

Rectal Irrigation for Relief of Functional Bowel Disorders

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Summary

This article examines the use of rectal irrigation for the symptomatic relief of functional bowel disorders in certain groups of patients. The authors undertook a study of 80 patients and conclude that it is a valuable treatment for some patients.

Key words

- * Colorectal disorders
- * Rectal cancer
- * Stoma care

These key words are based on the subject headings from the British Nursing Index. This article has been subject to double-blind review.

FUNCTIONAL BOWEL disorders (FBDs) are difficult to treat and often leave patients feeling embarrassed, inadequate and socially isolated (McIntyre and Pemberton 1993). Conservative therapies have their place in symptom management although not every therapy is successful. Surgical options vary but have complications and variable outcomes. There is an increasing tendency to avoid surgery in FBDs and hence irrigation is becoming increasingly popular.

This article describes a study the authors undertook in an attempt to offer patients a form of management for their symptoms without the use of medication or surgical intervention. They examined the following conditions and symptoms:

- * Epilepsy.
- * Faecal incontinence (urgency and/or passive soiling).
- * Multiple sclerosis.
- * Obstructed defecation.
- * Rectocele.
- * Slow transit constipation.
- * Transverse myelitis.

The authors assessed 80 patients. In this group, ten patients withdrew. Eight patients believed their symptoms were not severe enough to warrant irrigation. One patient believed the social and mental pressures of irrigation were too great, despite receiving extensive support and sensitive encouragement. This patient has been a long-term visitor to a variety of colorectal clinics and treatment options have always been limited. One patient with a gracilis neosphincter was

referred for irrigation with emptying difficulties that, as a consequence, caused urgency and soiling. The technique did not prove successful.

Background

Patients presenting with FBDs vary in age and sex and have often struggled with bowel function for years. Specific disorders, such as neurological disease or diabetes, can affect bowel function. Patients with these conditions are often investigated but offered little in the way of symptomatic management. They are unlikely to be offered surgical intervention and perhaps only limited pharmacological therapy in view of their concomitant illness.

Diagnosis and complications

Diabetes is often associated with faecal incontinence (Aitchison et al 1991, Epanomeritakis et al 1999, Pinna Pintor et al 1994, Russo et al 2004), usually due to peripheral neuropathy affecting the pudendal nerve supplying the anal sphincters. Often patients who are prescribed metformin have symptoms of faecal urgency and soiling. Metformin is known to cause diarrhoea and alternative treatment strategies might be advised. However, insulin-dependent diabetics with faecal incontinence have limited treatment options.

Neurological disorders, for example, multiple sclerosis, can cause constipation and incontinence (Krogh et al 2001, Sneddon 2001). Patients are often unable to elicit defecation and as a result, can become constipated. This can often lead to overflow incontinence. A significant proportion of these patients have mobility problems, are unable to reach the toilet in time, may not always be able to postpone defecation and therefore may be incontinent.

Idiopathic faecal incontinence affects up to 4 per cent of the population (Perry et al 2002). It is a distressing and isolating condition that can result from obstetric injury, trauma, surgery or pelvic floor weakness (Perry et al 2002). Treatment options vary, from simple lifestyle adjustments to biofeedback through to gracilis neosphincter procedures. Biofeedback is a method of reinforcement of exercise and behavioural techniques to improve bowel function. The therapy is spread over a period of time in which the patient attends regular clinic visits. Patients with mild symptoms often do well with biofeedback retraining (Enck 1993). This requires motivation and determination from the patient and that is not always forthcoming because some patients do not feel that exercise regimens are useful or beneficial and as a result are often reluctant to try. Some patients may respond well to pharmacological manipulation – constipating agents, such as codeine phosphate, co-phenotrope and loperamide, and low-dose tricyclics, such as imipramine, are frequently prescribed. Success rates are variable. Dose ranging can be tried but is often difficult and not always well tolerated because of side effects or non-concordance.

