

Diverticular disease of the colon in Kampala, Uganda

Elsie Kiguli-Malwadde, Henry Kasozi

Department of Radiotherapy, Faculty of Medicine, P. O. Box 7072 Kampala, Uganda

ABSTRACT

Background: Diverticular disease of the colon has been reported to be a disease of the western world, however of recent it has been described in the Africans.

Objective: To study the clinical, demographic and radiological features of diverticular disease of the colon in Kampala, Uganda.

Methods: A retrospective and prospective descriptive study was carried out between January 1995 – December 1996 and January 1998 – December 2000. The period January 1995–December 1996 was retrospective while January 1998–December 2000 was prospective. Thirty-one consecutive patients were found to have diverticular disease of the colon at barium enema studies in two major hospitals and two private x-ray units in Kampala, Uganda.

Results: Thirty-one patients were seen during the study period; all were over 40 years of age. The commonest presenting complaint was rectal bleeding in 13 patients followed by abdominal pain in 12 patients. Most patients were found to eat a mixed type of diet, that is both low and high residue food.

Radiologically the diverticulae appeared as flask shaped or rounded outpouchings at barium enema. This would sometimes be accompanied by a serrated appearance of the affected area. The commonest site affected was the sigmoid colon followed by the ascending colon.

Conclusion: Although it was previously reported that diverticular disease was unknown in black Africans, it has been noted that cases are now being increasingly discovered. It is recommended that our index of suspicion for diverticular disease of the colon and its complications should also increase.

African Health Sciences 2002; 2(1): 29-32

INTRODUCTION

Diverticular disease of the colon is an acquired disease of adults thought to be rare among the black population. It is often described as a disease of the western world.^{1,2,3,4,5} The cause is not known though it has been reported that it occurs due to persistently raised intra-colonic pressure and are associated with constipation. It is also known to be associated with a low residue diet. It has been reported that it was unknown before 1900 and has been associated with food processing and food refinement in industrialized countries⁵

The diverticulae are a pulsion type of mucosal out-pouches not covered by the muscular layer. They occur mainly in the sigmoid colon and are found along the sidewalls of the colon at the site of blood vessels' entry, which is a site of relative weakness. Other parts of the colon may be also affected especially on the left side. However diverticula may be found any where along the colon. Complications of diverticular disease include diverticulitis, haemorrhage, muscular hypertrophy and ob-

struction, pericolic abscesses, perforation and vesico-colic fistula. There is no evidence that diverticular disease predisposes to malignancy. The main radiological investigation used in the diagnosis of diverticular disease is the barium meal where one sees flask shaped or rounded outpouchings from the bowel wall. This may be accompanied by muscle changes that give a serrated appearance of the affected area. The commonest differential diagnosis is cancer of the colon. Other differential diagnoses arise if diverticular disease presents as a complication. These could be appendicitis, colitis and angiodysplasias.

The main objective was to study the clinical, demographic and radiological features of patients with diverticular disease of the colon in Kampala, Uganda.

MATERIALS AND METHODS

A retrospective and prospective descriptive study between January 1995 to December 1996, January 1998 – December 2000 was carried out. The period January 1995 to December 1996 was retrospective, while January 1998 – December 2000 was prospective. Thirty-one consecutive patients seen in two x-ray units and two major hospitals in Kampala with radiological evidence of diverticular disease were recruited. These units do 540 barium enemas a year all together.

All the patients had a standard double contrast barium enema. All patients were prepared for at least 3 days before the barium enema. A low residue diet was

Correspondence

Dr. E. Kiguli-Malwadde

Faculty of Medicine

P. O. Box 7072

Kampala – Uganda.

Tel: 256-41-530137

Fax: 256-41-349577

Email : malwadde@softhome.net

recommended for 3 days and a cleansing enema was given on the morning of the barium enema. Barium sulphate suspension was introduced into the colon via the rectum from a suspended disposable enema bag up to the mid transverse colon. Air was then introduced and the patient rotated until the entire colon was coated with barium and air. Spot films of the rectum, sigmoid colon, splenic and hepatic flexure were taken. Full-length abdominal films and spot films of the pathological parts were also taken. The films were then examined for features of diverticular disease like flask shaped or rounded pouchings, rounded pools of barium or ring shadows. Muscle changes and other complications were also looked for. All patients seen during the study period were included. Radiological findings and salient clinical data were analysed.

RESULTS

Thirty one cases of diverticular disease were seen during the period January 1995- December 1996, January 1998- December 2000. Sixteen males and 17 females were recruited giving a male to female ratio of 1:1. The age range was 42-80 years, mean age 52 and a median of 60 years. One patient was European, one was a 'half-caste' with Caucasian and African heritage, and 10 were Baganda while 8 were from other tribes. The income of the patients was difficult to establish as they all had more than one job. Two patients had had up to primary education, others had had higher education in tertiary level institutions. Only 2 patients came from a rural area, the rest came from urban areas. The main presenting complaints varied from rectal bleeding (13), abdominal pain (12), constipation (7) and abdominal mass (3). Some of the patients presented with more than one complaint.

