

BOWEL MANAGEMENT IN PATIENTS WITH SPINAL CORD LESIONS

SYNOPSIS

The incidence and pattern of bowel involvement in 100 patients with spinal injuries was studied. There were 81 males and 19 females, and 68% of these patients had neurological deficit. There were 20 patients with cervical lesions, 23 with thoracic lesions and 25 with lumbar lesions.

52 patients had abnormal bowel function at the time of admission. 2 had a history of paralytic ileus. Surgery was not carried out on any patient.

All patients regained control of their bowels, and there were no complaints of faecal incontinence. Normal bowel action was reported by 18 patients.

The bowel management of the spinal cord injured patient, at the Department of Rehabilitation Medicine, Tan Tock Seng Hospital, Singapore, is described.

INTRODUCTION

The rehabilitation of patients with spinal cord injuries must include proper bowel training. Bowel control is essential if the patient is to be accepted both socially and at work. The patient must be free from the constant fear of soiling himself, while he makes his physical and psychological adjustment to society.

A regular evacuation of the bowel, with no incontinence must be aimed for. Faecal impaction can lead to subacute intestinal obstruction, and in high cord lesions, constipation can cause autonomic disturbances resulting in headache, sweating and fluctuating blood pressures.

The Department of Rehabilitation Medicine, Tan Tock Seng Hospital, Singapore, was established in 1973 with a bed complement of seventy-seven. 292 spinal cord injured patients were admitted to the department between 1973 and 1980.(1). All patients were followed up regularly at the spinal out-patient clinic after discharge.

This paper describes the bowel management of patients with spinal cord injuries in this department. Its importance in the resettlement of these patients is emphasised, and the results in 52 patients with initial bowel involvement are analysed.

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MATERIALS AND METHOD

100 consecutive patients seen at the Spinal Outpatient Clinic of the Department of Rehabilitation Medicine, Tan Tock Seng Hospital, Singapore, from 5.5.82 were studied. All patients had been previously admitted to the same department for spinal management and rehabilitation.

Details were obtained by structured interview, during outpatient attendances. A retrospective analysis of summaries of case notes and out-patient rehabilitation records was also carried out.

RESULTS

1. Table 1 shows the age and sex distribution of the sample. 71 patients were below the age of 40 years.
2. Table 2 shows the time interval between the date of injury and the interview. 49 patients were interviewed more than 1 year after the injury.
3. 68 patients had a residual neurological deficit. They were classified according to their neurological status as shown in Table 3.
4. Cervical Lesions.
All 5 patients with complete lesions had abnormal bowel action initially. At the time of interview, all 5 needed Sennekot and Agarol every other night, followed the next morning by a Dulcolax suppository and a manual evacuation. There were no complaints of faecal incontinence. 9 patients with incomplete lesions had abnormal bowel action on admission. 4 regained normal bowel movements, 3 needed Sennekot and Agarol followed by a Dulcolax suppository and a manual evacuation the next morning. 2 patients had manual evacuations only every other day in the morning.
5. Thoracic Lesions.
14 out of the 15 patients with complete lesions had initial bowel involvement. 2 had a history of paralytic ileus and were treated conservatively. 3 patients recovered normal bowel action. 4 were on oral aperients only, every other night. 4 others had Sennekot and Agarol every other night and used a Dulcolax sup-

pository the following morning. 1 patient had Sennekot and Agarol every other night and did a manual evacuation the next morning. 2 patients did manual evacuations on themselves every other morning.

6 patients with incomplete lesions had abnormal bowel function at the time of admission. 5 of them reported normal bowel action at the interview. 1 needed Sennekot occasionally.

There were no complaints of faecal incontinence.

6. Lumbar Lesions.

All 6 patients with complete lesions had abnormal bowel action initially. 3 of them required Sennekot, Agarol, a Dulcolax suppository and a manual evacuation every other day. 2 needed Sennekot and Agarol and a manual evacuation occasionally. 1 reported normal bowel action.

12 incomplete lesions had bowel involvement. 5 had regained normal bowel action at the time of interview. 4 patients took Sennekot and Agarol every night, and 2 of these patients did a manual evacuation on themselves when it was necessary. 3 patients needed Sennekot and Agarol occasionally.

There were no complaints of faecal incontinence.

DISCUSSION

52% of the patients studied had abnormal bowel function on admission. All were treated by the method described below. All patients gave a history of varying their drugs and dosages by trial and error until they achieved good bowel control. There were no complaints of faecal incontinence.