Surgical intervention for faecal incontinence varies and is not always straightforward. Overlapping sphincter repair has variable results: at best about 50 per cent of patients remain socially continent five years' post-operatively (Barisic et al 2000, Engel et al 1994, Lehur et al 1996, Malouf et al 2000). If this fails, newer treatment options are available. Neuromodulation can be applied to the sacral three and four nerves to improve the function of the anal canal and rectum (Ganio et al 2001, Jarrett et al 2003, Kenefick et al 2003, Matzel et al 1995, Rosen et al 2001). The procedure has proved successful in trials and is rapidly becoming a favourable treatment option. However, it requires surgery, which not all patients are happy to consider.

The stimulated gracilis neosphincter (Baeten et al 1995, 2000) was first described in the 1950s but fell into disuse. Development of the procedure has increased its popularity over the past ten to 15 years. The procedure requires detachment of the gracilis muscle from the knee, which is then wrapped around the anal canal and anchored to the pelvis. A pacemaker electronically controls the muscle, which remains stimulated providing closure of the anal canal – relaxation is achieved on deactivation. The surgery is complex – all patients undergo extensive counselling and must be highly motivated. Some patients describe emptying difficulties which is an acknowledged complication of the procedure.

Antegrade colonic irrigation (ACE) has been used in faecal incontinence and constipation. It aids regular and complete colonic emptying to eliminate evacuatory problems. It has been found useful for patients with overflow incontinence due to constipation. The ACE procedure has also been successfully used in paediatrics for bowel dysfunction (Squire et al 1993). An alternative method for colonic irrigation is the colonic conduit (Williams et al 1994). This involves

situating an anti-reflux valve in the transverse colon and passing a catheter through the conduit to aid irrigation. The procedure requires a laparotomy and colonic anastomosis. Both procedures require surgery and motivation.

Surgery for constipation has consistently generated poor outcomes. Various surgical techniques have been employed, including sub-total or total colectomy and ACE procedures for slow transit constipation (Lahr et al 1999). The procedures require extensive counselling. In addition to slow transit constipation, patients may have difficulty in emptying. This is often due to poor pelvic coordination – the anal canal and pelvic floor muscles fail to relax to aid evacuation. These patients are often young women presenting with straining, bloating, abdominal distension and infrequent stool. Biofeedback techniques can be employed in these patients with varying degrees of success (Enck 1993).

A rectocele develops when the anterior rectal wall and posterior vaginal wall weaken and cause outpouching which pushes forwards into the vagina and down onto the perineum. Many patients find it necessary to digitate per vagina or per rectum to aid rectal emptying – this is degrading and distressing for the patient. The repair of rectocele varies (Boccasanta et al 2001, Zbar et al 2003). There is often reluctance to repair rectocele since there is a potential risk of rectal capacity reduction and sexual dysfunction. Reduction in rectal capacity can lead to extreme urgency and an increase in frequency of defecation.

Irritable bowel syndrome (IBS) is bouts of diarrhoea or constipation, and patients often alternate between the two. However, surgery is inappropriate for these patients when there is no other underlying cause for their symptoms.

Treatment options

In view of the difficulties associated with FBDs, patients are left with few options. Pharmacological or surgical treatment is not favoured by all and many see it as a last resort, but there are other options.

Colonic irrigation (CI) has been popularised on television and in magazines as a health and beauty treatment. It is offered at private health clinics by therapists trained in the procedure. Patients opting for CI are given dietary programmes to follow, including the use of probiotics and specialist detox regimens. The cost of CI is high – approximately 100-150 depending on the area and availability of therapist – and not accessible to all because of the cost and locality, often excluding patients with true needs for symptom management.

Rectal irrigation (RI) has been used in Europe for a number of years, although the concept is quite new to the UK. It is important to recognise that RI is not a cure but a means for symptomatic relief. It is a simple way of achieving rectal emptying without the need for medication. It works by a pump infusing lukewarm water into the rectum. This distends the rectal wall progressively and normal rectal dynamics stimulate the stretch receptors to initiate the urge to defecate. The patient empties the water and any stool in the rectum. Patients will often repeat this once or twice depending on the need.

