

Diverticular disease at colonoscopy in Lagos State, Nigeria

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ABSTRACT

Background: The upsurge in the reported cases of diverticular disease (DD) has led to a re-appraisal of the earlier held views that it was a rare entity in Nigeria. The advent of colonoscopy has contributed in no small way to this change. We sought to determine the clinical characteristics, indications for colonoscopy, and intra-procedural findings among these patients. **Materials and Methods:** A retrospective cross-sectional study was carried out on the colonoscopy records from four private endoscopy units based in Lagos State, Nigeria. The records were drawn from a 5-year period (August 2010 to July 2015). The endoscopy logs and reports were reviewed, and the bio data, indications, and colonoscopy findings were gleaned. **Results:** A total of 265 colonoscopies were carried out in the stated period. Of these, 28 (10.6%) had DD. Of the patients with DD, 5 (17.9%) were females while 23 (82.1%) were males. Their ages ranged from 46 to 94 years (mean = 68.2 ± 11 years). Fifteen patients had been referred for the procedure on account of hematochezia alone (15 = 53.6%). Other reasons for referral included abdominal pain alone (2 = 7%), hematochezia plus abdominal pain (5 = 17.9%), and change in bowel habits (3 = 10.8%). Ten (35%) patients had pan-colonic involvement. Regional disease involved the right side alone in only one case (3.5%) while the other combinations of sites are as follows; 6 (21.4%) in the sigmoid colon alone, 2 (7%) in the descending colon alone, 5 (17.9%) in the sigmoid-descending colon, 4 (14.3%) in the sigmoid-descending-transverse colon, thus the sigmoid colon was involved in 25 (89.3%) cases. Five cases (17.9%) had endoscopic features suggestive of diverticulitis. **Conclusions:** DD should no longer be regarded as a rare problem in the Nigerian patient. The study findings support the notion of higher prevalence among the elderly, in males, and of sigmoid colon involvement.

Key words: Colonoscopy, diverticular disease, Nigeria, sigmoid colon

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INTRODUCTION

Diverticulae of the colon are sac-like protrusions that appear when the mucosa and submucosa herniate through defects in the muscle layer of the colonic wall (pseudo-diverticula).¹ The presence of this abnormality in the colonic wall could be associated with a spectrum of diseases - all collectively termed "diverticular disease (DD)."

For clinical practice, DD is usually classified as asymptomatic, symptomatic uncomplicated disease, recurrent symptomatic disease, or complicated

disease.^{2,3} From diagnosis to therapy, colonoscopy has become an essential tool in the management of this condition.⁴

DD remains a very important source of morbidity and a huge drain on medical resources in the Western world.⁵ The true prevalence of DD is unknown as many patients are asymptomatic.⁶ Strong geographical factors have been noted to influence the disease prevalence and colonic distribution.⁷ People of black African descent were thought to rarely, if ever be affected by the disease.⁸

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However, data emerging from the continent appear to show an increase in the prevalence.⁹ Local studies have largely supported this view of a change in the traditional concept that DD was rare in Nigerian patients.⁹⁻¹² This study sought to examine the available data about DD from some endoscopy suites based in Lagos State, and detail the characteristics of the disease and those of its sufferers in the locality. Doing so, the study will attempt to fill an important gap in scientific knowledge about DD in our environment since there is very little published work that specifically addresses this field of interest.

MATERIALS AND METHODS

The data for this retrospective, cross-sectional study were drawn from the endoscopy records of four privately run endoscopy suites in Lagos State. The names are Clinix Healthcare, Ilupeju; Faith City Hospital, Victoria Island; Vedic Healthcare, Lekki Phase 1, and Deseret International Hospital, Ikeja. The first author is the physician who carried out all these procedures.

A 5-year period was determined to define the data presented here (August 2010 to July 2015). The colonoscopy register for each of these endoscopy suites was retrieved, and the patients' particulars were accessed along with the details of intraprocedural findings. The latter was collected as both soft copies in the suite computers and printed hard copies in their various endoscopy folders.

The data obtained were analyzed using the statistical software IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp. and was expressed as mean ± standard deviation and frequencies.