In the prospective study, inquiry into the dietary habits of the patients revealed that all the patients except one had a mixed type of diet with the local foodstuffs as well as low residue foods.

The appearances on the barium enemas showed flask shaped outpouchings or ring structures when viewed end on, (figures 1,2,3). The sigmoid colon was the main part affected followed by the descending, transverse, ascending colon and caecum, 3 patients had diverticular disease throughout the whole length of the colon. One patient had a malignant lesion in the transverse colon in addition to diverticular disease. (Figure 4).

Figure 1: The sigmoid colon in single contrast.



The sigmoid colon is spastic and has multiple barium filled out-pouchings. The sigmoid is the commonest part of the colon affected by diverticular disease.

Figure 2: The splenic flexure in double contrast showing multiple out-pouchings filled with barium.

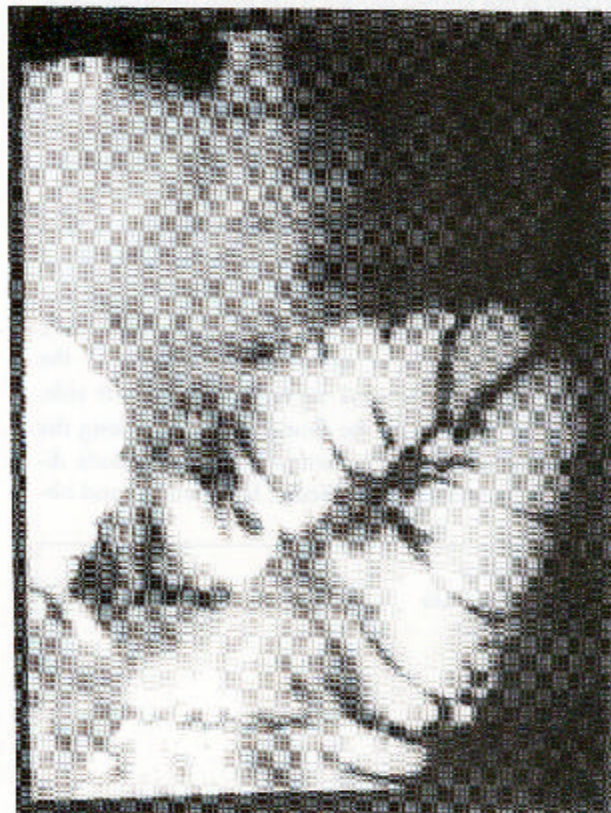


Figure 3: This is a double contrast barium enema showing the entire colon with diverticulae in almost all parts of the colon.

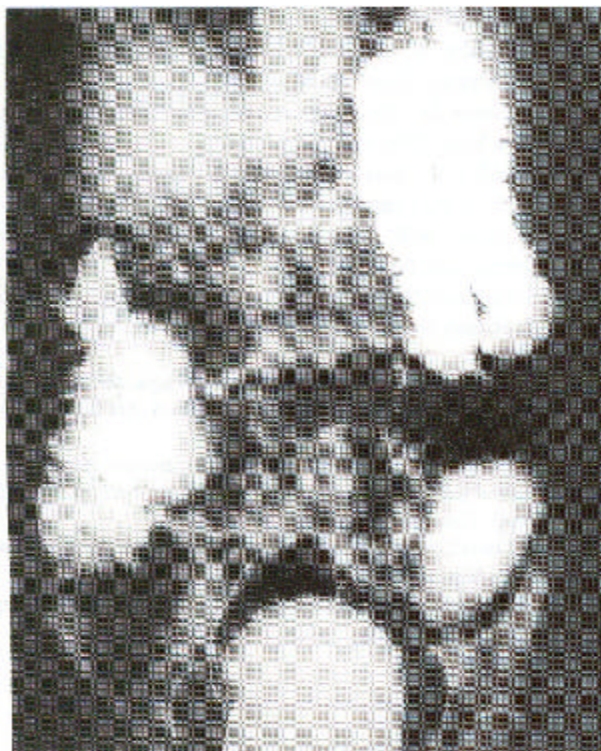
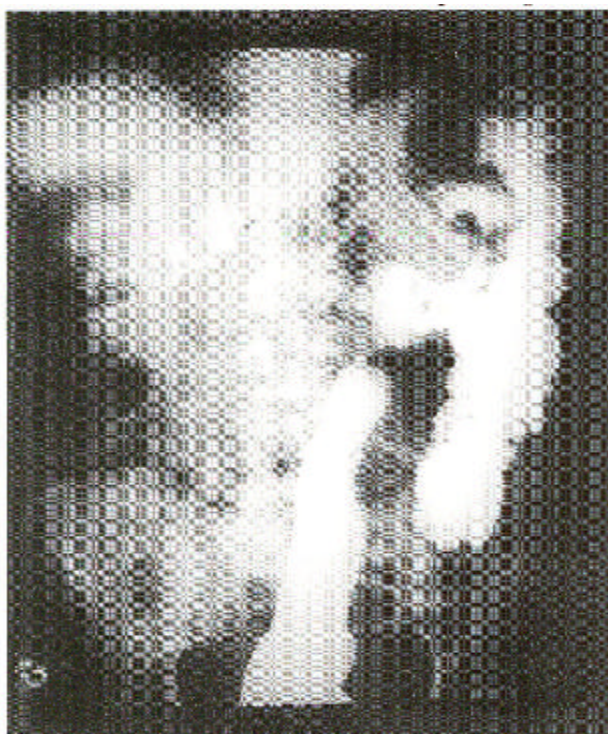


