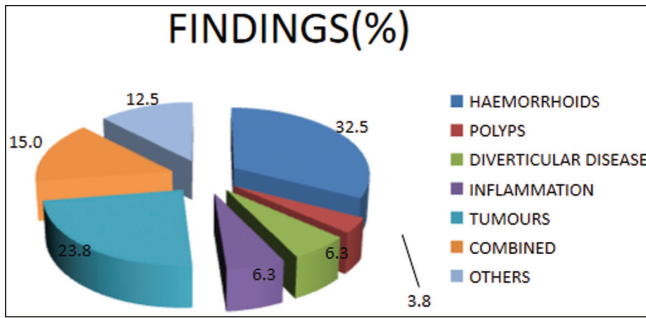


Figure 3: Colonoscopy findings in patients with haematochezia

Table 1: Subsite of tumours within the colon

| Subsite      | No. | %    |
|--------------|-----|------|
| Rectum       | 23  | 59   |
| Rectosigmoid | 3   | 7.8  |
| Sigmoid      | 5   | 12.8 |
| Descending   | 1   | 2.6  |
| Transverse   | 5   | 12.8 |
| Ascending    | 1   | 2.6  |
| Caecum       | NIL |      |
| Anal verge   | 1   | 2.6  |

the endoscopy was incomplete either due to obstruction 3.6% (13), poor bowel preparation 0.5% (2) or patient not tolerating the procedure 0.3% (1). The caecal intubation rate was 95.6% after adjusting for obstructing lesions, poor bowel preparation and no tolerance of the procedure. The caecum was identified in our study by any two of the following: convergence of the taenia coli (chevron or crowfoot sign), appendiceal opening, ileocaecal valve, caecal pool, and transillumination of the right iliac fossa.

The subsite of distribution of tumours within the colon in patients presenting with haematochezia showed 79.6% were in the rectosigmoid area. The ascending and descending colon were 2.6%, respectively. There was no tumour caecal tumour during the study [Table 1].

Majority of the patient with malignant tumour 53.9% (21) were in the sixth and seventh decades of life, while 25.8% (10) were below 50 years [Figure 4].

Of clinical importance is that 11 patients (6.8%) with malignant tumour had a palpable mass within reach of the examining finger.

Bleeding was the most common complication accounting for 0.8% while colonic perforation occurred in 0.5% of the study population. Perforations occurred while taking biopsy from a polyp in the sigmoid colon in one patient and the other while negotiating the splenic flexure.

## Discussion

The number of colonoscopies done in our centre during the study period was 365 – 47 colonoscopies/year. This is

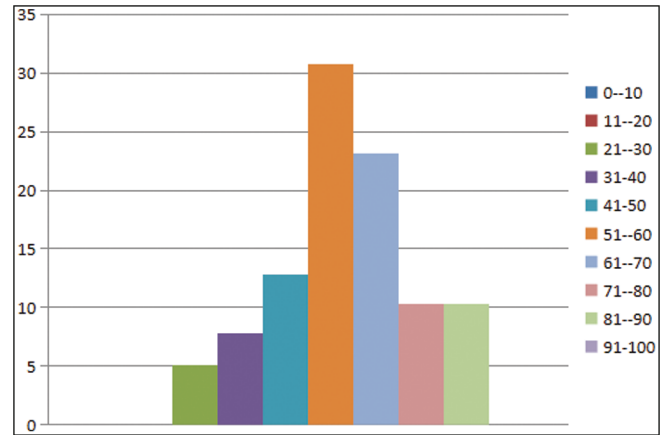


Figure 4: Age distribution of tumours

10.8% of the gastrointestinal endoscopic (upper and lower gastrointestinal endoscopy) procedure over a 9-year period. This number of colonoscopy is similar to other centres in Nigeria.<sup>[1,4,5,7]</sup> This low number of colonoscopy may be due to the relative recent acquisition of material and human resources for this procedure in many of these centres. It may also be attributable to lack of screening program in many zones in Nigeria. The patients who presented for colonoscopy were those referred from the consultant outpatient department and the general practice clinic in our centre. Countries with established screening programs have reported a higher number of colonoscopy.<sup>[8,9]</sup>

There were more males than females with a ratio of 2:1 in our study [Figure 1]. This is similar to the finding in other centres in Nigeria.<sup>[1,2,5,10]</sup> The cluster age distribution is 5th-7th [Figure 2] decades. This is similar to reports from other centres.<sup>[1,10-12]</sup> This age cluster may be due to the contribution of bleeding malignant colorectal diseases in our study.

The indication for the colonoscopy was to search for sources of bleeding other than haemorrhoids in this group of patients who are mainly in their fifth, sixth, and seventh decades of life, the decades where malignancy is prevalent.

Haemorrhoids were the most common cause of haematochezia in our study. It constituted 32.5% [Figure 3], which is similar to studies in Nigeria and other low-income countries.<sup>[1,5,10,13]</sup> Haemorrhoids is a disease that occurs more commonly in the young and middle age group. An initial diagnosis of haemorrhoids in the elderly should raise the suspicion of a possible new growth.<sup>[14,15]</sup> From our study, 15.0% of the patient has more than one diagnosis which further emphasises the need for colonoscopy in this group of patients to exclude mitotic lesions despite the clinical/proctoscopic diagnosis of haemorrhoids.<sup>[14,15]</sup>

Colon cancer was the next most common cause of haematochezia 23.8%. This is in contrast with the findings by Akere *et al.*<sup>[10]</sup> and Olokoba *et al.*,<sup>[7]</sup> where diverticulosis is the second most common finding. The most common

subsites for colon cancer were the rectum and sigmoid colon (62.5%). This finding is similar to studies on the distribution of colon cancer,<sup>[10,12,16]</sup> though Oribabor *et al.*<sup>[17]</sup> showed a right shift in terms of distribution in Ado Ekiti, Nigeria. Of clinical importance was that 6.8% of rectal tumours are palpable digitally in contrast to another report from northern Nigeria,<sup>[18]</sup> hence the need to always effect digital rectal examination on all patients with haematochezia.

Diverticular disease and inflammatory bowel disease were 6.3% each. This low percentage of diverticular disease and inflammatory bowel disease is similar to reports from Nigeria and other low-income countries, unlike in high-income countries,<sup>[7,10,19]</sup> this may be diet-related.

Caecal intubation, which is a function of expertise at complete colonoscopy. It occurred in 95.6% of patients which is similar to that from most centres in Nigeria.<sup>[4,11,20-22]</sup>

Incomplete colonoscopy occurred in 4.4% of patients, it was mainly due to obstructing exophytic growth in the colon, poor bowel preparation and poor tolerance of the procedure. This is at variance with other reports.<sup>[17,23]</sup>

Perforation occurred in 0.5% of the patients during the study, unlike reports from other established centres.<sup>[9,24-26]</sup> The high perforation rate in our study may not be unrelated to the resident trainees who performed some colonoscopy during the study period.

## Conclusion

Cluster age for Haematochezia in UBTH was fifth to seventh decade (66.9)%. Haemorrhoids are the most common cause of haematochezia in UBTH. Tumours constitute 28%; malignant tumours constitute 24%. The rectosigmoid is the most common site of adenocarcinoma of the colon in UBTH. Caecal tumours are rare as a cause of haematochezia in UBTH. A large proportion of malignant tumours were advanced and the majority of affected patients were in their sixth and seventh decades of life. Routine use of colonoscopy in this group of patients and early presentation of haematochezia may improve diagnosis and prognosis in these patients; resident trainees must be closely supervised during colonoscopy. These are advocated by the authors.

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## Conflicts of interest

There are no conflicts of interest.

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