The frequency and duration of the irrigation varies depending on the patient's needs, and can be implemented to fit into everyday life. It should be used as an aid for symptomatic relief rather than an inflexible and time-consuming device to regiment bowel habit. Patients who succeed with RI are usually those who can integrate it into their everyday life.

The idea of using RI to manage this group of patients was introduced to the authors by a German enterostomal therapist. A suitable patient was identified to try the technique. She was a 68-year-old woman with faecal incontinence (passive soiling) and she was awaiting the formation of a colostomy. The procedure was discussed and demonstrated with her. At a two-week follow up she reported a dramatic improvement in her symptoms and described feeling clean and more in control.

This initial success encouraged the authors to try RI on two women aged between 18 and 25 years with slow transit constipation who were awaiting the ACE procedure. Both reported significant improvement in their conditions. Following these cases where RI was successful the authors decided to conduct a study to examine RI as a treatment option.

Results

Figure 1 indicates the results obtained from four patients presenting with neurological disorders. These included two with multiple sclerosis, one with epilepsy and one with transverse myelitis who have all had a successful outcome.

Figure 2 shows results for patients assessed with rectocele. Of the 19 patients entered in the study with rectocele, the authors achieved successful outcome in 15 (79 per cent). Of the remaining four patients, one was lost to follow-up, while three are still under review and there have been no failures or withdrawals in the rectocele group to date.

Figure 3 shows outcomes for patients with faecal incontinence. An overall symptomatic relief was demonstrated in 12 (75 per cent) of the 16 patients and a failure rate of 12.5 per cent (n=2). One patient withdrew from the study because they felt that their symptoms were not severe enough to warrant continual use of the pump and one patient is still under review.

Figure 4 identifies the constipation group (n=41) encompassing both slow transit constipation (n=15) and obstructed defecation (n=26). The authors achieved a successful outcome in 21 (51 per cent) of all constipated patients. However, when broken down into the two sub-groups overall success for obstructed defecation is 57 per cent (n=12) and for slow transit constipation 42 per cent (n=9).

In total, 52 of 80 (65 per cent) patients described symptomatic relief of their condition. This figure does not allow for the ten patients who have either been lost to follow-up or have withdrawn from the study. When these patients have been excluded from the cohort, the successful outcome is 74 per cent (n=70), and eight (11 per cent) patients who remain in the six-week assessment process. Early indications are that five are doing very well. As the study has progressed the identification of patients who are likely to fare well with irrigation has become much easier.

Figure 1. Outcomes for patients with neurological disorders

Figure 2. Outcomes for patients with rectocele

Figure 3. Outcomes for patients with faecal incontinence

Figure 4. Outcomes for patients with constipation

Figure 5. Comparison of total number of subjects and outcomes

Figure 5 identifies the relative successes found in each group against the total number of patients assessed. It demonstrates that there is a tendency for symptomatic improvement in each of the neurological, rectocele and incontinence groups. The constipation group demonstrated mixed success and failure.

Conclusion

Rectal irrigation provides a valuable treatment option in the symptomatic relief of FBDs in certain groups of patients. In the constipation group, the success rate appears lower when compared with other groups, however the patients in that group fall into two categories, slow transit constipation and obstructed defecation. Slow transit constipation has shown limited success in this study whereas patients with obstructed defecation have fared better with significant improvements.

Rectal irrigation is a simple and effective treatment for FBDs. The technique is simple to learn and does not necessarily require hospital attendance. After adequate training in the use of the pump, it could be led by community continence nurses and transferred into the community. Many of the patients who may potentially benefit from the treatment option may never need review by a bowel specialist.