Figure 4: This is a double contrast barium enema showing diverticular disease but at the same time the patient had an annular malignant lesion in the transverse colon and features of colitis in the sigmoid colon. The presence of diverticuli does not exclude other pathologies.



DISCUSSION

By 1968 it had been reported that diverticular disease was unknown in the African⁴. Recently, however it has been reported that diverticular disease of the colon is on the rise in the African population¹. Madiba reported 20 cases in a period of five years in South African blacks¹. Ssali reported eight cases in five years in Uganda³. We now report 31 cases in five years. This supports the fact that more cases of diverticular disease are being seen in the African population in Kampala, Uganda.

The commonest presentation among these patients was rectal-bleeding. Madiba reported similar findings in South Africa⁴. In another study in the USA, colonic diverticulum was found to be the commonest cause of lower GIT bleeding⁷.

In the western world, diverticular disease has been noted to be a disease of adults and is found in two thirds of the autopsy population in those aged over 80 years⁸. However such data is not available for Africans. In the current study all patients were over 40 years and this may suggest that it is predominantly a disease of adults. Madiba reported that women were more affected than men⁴. However in the current study the males and females were equally affected. The clinical and radiological presentation is similar to what has been reported in the western world^{2,5,9}.

Could it be that diverticular disease is a new entity in our environment or has it been there in silent existence? Is it possible that the Ugandans have adopted a western diet especially those that live in the urban areas. As noted, many supermarkets have sprung up in Kampala recently and these sell processed foods and the middle class frequents them. Ssali³ argued that the diet of the Ugandan middle class only differs from the traditional diet in its protein content in the form of meat, eggs, fish, and milk. In the current study this argument seems to be supported by the fact that most patients still eat a traditional diet.

Others could argue that most Ugandans still eat the local diet and so this prob-

lem may not be associated with diet. A few of the patients presented have lived in western countries but this was only during their adulthood.

It could also be that diverticular disease of the colon has been with us undetected but with improved health care, more patients are being investigated and thus being discovered. After all, barium enemas were not commonly done 20 years ago. The findings at colonoscopy have not been reported but these could also reflect a similar picture.

Is diverticular disease in Africa the same as the western type? Based on the clinical and radiological findings of this study, the two diseases seem to be similar.

CONCLUSION

In conclusion, diverticular disease of the colon exists in the African. There is need to increase our index of suspicion for diverticular disease and its complications. If the disease is associated with a low residue diet, then the health system should advise our population to maintain the high-residue African diet. However we cannot exclude a possibility that factors other than diet may be contributing to the rise in prevalence of diverticular disease of the colon

in Uganda. Further studies to confirm or support some of these findings are recommended.

REFERENCES

1. Madiba T.E, Mokoena T. Pattern of diverticular disease among the Africans. *East Afri. Med J*: 1994; 71 (10) 644-6.
2. Sutton D : *Radiology and imaging* Churchill Livingstone, New York, 1998: Vol. 2 901-903 (3)
3. Ssali. F. C. Diverticular disease in Uganda. *The proceedings of the East and Central African Society of Surgeons*: 1985: 48-50.
4. Davey W.W. *Companion to Surgery in Africa* Churchill Livingstone, New York, 1968, 262.
5. Painter N.S, Burkitt D. P. Diverticular disease of the colon, a deficiency disease of western civilization *Br. Med. J* 1971; 2: 450-454.
6. Mokoena T. Madiba T.E. Haemorrhagia, the main presenting feature of diverticular disease in blacks. *S. Afr. Med J*. 1994; (2): 83 – 5.
7. Longsteth G.F. Epidemiology and outcome of patients hospitalized with acute lower GIT bleeding, a population based study. *AMJ. Gastroenterol* 1997; (3): 419-24.
8. Davis Loyal Christopher's textbook of surgery. W. B. Saunders, Philadelphia, 1968:718 – 20.
9. Peterson AH. *Global textbook of Radiology. Nicer series on Diagnostic Imaging*. London, 1995; 991 – 3.