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Diverticular disease of the colon in Ibadan, Nigeria

O. A. OGUNBIYI

Department of Radiology, University of Ibadan, Ibadan, Nigeria

Summary

Eleven cases of diverticular disease of the colon were seen in a review of 603 adult barium enema examinations carried out over a 2-year period (January 1984–December 1985) at the University College Hospital, Ibadan, Nigeria—a prevalence of 1.85%. All the cases were clinically unsuspected and the diagnosis was established only at barium examination. Five of the 11 patients presented with rectal bleeding, six with alteration in bowel habit, six with abdominal pain and associated fever and one with right iliac fossa pain and tenderness mimicking appendicitis. Although an uncommon disease in Nigerians, clinicians are urged to suspect diverticular disease in their differential diagnoses of disorder of the colon in Africans in order not to miss a potentially lethal but treatable condition.

Résumé

Sur une étude de 603 examens de baryum énéma faits à l'University College Hospital d'Ibadan au Nigéria pendant une période de 2 ans (janvier 1984–décembre 1985), 11 cas de la maladie 'diverticulaire' du côlon ont été remarqués, soit une proportion de 1.85%. Aucun des cas n'a été soupçonné cliniquement, et c'est seulement par l'examen baryum que le diagnostic a été établi. Parmi ces 11 patients; cinq souffraient du saignement rectal; six d'un changement dans leurs habitudes intestines; six des douleurs abdominales avec fièvre, tandis qu'un patient souffrait des douleurs iliac fossa et d'une sensibilité accentuée semblable à l'appendicite. Bien que cette maladie soit rare au Nigéria, il est proposé aux médecins d'être plus souvent à la recherche de la maladie diverticulaire dans leurs diagnostics différents des maux de côlon chez les Africains, afin de ne pas rater le diagnostic d'une condition facile à traiter, mais potentiellement létale.

Introduction

Diverticular disease of the colon is relatively rare in Africa, Asia and India [1,2]. Bohrer and Lewis [3] in a retrospective study reported asymptomatic diverticular disease in three of the 216 barium enema examinations performed over the 2-year period 1963–1964 in University College Hospital (UCH), Ibadan, a prevalence of 1.15%.

In contrast to the observation in these developing countries, diverticular disease is the most common disorder of the colon in countries of the Western world [4] but at the beginning of this century it was almost unknown in these same countries [2]. This marked difference has been thought to be related to dietary and perhaps economic differences of the geographical areas.

A prospective study was then carried out in UCH, Ibadan, over a period of 2 years from January 1984 to December 1985 to find out what the present prevalence rate of diverticular disease is, and to compare the results with those of Bohrer and Lewis [3] in view of the changing economic advancement, and the questionable consequential alteration, in the dietary habits of Nigerians.

Subjects and methods

Six hundred and three patients (409 males and 194 females) whose ages ranged from 20 to 79 years, had barium enema examinations. They were carefully screened radiologically with particular attention for the presence of diverticula. In most of them a double contrast study was carried out to visualize better the entire large bowel.

Clinical data of the patients with diverticular disease of the colon were recorded with particular reference to clinical features, clinical diagnoses and complications (Table 1).

Table 1. Clinical features and barium enema findings

Cases	Age	Sex	Number and sites	Clinical findings
1.	51	M	Generalized in colon and caecum (Fig. 1)	Profuse rectal bleeding — life-threatening with associated fever and abdominal pain for 2 days
2.	33	M	Three in hepatic flexure of colon (Fig. 2)	Managed as sub-acute appendicitis for 3 months — right iliac fossa pain and tenderness
3.	60	M	Generalized mainly in sigmoid colon	Constipation and ascites — proven cirrhosis of the liver
4.	48	M	Multiple in sigmoid colon (Fig. 3)	Recurrent abdominal pain, fever. Dyspepsia. Left iliac fossa tenderness for 1 month
5.	35	M	Multiple in descending colon 'spiked' sigmoid	Episodic constipation. Subacute large bowel obstruction due to carcinoma of the colon
6.	60	F	Multiple in sigmoid descending colon	Rectal bleeding for 1 week
7.	50	F	Multiple in sigmoid colon. Scattered in the caecum and rest of colon	Bloody diarrhoea. Lower abdominal pain with fever for 5 days
8.	62	F	Numerous and generalized in colon and caecum	Constipation and occasional diarrhoea. Lower abdominal pain and fever off and on for 3 years
9.	40	M	Multiple in sigmoid and descending colon	Constipation — rectal bleeding from first-degree haemorrhoids for 1 month
10.	65	M	Multiple in entire colon	Abdominal pain with rectal bleeding for 2 weeks
11.	72	M	Generalized mainly in sigmoid	Abdominal pain with constipation and occasional bloody diarrhoea for 6 months

Results

Of the patients studied 11 patients (eight males and three females) had diverticular disease of the colon. The clinical features and the barium enema findings are summarized in Table 1.

Five patients had rectal bleeding. One of these (Case 1, Fig. 1) was a businessman of 51 years of age who was admitted into a medical ward in shock due to a life-threatening rectal bleeding. An emergency barium enema examination showed diffuse colonic diverticular disease with hypersegmented sigmoid colon, but

no evidence of neoplasm or colitis. He was managed conservatively.

Six patients had alteration in bowel habit in the form of constipation and/or diarrhoea or constipation interspersed with diarrhoea; whilst six other patients also had abdominal pain (either generalized or specifically lower abdominal) with associated fever.

