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BLADDER AND BOWEL DYSFUNCTION PARALLELS EACH OTHER IN RESPONSE TO TREATMENT WITH NEUROMODULATION.

Aim of Study: Neuromodulation of sacral nerves through S3 foramina is a promising treatment for various forms of voiding dysfunction. Voiding mechanism shares neural pathways with defecation mechanism. Is not surprising that dysfunctional voiders have functional gastrointestinal (GI) disease. We evaluated the impact of neuromodulation on disturbed defecation in patients treated for voiding dysfunction.

Methods: Eleven patients (mean age 39.8, range 34 - 59) underwent permanent implantation of neurostimulator device and unilateral electrode through S3 foramen. The patients were evaluated with quality of life score for voiding dysfunction (1) and with a validated bowel disease questionnaire pertaining to lower GI tract (2) prior to test stimulation and after implantation of a permanent stimulator. Percentage of cumulative values of both questionnaires and percentage of improvement were calculated for each individual.

Results: Eight patients qualified for complete evaluation. Seven patients had refractory urge incontinence (#1 - #7), one had chronic urinary retention secondary to sphincter spasticity (#8). Quality of life score improved with permanent stimulation by 25% and more in 7 patients (88%). The mean improvement was by 11.6 points (54%) from 21.5.9 to 11.6. Only five patients out of 8 had marked fecal dysfunction. Four (80%) out of 5 improved in bowel disease score by 25% and more. The mean improvement was by 3.6 points (28%) from 12.8 to 9.2. One patient with fecal and voiding dysfunction did not improve in either, five patients with concomitant fecal and urinary dysfunction improved in both. Their data are summarized in Table 1.

Table 1: Severity of voiding and bowel dysfunction before neuromodulation and improvement after permanent implantation in score points (percentage). QLS = Quality of Life Score

Pt	Voiding dysfunction (QLS)			Bowel dysfunction score		
	Before	After	Improved by	Before	After	Improved by
#1	19 (42%)	9 (7%)	10 (84%)	12 (67%)	8 (44%)	8 (44%)
#2	10 (22%)	1 (2%)	9 (90%)	8 (44%)	6 (33%)	6 (33%)
#3	31 (69%)	7 (16%)	24 (74%)	13 (72%)	6 (63%)	6 (33%)
#4	23 (51%)	6 (13%)	17 (74%)	0	0	0
#5	26 (58%)	19 (42%)	7 (27%)	16 (89%)	12 (67%)	12 (67%)
#6	29 (64%)	27 (60%)	2 (7%)	15 (83%)	14 (78%)	1 (7%)
#7	21 (46%)	7 (16%)	14 (67%)	0	0	0
#8	22 (49%)	8 (18%)	14 (64%)	0	0	0

Conclusion: In our experience patients undergoing sacral nerve stimulation for voiding dysfunction, improvement in voiding dysfunction parallels improvement in bowel symptoms. Likewise, failure of response was concurrently seen in both organ systems. The trends need to be validated statistically in larger patient population. These finding further emphasize the shared neural pathway of voiding and defecation.