RESULTS

Of the 265 individuals who presented for colonoscopy over the 5-year period, 28 of them (10.6%) had DD. The particular type of DD was uncomplicated diverticulosis in the vast majority with only four patients (14.3%) presenting with features suggestive of diverticulitis at colonoscopy. There were five females (17.9%) and 23 males (82.1%) in this cohort, giving a male:female ratio of 4.6:1 [Figure 1]. Their ages ranged from 46 to 94 years (mean = 68.2 ± 11 years), most patients being in the eighth decade of life (12 = 42.9%) [Figure 2].

The indications for the procedure varied, but hematochezia alone accounted for why half of the patients had been referred (15 = 53.6%). Hematochezia with abdominal pain had been noted in five patients (17.9%) and abdominal pain alone in two patients (7%). A noticeable change in bowel habits without the other previously detailed symptoms was noted in 3 (10.8%) patients with DD while one patient (3.5%) each presented for routine screening, vomiting, and perianal swelling and pain, respectively [Figure 3].

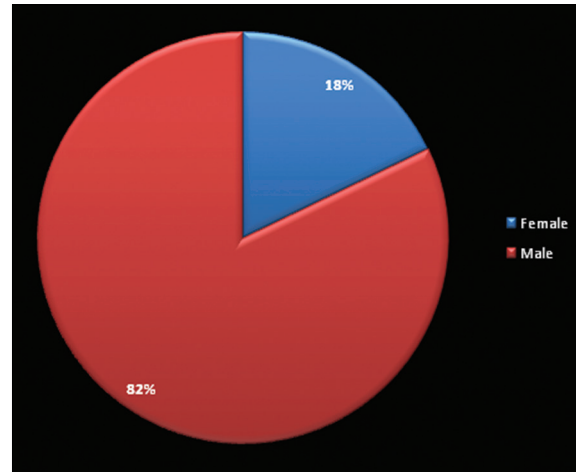


Figure 1: The sex distribution of patients

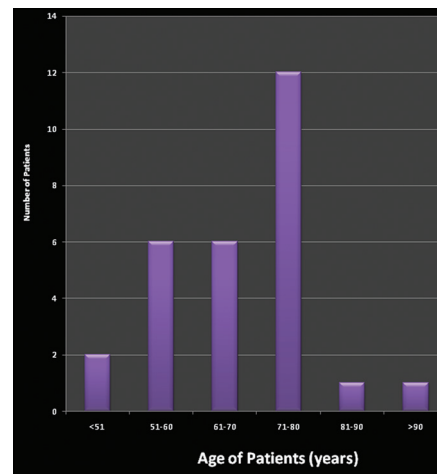


Figure 2: The grouped ages of the patients

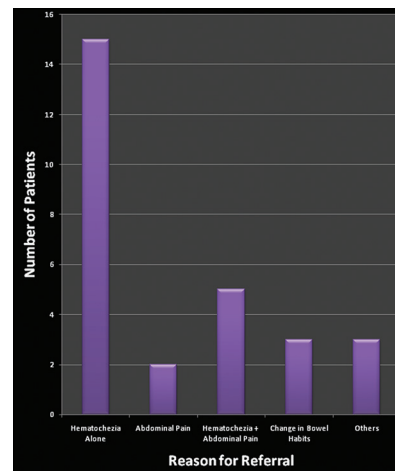


Figure 3: The reasons for presentation

Cecal intubation was achieved in all 28 patients, and the pattern of colonic site involvement was such that the sigmoid colon was involved in all but 1 of the cases (96.4%) - the patient in question had pure right-sided

colonic disease. Pancolonic disease was seen in 10 (35%) cases while the various combinations of regional disease involvement were as follows; 6 (21.4%) in the sigmoid colon alone, 2 (7%) in the descending colon alone, 5 (17.9%) in the sigmoid-descending colon, and 4 (14.3%) in the sigmoid-descending-transverse colon [Figure 4].

Clinically, significant simultaneous findings at colonoscopy included hemorrhoids in 20 (71.4%) cases and polyps in 5 (17.9%) individuals with DD.