18 patients claimed that they had regained normal bowel action. 14 of them had incomplete lesions. Only 2 patients had a history of paralytic ileus during the early stages. Their neurological levels were T8 and T11, and they were both complete lesions. Both were treated conservatively.

The aim of bowel management is to ensure the regular production of a formed stool, without incontinence, either daily or every other day, at the same time each day. Munro(2) in 1953 stated that a conditioned reflex, that will permanently regulate bowel discharge, can be established in the absence of all somatic neural connections between the brain and the

TABLE 1
AGE AND SEX DISTRIBUTION

AGE	0-20	21-30	31-40	41-50	51-60	61-70	70 and above	TOTAL
MALE	15	22	21	9	7	6	1	81
FEMALE	3	6	4	3	1	2	0	19
TOTAL	18	28	25	12	8	8	1	100

TABLE 2
TIME AFTER INJURY SEEN

Time after injury	0-3 months	4-6 months	7-9 months	10-12 months	13-24 months	24 months and above	Total
Number of Patients	11	14	13	13	18	31	100

TABLE 3
NEUROLOGICAL STATUS OF PATIENTS

Neurological Level	Complete Lesions	Incomplete Lesions	Total
C4-C8	5	15	20
T1-T12	15	8	23
L1-L5 and below	6	19	25

spinal cord. Guttman(3) suggested that the establishment of a conditioned reflex defaecation at a regular time each day should be instituted, preferably after a meal, when the gastro-colic reflex can be utilised as an initiator of reflex defaecation.

The immediate effect of spinal cord transection on intestinal function in upper thoracic and cervical lesions is paralysis of peristalsis accompanied by faecal retention resulting from the atonic state of the whole intestinal tract. (4). In lumbo-sacral lesions, the paralysis is of the lower motor neurone type, and the neural connections between the spinal centre, and the sigmoid colon and rectum are cut off. Defaecation in this type of lesion depends on increase of intra-abdominal pressure and digital evacuation.

Some authors, (4,5), suggest that in the initial period of reduced or absent activity in the small intestine, parasympathetic stimulants such as prostigmine be used in the first 2 or 3 days. Others (6) feel that this is usually not necessary, as the smooth muscle peristalsis will begin as soon as the ileus secondary to the spinal shock disappears. We have never used this method in our department. Surgery should be avoided at this stage.

When peristalsis returns, the patient is started on a light diet, and by the 4th or 5th day, mild laxatives and faecal softeners are given. The regime at the Department of Rehabilitation Medicine, Tan Tock Seng Hospital is to give 2 tablets of Sennekot and 15 mls of Agarol every other night. A Dulcolax suppository is inserted the next morning, and this is followed by a manual evacuation.

Evacuation is carried out with the patient lying on his left side supported with sandbags and pillows. A plastic sheet and disposable pad are placed under the buttock. The suppository is inserted into the rectum, as high as the gloved finger can reach, taking care not to over-stretch the anus or damage the rectal mucosa. A warm drink may be given and the rectum will empty itself in 20 to 30 minutes. To ensure complete emptying the gloved finger is inserted into the rectum. The anus contracts and relaxes, when the rectum empties itself.(7)

Although the initial regime is used for all patients, drugs and dosages must be adjusted to suit individual needs. Pre-morbid bowel habits must also be taken into account, and patients usually work out a regime for themselves, finding out the amount of laxatives and suppositories that suit them best.

The paraplegic patient is taught to do his own evacuations

when he is able to sit up and when he has good sitting balance. He should be able to transfer himself to the toilet or commode. A bar or rail should be installed by the toilet so that he can support himself. Accessory methods of stimulation may be used such as the gastro-colic reflex, abdominal straining, abdominal massage or rectal stimulation with the finger (5). Having emptied the colon and the rectum completely, the rectum should remain empty until the colon is stimulated 2 days later.

Spurious diarrhoea is often caused by constipation and faecal impaction. Any change in the diet, drugs, or change in emptying time, can cause impaction and subsequently faecal incontinence. Liquid Paraffin administered for 3 nights, usually clears the impaction. However, larger doses of laxatives and enemas may be necessary.

Successful bowel training is imperative, if good resettlement is to be achieved. It prevents social embarrassment, thus ensuring "full participation and integration" into society.

ACKNOWLEDGEMENT

I would like to thank the Director, Tan Tock Seng Hospital, Singapore, and Dr E S Tan, Head, Department of Rehabilitation Medicine, Tan Tock Seng Hospital.

I would also like to acknowledge the dedicated efforts of the Nursing Officers and Nursing staff of the Department of Rehabilitation Medicine, Tan Tock Seng Hospital, in the care and management of the patients.

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