

Enema Volume as an Important Factor in Successful Topical Corticosteroid Treatment of Colitis

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The use of topical corticosteroid therapy for patients with colitis has been established practice for fifteen years. The corticosteroid is given in a suppository for patients with inflammation confined to the rectum or as a retention enema when the disease is more extensive.

From time to time a patient is seen in whom the rectum and distal colon become almost normal after treatment with retention enemas, and yet the proximal colon can be shown on X-ray to remain ulcerated. The patient, not surprisingly, remains unwell despite the great improvement observed on sigmoidoscopic examination of the distal colon. Such patients illustrate the importance of ensuring that the enema solution comes into contact with the whole area of diseased mucosa. The following study was designed to find how varying the volume of the solution affects the distance travelled by the enema.

Method

At St Mark's Hospital, patients are instructed to dissolve solution tablets of prednisolone-21-



Fig 1 A typical result obtained when barium suspension is added to a 150 ml therapeutic enema in a concentration of 5% by volume

phosphate in the required volume of tap water and administer the solution as a retention enema using a plastic bladder syringe and rubber catheter (Jones, Lennard-Jones & Misiewicz 1965, *Gut* 6, 514). This technique is relatively convenient, portable, and enables the dose of the steroid and the volume of the enema to be adjusted to the patient's needs.

A group of patients with active ulcerative colitis being treated with corticosteroid retention enemas was studied. Five per cent by volume of barium suspension was added to the enema solution. The patients administered their enemas in the usual way, in privacy on the X-ray couch, and lay prone for 5 minutes as they are normally instructed to do. A plain abdominal film was then taken (Fig 1) to show how far the solution had reached; this distance could be compared with the known extent of disease as judged by a diagnostic barium enema performed a few days previously. This method is similar to that described by Matts & Gaskell (1961, *British Medical Journal* ii, 614).

Results

What is the proximal limit reached by different volumes of fluid? The proximal limit reached by 50 ml, 100 ml and 200 ml of fluid in different patients is illustrated in Fig 2. It will be seen that any given volume comes into contact with an unpredictable area of colon. In general, 50 ml remains in the rectosigmoid, but even with volumes of up to 200 ml the whole colon is rarely covered.

What is the effect of increasing the enema volume by 50 ml increments over a few days? The results in 4 patients are shown in Fig 3. In general, the enema comes into contact with an increasing area of colon as the volume is increased but this is not always the case, as illustrated by the fourth patient in whom even 150 ml remained in the rectosigmoid region.

Does the same volume cover the same area of colon on different days in one patient? Ten patients were studied on three days with an enema volume of 100 ml. In 5 patients the proximal limit reached

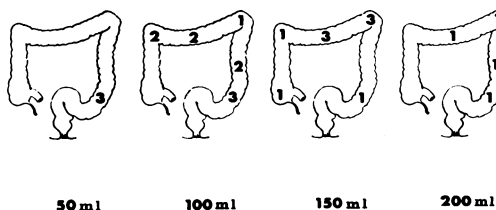


Fig 2 The proximal limit of penetration reached by different volumes of enema solution. The position of each number in the colonic lumen indicates the penetration by the enema in that number of patients studied, with the volume shown beneath each diagram

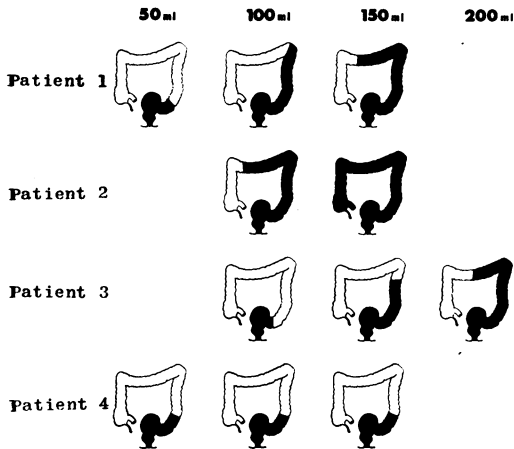


Fig 3 Serial studies showing the degree of penetration by increasing volumes of enema in four patients

by the enema was the same on each day, in 3 patients there were small variations in the distance travelled but the area of disease was always covered, in 2 patients the enema did not travel as far when the disease healed and solid stools could be seen on X-ray of the colon which had previously been empty.

Comment

Our results differ from those of Matts *et al.* (1961) who found that 100 ml of enema fluid, administered by the bag technique, always penetrated at least to the upper descending colon. Our results show the degree of penetration between different patients is unpredictable although it appears to remain fairly constant in individuals with active disease. We have found in practice that this may be of therapeutic importance.

Conclusions

Topical corticosteroid therapy depends on contact between the steroid solution and the inflamed mucosa. When the disease is confined to the distal colon and rectum, an enema volume of 100 ml is usually adequate to cover the area of disease. When the colitis is more extensive a larger volume of fluid is often needed. In these circumstances it is advisable to increase the enema volume to the maximum retained easily by a patient and then compare the proximal limit travelled by this enema with the proximal limit of disease using the technique described in this paper. Only in this way can the volume of enema required by a patient be judged with certainty.

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The Longer-term Evaluation of Rubber-band Ligation

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The long-term results of rubber band ligation (RBL) for hæmorrhoids has been assessed using a questionnaire survey. Of the 147 patients who had prospective recordings of symptoms, findings and treatment between 1967 and 1969, 125 patients (87%) have completed the survey; 10 patients have been followed by access to the general practitioner notes, and the names of the remaining 12 patients have been submitted to the regional board computer to be sure that they have not since had a hæmorrhoidectomy in this region.

One hundred and fourteen (91%) of patients complained of bleeding and 80 (64%) of a lump appearing at the anus. Assessment on proctoscopic examination showed that 101 (81%) were second degree, while 18 (14%) were third degree. Rubber band ligation was performed at monthly intervals until the patients were symptom free; the majority requiring 2 or 3 sessions.

At review from 3.5 to 6 years after RBL (mean 4.7 years) 116 patients thought the treatment worthwhile and only 9 did not. When asked about their present symptomatic status 111 (89%) felt they were either cured or much improved, 12 (10%) were a little better or unchanged and 2 (1%) were worse than before. Only 55 patients (44%) were completely symptom free: however, of the 70 patients with some symptoms the majority (49) had only intermittent discomfort or bleeding of reduced severity. No further treatment was required by 101 patients, while 15 have had further RBL or other conservative management such as dilatation and only 3 have required hæmorrhoidectomy.

Equally good results as those achieved in patients with bleeding alone can be obtained in patients with the symptoms of pain and irritation, in those with large skin tags, and in the majority with large third degree 'piles'. Applying such a policy in our proctology clinic only 4% of patients referred to us are subjected to hæmorrhoidectomy. A policy of conservative management aimed at obtaining symptomatic relief rather than complete ablation of hæmorrhoids appears justified by these results. Furthermore, it is known that the majority of people with hæmorrhoids suffer few or no symptoms and that most patients who presented to our clinic with symptoms were controlled by this simple outpatient technique.

(Meeting to be continued)