DISCUSSION

Traditionally, DD was thought to be rare in Nigerians and Africans. This has been attributed to the typical African diet that is bulky and rich in fiber and has been found to protect against the development of diverticulosis.¹³

Early studies from Nigeria noted a low prevalence. Ogunbiyi¹⁴ in Ibadan in 1989 reported a prevalence of 1.85%, while Ihekwa¹⁵ in 1992 reported only 15 cases out of 26,234 cases studied over 3 years. Similarly, it was reported to be rare in other parts of Africa.¹⁶⁻¹⁸ This study, however, shows a higher prevalence of 10.6%. This higher prevalence is similar to what has been found in recent local studies.⁹⁻¹²

One of the reasons adduced for this increase in the prevalence of DD is the adoption of a Western diet which is low in fiber, but high in refined sugar products.^{9,14,15} Of note also is that this study and those more recent ones quoted above were done in urban areas. The role of urbanization has long been espoused as a cause of increased rates of DD.⁷ However, a lower prevalence has been reported by other investigators in an urban area in Nigeria.¹⁹ The upsurge in the deployment of colonoscopy as a diagnostic tool in many urban centers in the country might also contribute to the prevalence figures going up as many more of the DDs are being detected in the asymptomatic phase.

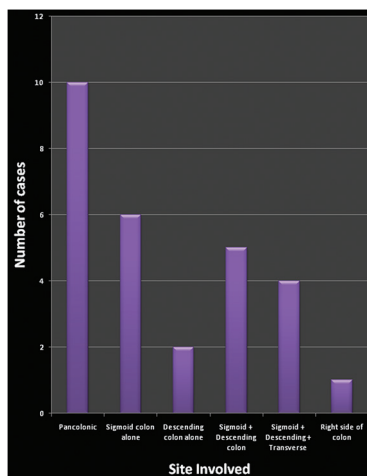


Figure 4: The distribution of diverticular lesions in the colon

The average age of 68.2 years reported here agrees with that reported by other authors.^{9-12,16-18} DD has long been believed to be a disease of the elderly. This may be due to the changes that occur in the colon with age such as reduced motility and constipation. These changes result in increased intracolonic pressures that favor the development of diverticuli.⁷ An additional factor may be the frequent use of drugs that further reduce colonic motility such as opiates for pain in the elderly population. It has also been reported that the tensile strength of the colon reduces with age,²⁰ thus encouraging the development of diverticulosis as we age.

DD was seen more frequently in men than in women in this study, as was also found in other studies.^{9,12,15,18} However, these data are at variance with many other studies - particularly in the much older age groups where females dominate.²¹ This gender difference may be attributed to such factors as hormonal differences, i.e., the protective effect of testosterone against mucosal wall weakening with age and the negative effect of pregnancy and labor on mucosa motility and colonic wall.²¹ The predominance of DD in males from local studies could be as a result of the fact that men in this region may be more likely to present at the hospital because of greater enlightenment and economic power. However, globally, the prevalence of DD in men is approximately equal to that of women as many conflicting loco-regional differences cancel out.⁷

The sigmoid colon was seen to be involved in nearly all cases in this study as was found by others,^{9,15,22} the whole colon was involved in over a third of cases, as also reported by other studies,^{9,15,18,23} whereas the left colon was involved in many patients as reported by other investigators.^{12,24,25} The right colon was uncommonly involved, as also noted by other local studies.^{9,22} Sigmoid and left-sided colonic involvement has been attributed to the finding that the distal colon is weaker and less expansile than the proximal colon, and that the tensile strength of the large intestine was least in the sigmoid colon than in other zones.²⁰ However, it remains to note that there are unexplained geographical factors contributing to this difference as, in Asia, DD is predominantly a right-sided problem.⁷

The presentation of DD may either be asymptomatic or symptomatic. Asymptomatic diverticulosis is commonly picked up during screening colonoscopy in asymptomatic patients. However, colonoscopy is still in its infancy in our environment, and it is expected that as more procedures are done for colorectal cancer screening, more cases of DD will be diagnosed in the asymptomatic stage. The most common symptoms (or indications for colonoscopy) in patients with DD from this study were hematochezia, abdominal pain, and change in bowel habits. Others included vomiting, perianal pain and swelling, and a mass protruding from the anus. One patient had a screening colonoscopy. These

symptoms are in agreement with what has been found in other studies.^{9,14,16,22,23}

CONCLUSIONS

DD is no longer as rare in our environment as previously thought, with the rising occurrence attributed to adoption of Western dietary habits, aging of the population, and greater availability of means of diagnosis. In this report, its pattern, in terms of age, sex, and location, is similar to what has been found in recent loco-regional reports.

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Conflicts of interest

There are no conflicts of interest.

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