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High fibre diet in symptomatic diverticular disease of the colon

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Summary

Over the past decade fibre supplementation has achieved widespread acceptance in the management of symptomatic diverticular disease, although the efficacy of this treatment has been debated. We have conducted a retrospective review of 72 patients admitted to hospital with symptomatic diverticular disease over a ten year period in order to determine whether or not high fibre diet afforded protection against the development of complications, necessity for surgery or persistence of symptoms.

Fifty-six patients were treated non-operatively, of these 43 received advice concerning a high fibre diet but only 31 patients complied. The 12 patients who failed to take additional fibre and the 13 patients who never received dietary advice (25 patients) formed the non high fibre group. Those treated with fibre supplementation fared significantly better in developing fewer complications and required less surgery ($P<0.05$). At the time of follow-up review patients on a high fibre diet reported significantly fewer symptoms ($P<0.05$).

Introduction

Diverticular disease has been associated with Western dietary patterns and may be related to a deficiency of dietary fibre *(1,2)*. Although a high fibre diet has been shown to improve certain physiological measurements of colonic function, it is uncertain as to whether such treatment prevents the progression of the disease *(3,4,5)*. The past decade has seen the widespread introduction of fibre supplementation for this condition, but the ability of fibre supplementation to reduce the incidence of complications is still controversial *(6)*. We have reviewed the results of ten years experience in the treatment of symptomatic diverticular disease in an attempt to answer this question.

Patients and methods

Seventy-two patients were admitted to North Tees District Hospital between 1972 and 1981 with symptomatic diverticular disease, all of whom satisfied the following criteria:

(1) No previous hospital admission for diverticular disease or its complications.

(2) Diverticula of the colon demonstrated at barium enema or pathological examination.

(3) Symptoms of uncomplicated diverticular disease, principally abdominal pain and altered bowel habit. All patients with evidence of diverticulitis, including pyrexia (>38 °C) or leucocytosis (>11 000 WBCs/mm) or a proven abscess, fistula, haemorrhage, perforation or obstruction were excluded.

Patients who had concommitant intra-abdominal pathology or who were asymptomatic were also excluded. Patients who were operated on or booked for subsequent elective operation on their first admission were considered to have been primarily treated surgically. The remainder were divided into two groups depending on whether or not high fibre diet (HFD) formed part of their conservative management. Patients commenced on HFD were counselled by both the medical and dietetic staff. Each were supplied with a booklet recommending a minimum of 25 gms of fibre daily.

In February 1983 we contacted the general practitioners of the patients treated medically and subsequently reviewed all those still alive at an out-patient clinic. At this stage patients were questioned by a dietitian regarding their dietary intake of fibre and use of proprietary bulking agents. Patients were allocated to the HFD or non-HFD groups depending on whether they were taking more or less than 25 gm of fibre daily (Fig. 1). The patients were assessed clinically by an examiner who was unaware of their daily fibre intake. The duration of follow-up, subsequent symptoms or complications and the necessity for subsequent surgery was compared in both groups in a 2×2 contingency table using the Fischer Exact and Chi-squared tests (Table 1).

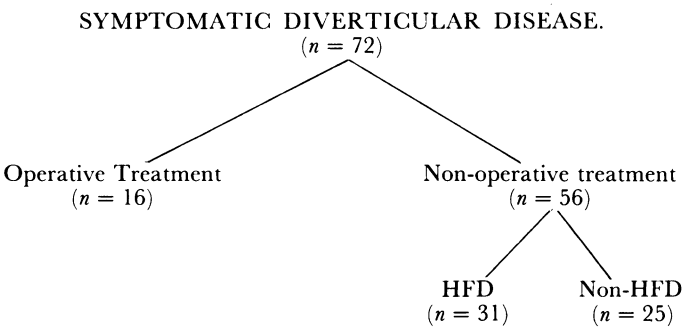

FIG. 1 Allocation of patients to treatment groups.

TABLE I *Results of non-operative treatment (56 patients)*

	HFD Group	*Non-HFD Group*
Total number of patients	31	25
Subsequent surgery or complications	2	8 $P<0.05$
Deaths (unrelated causes)	7	2
Mean follow-up (months)	54	76
Symptomatic at follow-up	6	11 $P<0.05$

Results

Of the 72 patients with complicated symptomatic diverticular disease 16 had surgery on their first admission or were booked for elective surgery at that time. The remaining 56 had primary medical treatment with a plan formulated for further conservative management. Forty-three were advised regarding HFD and 13 were not. There did not seem to be any reason why the 13 were not advised, but most of these patients presented in the early nineteen-seventies when HFD was not as popular as it became later.

At follow-up 31 patients had adhered to HFD, presenting a compliance rate of 72% and they formed the HFD group. None of the 13 who had not received advice regarding HFD were found to be taking HFD at follow-up, and these together with the 12 who had not complied with the HFD instructions formed the non-HFD group (Fig. 1). Two of the 31 patients in the HFD group were re-admitted with complications and both required surgery.

In the non-HFD group five of the 25 developed further complications and four of these plus three other patients with persistent painful diverticular disease required surgery. Thus patients in the HFD group developed fewer complications and were more likely to avoid subsequent surgery ($P<0.05$) (Table 1).

Seven patients died in the HFD group, and two in the non-HFD group but none of these deaths was related to diverticular disease or its complications. Of the surviving patients six of the 22 in the HFD group were symptomatic at follow-up compared with 11 of the 16 in the non-HFD group ($P<0.05$). The average follow-up was 54 months in the HFD group and 76 months in the non-HFD group.

Discussion

While HFD has become established in the management of diverticular disease, several questions remain unanswered. Does roughage relieve symptoms and does it prevent the development of complications? Do patients comply with the diet? Most authors would agree that patients on the HFD obtain symptomatic relief *(2,3,4)*. Although Ornstein et al. *(5)* found that HFD only relieved constipation, this study involved a very short treatment time of 16 weeks. In our study high fibre diet appeared to be effective in relieving both pain and constipation. There is less agreement with the literature about the role of HFD in preventing complications. Hyland and Taylor *(6)* reviewed 100 patients admitted to hospital with diverticular disease and suggested that HFD may also afford protection in this respect. Our results support this conclusion. We also found that patients on the HFD were less likely to require surgery and develop complications.

Only 31 of the 43 patients who were advised regarding HFD complied with the diet. Surprisingly nine of the 12 who did not comply had symptoms. Controversy exists as to what constitutes a high fibre diet, but we agree with most authors in favouring 20–25 g/day of dietary fibre *(1,2,7,8)*. This dose will double faecal weight, produce a substantial decrease in intraluminal pressure in the left colon and in our series seemed to benefit patients.

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