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SYMPTOMS OF NEUROPATHIC BOWEL DYSFUNCTION AND ITS MANAGEMENT DO NOT RELATE TO LEVEL OF SPINAL CORD INJURY

Hypothesis / aims of study

To characterise bowel dysfunction and its management, with level of injury and completeness, and secondly to relate this to concomitant bladder function.

Study design, materials and methods

A questionnaire was developed in consultation with colorectal specialists, spinal rehabilitation physicians and nurses, and with urologists; it was modified after pre-testing on 5 patients. It included questions on bowel sensation, constipation, incontinence and the details of its management, the need of a carer to assist, and the outcomes of the different aspects of bowel management. Participants gave informed consent and then answered the questions on SurveyMonkey™ on-line, or by postal means if they preferred.

Two groups of patients with different times since injury were identified from Spinal Unit discharge data. Patients were contacted by email or post. A follow-up phone call was needed for some. The most recent urodynamic reports were checked from Unit records. The study design was a non-randomised non-controlled cross-sectional analysis.

Results

Demographics TABLE 1

Time since injury	Group 1(>1 and<3years)	Group 2(20-21 years)
People meeting criteria:	63	64
Deceased:	7	12
Not contactable or Declined	29	23
Participated:	27	29

1. Bowel filling symptoms TABLE 2.

	Cervical (28)				Thoracic(16)				Conus/Cauda(11)				
	A	B	C	D	A	B	C	D	A	B	C	D	Total
Normal	1	0	1	6	1	0	0	1	1	0	1	3	15
Absent	2	1	0	0	5	0	1	1	0	0	0	2	12
Autonomic	4	10	1	1	2	0	1	1	1	0	2	0	23
Missing	1	0	0	0	3	0	0	0	1	0	0	0	5

Note: 'Autonomic symptoms' include feelings of distension, bloating, nausea, vague abdominal pain as well as sweating and headaches as in dysreflexia, and presumably all these are mediated by sympathetic afferents, irrespective of the level of the cord injury.

With symptoms grouped this way, there were no patterns related to level of injury. No relaton was found with results of urodynamic studies.

2. Bowel Incontinence TABLE 3	**Numbers (56)**	**%**
None	19	34
Weekly	5	9
Monthly, or less	27	48
Missing	5	9

3. Constipation or otherwise TABLE 4 Bristol Stool Chart and arbitrary presumptions

Bristol Chart	Cervical (28)				Thoracic(16)				Conus/Cauda(11)				Total
AIS Scale	A	B	C	D	A	B	C	D	A	B	C	D	
Not Constipated.3.4	4	4	1	4	4	0	0	4	1	0	0	2	24
Constipated1.2	2	4	1	3	2	0	0	1	0	1	2	2	17
Loose 5.6.7	2	2	0	1	2	0	0	1	0	0	0	1	9

There were insufficient numbers to link constipation with incontinence

4. Bowel management TABLE 5 ***Bowel emptying methods***

	Cervical (25)				Thoracic(16)				Conus/Cauda(10)				
AIS Scale	A	B	C	D	A	B	C	D	A	B	C	D	Total
No additional	0	2	1	3	0	0	0	0	0	0	1	0	7
Anal Stimulation	1	0	0	0	0	0	0	0	0	0	0	2	3
Manual evacuation:													
No suppositories	2	1	0	2	5	0	1	2	2	1	1	1	18
With suppositories	4	6	1	2	3	0	0	2	0	0	0	2	20

Local anal or digital stimulation can produce a motion by reflex contraction in about half of the patients, but no pattern emerged from the various levels of injury. Similarly about half of the patients needed to use suppositories to promote reflex activity stimulating the rectum or lower bowel, with slightly more in those with higher levels of injury.

5. Carers for Bowel assistance TABLE 6

Carers needed	Cervical (25)				Thoracic(15)				Conus/Cauda(10)			
	A	B	C	D	A	B	C	D	A	B	C	D
Yes (27)	7	8	1	2	1	0	1	1	0	0	1	5
No (27)	1	2	1	7	7	0	1	4	2	1	1	0

More tetraplegic patients needed carer support for their bowel management than those with lower injuries.

6. Bother TABLE 7 Bother from bowel dysfunction or its management

	Cervical (25)				Thoracic (15)				Conus/Cauda (10)			
	A	B	C	D	A	B	C	D	A	B	C	D
No bother (8)	0	1	1	2	0	0	0	0	0	1	1	2
A little (16)	3	4	0	3	2	0	0	3	0	0	0	1
Moderate (20)	3	4	1	1	4	0	1	2	1	0	1	2
Severe nuisance (6)	1	0	0	1	2	0	1	0	1	0	0	0

7. Changes in Bowel function with time since injury TABLE 8.

More than one answer was allowed:	Group 1	Group 2	Total
Same as before injury	20	8	28
Takes longer	7	8	15
More accidents	4	8	12
More bloating	2	8	10
Use enemas etc .			

Interpretation of results

Only about half of those identified in the 2 groups accepted to contribute to the study.

Statistical analysis was not performed in view of the small numbers and the wide range of details obtained.

No distinct correlation between the level or AIS scale, and the presence of symptoms of filling, stool consistency, or bowel incontinence, (Tables 2,3,4,) nor of urodynamic study of bladder function.

Bowel dysfuncton and its management can cause considerable bother to patients and impact on the need for carer support.

Each person needs individual assessment to determine the appropriate care.

It is clear that bowel function changes with time. Table 7

Concluding message

It is not possible to predict the type of bowel dysfunction nor its appropriate management, from either the level or the completeness of a spinal cord injury. Each person needs individual assessment to determine the appropriate care.

Bowel dysfunction and its impact are important and can worsen with time, so that long-term followup is important

The study can be regarded as a pilot study of the nature of neuropathic bowel symptoms after spinal cord injury, and its conservative management.

References

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