If rectal irrigation could be introduced to form part of a community-led care pathway the lives of numerous patients could be improved. The authors are now looking to involve other nurses around the country to form a multicentre study

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REFERENCES

- Aitchison M et al (1991) Impaired anal sensation and early diabetic faecal incontinence. *Diabetic Medicine*. 8, 10, 960-963.
- Baeten C et al (2000) Safety and efficacy of dynamic graciloplasty for faecal incontinence: report of a prospective, multicentre trial. *Diseases of the Colon and the Rectum*. 43, 6, 743- 751.
- Baeten C et al (1995) Anal dynamic graciloplasty in the treatment of intractable faecal incontinence. *New England Journal of Medicine*. 332, 24, 1600-1605.
- Barisic G et al (2000) The role of overlapping sphincteroplasty in traumatic faecal incontinence. *Acta Chirurgica Iugoslavica*. 47, 4 Suppl 1, 37-41.
- Boccasanta P et al (2001) Which surgical approach for rectocele? A multicentric report from Italian coloproctologists. *Techniques in Coloproctology*. 5, 3, 149-156.
- Enck P (1993) Biofeedback training in disordered defecation: a critical review. *Digestive Diseases and Sciences*. 38, 11, 1953- 1960.
- Engel A et al (1994) Anterior anal sphincter repair in patients with obstetric trauma. *British Journal of Surgery*. 81, 8, 1231- 1234.
- Epanomeritakis E et al (1999) Impairment of anorectal function in diabetes mellitus parallels duration of disease. *Diseases of the Colon and Rectum*. 42, 11, 1394-1400.
- Ganio E et al (2001) Sacral nerve stimulation for treatment of faecal incontinence: a novel approach for intractable faecal incontinence. *Diseases of the Colon and Rectum*. 44, 5, 619-663.
- Jarrett M et al (2003) Sacral nerve stimulation for faecal incontinence: the UK experience. *Colorectal Disease*. 5, 2.
- Kenefick N et al (2003) Effect of sacral nerve stimulation on autonomic nerve function. *British Journal of Surgery*. 90, 10, 1256- 1260.
- Krogh K et al (2001) Colorectal symptoms in patients with neurological diseases. *Acta Neurologica Scandinavica*. 103, 6, 335- 343.
- Lahr S et al (1999) Operative management of severe constipation. *The American Surgeon*. 65, 12, 1117-1121.
- Lehur P et al (1996) Results of artificial sphincter in severe anal incontinence: report of 14 consecutive implantations. *Diseases of the Colon and Rectum*. 39, 12, 1352-1355.
- Malouf A et al (2000) Long-term results of overlapping anterior anal-sphincter repair for obstetric trauma. *Lancet*. 355, 9200, 260- 265.
- Matzel K et al (1995) Electrical stimulation of sacral spinal nerves for treatment of faecal incontinence. *Lancet*. 346, 8983, 1124- 1127.
- McIntyre P Pemberton J (1993) Pathophysiology of colonic motility disorders. *Surgical Clinics of North America*. 73, 6, 1225-1243.

Perry S et al (2002) Prevalence of faecal incontinence in adults aged 40 years or more living in the community. *Gut*. 50, 4, 480-484.

Pinna Pintor M et al (1994) Pudendal neuropathy in diabetic patients with faecal incontinence. *International Journal of Colorectal Disease*. 9, 2, 105-109.

Rosen H et al (2001) Sacral nerve stimulation as a treatment for faecal ncontinence. *Gastroenterology*. 121, 3, 536-541.

Russo A et al (2004) Effects of acute hyperglycaemia on anorectal motor and sensory function in diabetes mellitus. *Diabetic Medicine*. 21, 2, 176-182.

Sneddon D (2001) Continence in multiple sclerosis. *Professional Nurse*. 16, 7, 1241-1244.

Squire R et al (1993) Clinical application of the malone antegrade colonic enema. *Journal of Paediatric Surgery*. 28, 8, 1012- 1015.

Williams N et al (1994) Continent colonic conduit for rectal evacuation in severe constipation. *Lancet*. 343, 8909, 1321-1324.

Zbar A et al (2003) Rectocele: pathogenesis and surgical management. *International Journal of Colorectal Disease*. 18, 5, 369- 384.

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