Only one case in the series (Case 2, Fig. 2), a young man of 33 years of age, presented with low-grade fever, right iliac fossa pain and a tenderness associated with a mass. He was being managed as a case of sub-acute appendi-

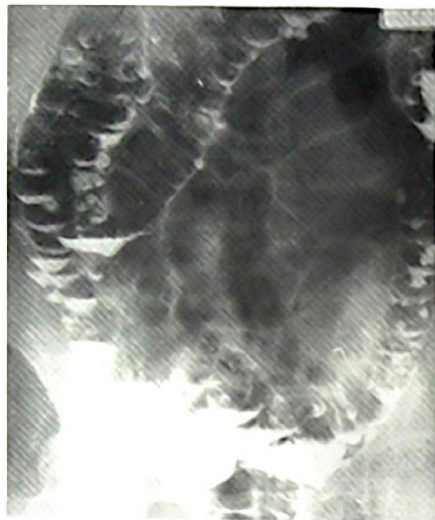


Fig. 1. Double contrast barium enema on Case 1 showing generalized diverticular disease of colon and caecum.

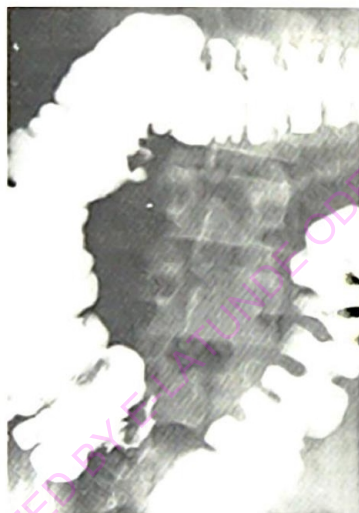


Fig. 2. Barium enema on Case 2 showing irregular caecal pole and three diverticula medially of the proximal ascending colon.

citis and an appendix mass, but a barium enema revealed three solitary hepatic flexure diverticula and an irregular caecal pole. These diverticula were proven at surgery and the irregular caecal pole was subsequent to a perforated caecal diverticulum. The appendix was normal.

Discussion

Diverticular disease of the colon is apparently still uncommon in the Nigerian patients. The prevalence rate of 1.85% in the present study is not significantly higher than the previous observation of 1.15 [3] considering the retrospective nature of that study. On the other hand, in the more developed nations colonic diverticular disease is an extremely common affliction [5-7]. Some reports indicate adult prevalence rates in patients over 40 years old to be over 33% [4].

The pathogenesis of the development of diverticula in the colon, especially in the sigmoid portion, has been extensively discussed and reviewed in the literature [2,8], consumption of low residue foods and refined flour and sugar being linked with the development of the disease as against the consumption of natural high residue foods and unrefined grains and sugar. A large redundant sigmoid colon, a not uncommon finding in Nigerians, has also been suggested as a possible aetiological factor mitigating against the development of the high pressure sigmoid diverticula [3]. Seven of our patients were literate and have had some degree of exposure to Western civilization and life style, but they all claimed it had not significantly altered their dietary habits. Indeed, all our patients were still consuming the mainly bulky high-residue Nigerian foods.

It is pertinent to note that in all the cases no clinical suspicion of colonic diverticular disease was made; the working diagnosis in 10 of the patients was either carcinoma of the large bowel or parasitic or bacterial colitis, and in the remaining patient, sub-acute appendicitis. The present study would indicate, contrary to previous misconceptions of extreme rarity or non-existence, that diverticular disease should be considered in the differential diagnoses of colonic disorders in adult Nigerian patients.

There are three varieties of colonic diverticular disease — diffuse, segmental and solitary — all these were encountered in the present series. Six of the patients had the diffuse colonic diverticula which is believed not to be associated with muscle hypertrophy, but is probably related to decreased resistance of an atrophic muscle wall and occurring in patients over the age of 50 years [9]. This type is often complicated by haemorrhage. Five of the six patients

were older than 50 years and four of them presented with rectal bleeding.

Diverticula may be segmental and restricted to the right side of the colon or in the sigmoid colon. The right-sided segmental type tends to occur in a younger age group and is considered to have an hereditary or racial predisposition [10]. High-pressure mucosal herniation diverticula, the segmental type in the sigmoid colon is the common variety of diverticular disease seen in about four of our cases with predominant left colonic involvement (Fig. 3).

Solitary diverticula are not uncommon and may be confined to the caecum or transverse colon in about 4% of cases [9,11]. These are thought to be of congenital origin and often become inflamed. One of our cases had his solitary caecal diverticulum inflamed and perforated (Case 2) although three apparently intact diverticula were demonstrated in the right colon. It is conceivable that these could also become inflamed with the development of right hypochondrial pain mimicking cholecystitis.

However, the present study reveals that



Fig. 3. Barium enema on Case 4 showing diverticular disease localized on the left colon.

diverticular disease is still an uncommon colonic disorder in Nigerians but that symptomatic cases, with manifold manifestations, are being encountered. The need for clinicians to cultivate a higher index of suspicion is emphasized in order not to miss this potentially lethal, but treatable condition.

Acknowledgment

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Erratum

Volume 18, Number 3, September 1989, page 179.

We apologize for the error that occurred in the last issue of *African Journal of Medicine and Medical Sciences*. The third paragraph should have read:

Only men had significantly elevated haematocrits. Reduction of a high normal haematocrit is said to improve cerebral blood flow [4], as in the presence of a stenotic vessel wall platelet deposition is said to increase [20]. Smoking is also said to elevate the haematocrit level [21] and advice against this may be beneficial. In this study patients with haematocrits of 48 and over had regular venesection.