

척수재활

게시일시 및 장소 : 10 월 19 일(토) 08:30-12:30 Room G(3F)

질의응답 일시 및 장소 : 10 월 19 일(토) 11:00-11:30 Room G(3F)

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Severity of Neurogenic Bowel Dysfunction and its Management in Patients with Spinal Cord Injury

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Introduction

Bowel dysfunction is a significant consequence of spinal cord injury (SCI), leading to fecal incontinence and constipation. Bowel management and its associated problems have increasingly been considered as important factors for community reintegration and quality of life after injury. The purpose of the study is to describe the severity of neurogenic bowel dysfunction and its management in patients with SCI.

Methods

The questionnaire consisted of two sections, neurogenic bowel dysfunction (NBD) score of Krogh et al. and bowel management proposed by Coggrave et al. The survey was conducted inpatient and outpatient with SCI. A correlation between severity, satisfaction, and limitation of daily life was analyzed using a chi-square test.

Results

A total of 38 subjects of SCI were enrolled. Table 1 showed the clinical characteristics of the subjects (30 men, 8 women, mean age 54 ± 15.7 years). The distribution of neurological level of injury in patients was as follows: C-level 17 (44.7%), T-level 13 (34.2%), and L-level 8 (21.1%). A complete injury was 14 (36.9%). The NBD score was 12.84 ± 7.83 in all subjects, and the severity score was 8 (21%) in very minor, 7 (18.4%) in minor, 9 (23.7%) in moderate, and 14 (36.9%). The reported interventions for bowel management are shown in Figure 1. Many responders said more than one intervention was performed. Suppositories were used in 52.6% and they often used in combination with abdominal massage or manual evacuation. The reported problems associated with bowel care are shown in Figure 2. The priority of problems related to bowel care was constipation (17%) and the second priority was abdominal distension (15%). Fifty percent of respondents were dissatisfied or very dissatisfied. Table 2 showed the effect of bowel management on daily activities. More than 60% of respondents said they had limitations in their daily life. In order to examine the effect of severity and satisfaction on daily activities, we evaluated the correlation between severity, satisfaction, and limitation of daily life (Table 3). There was no significant correlation between satisfaction and severity

($p = 0.14$). The level of satisfaction was related to the part of the “It's a problem” ($p = 0.04$) and the “Prevents staying away from home” ($p=0.01$) in daily life, but the severity was not correlated with the limitation of daily life.

Conclusion

For effective bowel management and quality of life improvement in patients with SCI, the management status and main problem of the SCI population must be better known and taken into account. This will provide basic data for the development of rehabilitation programs that can positively affect the bowel management and quality of life in individuals with SCI.

