

# Highly effective new oral therapy for faecal impaction

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## SUMMARY

*We reasoned that relief of faecal impaction could be achieved if a bolus of polyethylene glycol/electrolyte solution was delivered to the caecum over a few hours. Thus, 16 patients with faecal impaction (duration of constipation 5–23 days) were treated in an open study with up to three daily treatments of one litre of polyethylene glycol/electrolyte solution daily, taken orally over 4–6 hours. Complete resolution of impaction, strictly defined, was obtained in 13 patients, and significant improvement in the other three. Only one patient was faecally incontinent and the only side-effect was an increase in borborygmi. Polyethylene glycol/electrolyte solution, given as a treatment dose of one litre daily for up to three days, is a highly effective and acceptable oral therapy for faecal impaction.*

**Keywords:** constipation, faecal impaction, PEG/electrolytes, symptomatic therapy, palliative care.

## Introduction

THE oral administration of polyethylene glycol/electrolyte (PEG/electrolyte) solution increases faecal weight and accelerates the rate of transit of gut contents along the bowel without net electrolyte loss.<sup>1,2</sup> These phenomena have been exploited in the development of a new class of oral laxative.<sup>3,4</sup>

When constipation becomes severe, faecal impaction can result, with a mass of compressed faeces in the rectum and/or sigmoid colon. Standard treatments include various combinations of oral laxatives and enemas and, when these fail, manual evacuation.<sup>5</sup> We reasoned that a bolus of fluid/PEG/electrolytes delivered to the caecum should soften hard faecal masses and, by a bulk effect, produce mechanical stimulation of colonic propulsion, even in severe constipation with impaction.

## Methods

Sixteen patients (seven men, eight women, and one male to female gender re-assignment), age range 26–87 years, were treated in an open study. All were inpatients in a general, teaching hospital; had a history of chronic constipation; had not had a bowel motion for five or more days (mean 8.4 days, range 5–23); and had faecal loading confirmed by clinical examination. Fifteen were being unsuccessfully treated with between one and five laxatives, and all patients were taking other drugs — a mean of 6.8 different drugs per patient, range 2–12.

Each daily treatment was one litre of PEG/electrolyte solution

(110 g PEG) offered as two 500 ml portions to be taken within 4–6 hours. No other laxatives were used; food, fluid, and other medications were not restricted; the duration of treatment (one, two, or three days) was determined by the patient's response to the previous dose. Relief of impaction was judged to have occurred when the patient passed a large or moderate volume of stool. We used a strict definition for complete resolution — passage of stools and disappearance of palpable faecal masses in the abdomen and/or rectum.

The study was approved by the Medicine and Clinical Oncology Subcommittee of the Lothians Ethics Committee.

## Results

The full dose of PEG/electrolyte solution was taken by 12 out of 16 patients on the first day, 6 out of 8 on the second day, and 1 out of 2 on the third day. The others took 50–75% of the dose. Thirteen patients (who had consumed 18 doses) drank the fluid readily in an average of 143 minutes (range 75–300). The remaining three patients (who had 11, 14 and 23 days' constipation before participating in the trial) drank the solution more slowly.

The treatment was highly effective (Table 1). Patients passed moderate or large volumes of soft stool, and 15 of the 16 described the act of defaecation as easy. Only one was faecally incontinent. She had advanced malignancy, spinal metastases, loss of sensation below the waist, and 23 days of absolute constipation before participating in the trial. She passed large volumes of stool after the third treatment and was faecally incontinent for several hours. Her constipation and comfort continued to improve with low dose PEG/electrolyte solution therapy thereafter.

No unexpected adverse effects of the treatment were encountered. The only symptom significantly associated with the treatments was borborygmi; evidence of the action of the drug in stimulating colonic motility.

## Discussion

These results clearly show that PEG/electrolyte solution, given as an oral dose of one litre daily for up to three days, is a highly effective and acceptable treatment for faecal impaction. The age range and disease characteristics of the patients recruited for this trial were wide and typical of the patient mix, from ambulatory to near terminally ill, affected by severe constipation and faecal impaction in day-to-day medical practice. All but one were already receiving ineffective laxative therapy: oral in nine and combined oral and rectal in six. The stools passed by patients after treatment were generally of large volume and soft, and most graded the act of defaecation as easy. Absence of the need to strain at stool may be an important positive safety aspect, particularly in patients with cardio-respiratory disease.

Despite their serious illnesses and frailty, the majority of patients consumed the fairly large volume of the drug with no particular problems. One factor contributing to this may have been that we presented the PEG/electrolyte solution as a 'treatment' rather than just as another drug to be added to the many already being taken.

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**Table 1.** Results of treatment of faecal impaction by oral therapy with PEG/electrolyte solution in 16 patients.

Assessment	Number of patients treated on previous day	Impaction fully resolved (confirmed by examination)	Significant improvement	Still impacted
1	16	6	2 <sup>a,b</sup>	8
2	8	5	1 <sup>a</sup>	2
3	2	1	1 <sup>c</sup>	0

<sup>a</sup>Rectal examination not done to confirm resolution in these two patients. <sup>b</sup>One patient decided to discontinue study; rectal examination showed that there was still stool in the rectum. <sup>c</sup>Patient who was faecally incontinent (see text).

## References

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