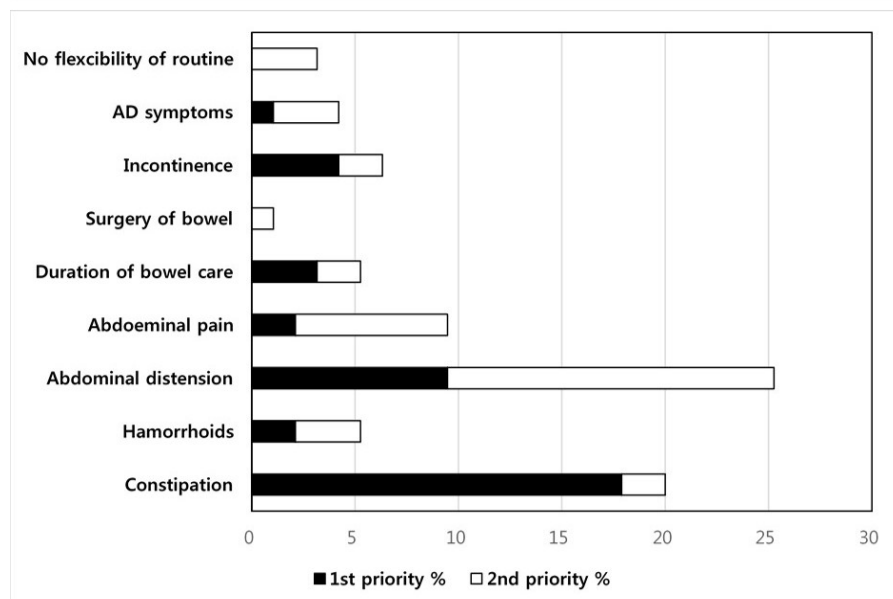
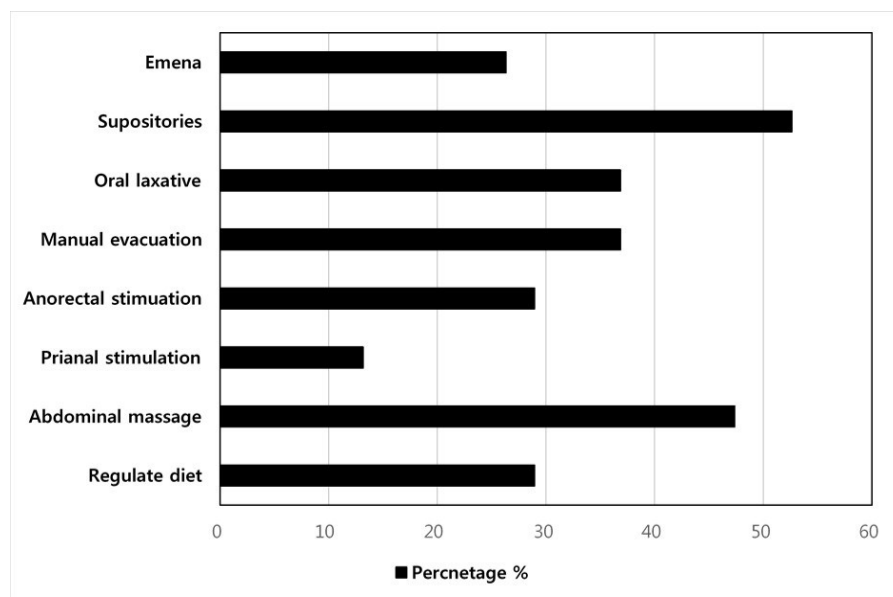


Fig 1 Interventions used for bowel care (multiple responses possible) Fig 2. Reported problem associated bowel care

Table 1 Clinical characteristics of the subjects, n=38

Variables	Categories	n (%)
Age (years)	20~29	3 (7.8%)
	30~39	5 (13.2%)
	40~49	5 (13.2%)
	50~59	11 (28.9%)
	≥60	14 (36.9%)
Gender	Male	30 (79%)
	Female	8 (21%)
Level of injury	C-spine	17 (44.7%)
	T-spine	13 (34.2%)
	L-spine	8 (21.1%)
AIS scale	A	14 (36.9%)
	B	3 (7.8%)
	C	4 (10.6%)
	D	17 (44.7%)
Time since diagnosis (years)	< 2	11 (28.9%)
	2~5	11 (28.9%)
	5~10	5 (13.2%)
	10~20	4 (10.5%)
	≥20	7 (18.4%)
NBD score (range 0–47)	Very minor (0~6)	8 (21%)
	Minor (7~9)	7 (18.4%)
	Moderate (10~13)	9 (23.7%)
	Severe(≥14)	14 (36.9%)

AIS; ASIA impairment scale, NBD; Neurogenic bowel dysfunction

Table 2. Reported effect of bowel management on life activity Tab 3. Satisfaction and NBD severity related life activity

	Not at all	A little	A lot
Fit life around bowel care	14 (36.8%)	8 (21.1%)	16 (42.1%)
Prevents staying away from home	12 (31.5%)	7 (18.4%)	19 (50.1%)
Interference with relationship	13 (34.2%)	6 (15.8%)	19 (50.1%)
It's a problem	6 (15.8%)	9 (23.7%)	23 (60.5%)
Affects social life	11 (28.9%)	9 (23.7%)	18 (47.4%)
Stop me working out side	12 (31.2%)	7 (18.4%)	19 50.1%)

	Satisfaction (p value)	NBD severity (p value)
Fit life around bowel care	0.25	0.61
Prevents staying away from home	0.04	0.29
Interference with relationship	0.5	0.36
It's a problem	0.01	0.55
Affects social life	0.07	0.45
Stop me working out side	0.15	0.29