

## SACRAL NEUROMODULATION IN PATIENTS WITH COMBINED MICTURITION AND DEFECATION SYMPTOMS

### Hypothesis / aims of study

Functional disorders of the lower urinary tract often coexist with defecation disorders and sexual disorders. Anatomically, the bladder, anorectum and reproductive organs are closely related and all depend on the integrity and coordination of the pelvic floor muscles. A combination of evacuation disorders (urinary retention, obstipation) as well as storage disorders (urinary and fecal incontinence) can occur. Although evacuation and storage disorders are often seen as separate entities, combined symptoms of urinary storage and bowel evacuation (or vice versa) also occur. Sacral neuromodulation (SNM) is an effective treatment for both patients with urinary and defecation disorders. In this study, we evaluated the clinical results of SNM in patients with combined symptoms.

### Study design, materials and methods

In this single centre observational study we included all patients with combined micturition and defecation disorders that were treated with SNM in our institute between 2008 and 2013. All patients were primarily treated for their micturition symptoms. Primary outcome measure was improvement in leakage, defined as greater than 50% improvement in episodes of urine leakage and severity of leakage or an improvement in the fecal incontinence or constipation episodes. At routine annual control at the outpatient clinic the patients who received the definitive SNM implant were asked about their satisfaction.

### Results

In total 105 patients were included who were tested for SNM treatment in the period between 1997 and 2014. Of all patients, 81 were female and 24 male. The primary (urinary) symptom was OAB (wet or dry) in 68 patients and non-obstructive urinary retention in 37 patients. The secondary (fecal) symptom was FI in 37 patients and constipation in 59 patients. Six patients reported both FI and constipation and 3 had other (urgency, anorectal pain) fecal problems. Table 1 summarizes the combination of micturition and fecal symptoms at baseline.

**Table 1. Combination of urinary and fecal symptoms at baseline**

		Urinary symptoms		Total
		Retention	OAB	
Fecal symptoms	Fecal incontinence	5	32	37
	Obstipation	30	29	59
	Both	2	4	6
	Other	0	3	3
Total		37	68	105

Forty-three patients were first tested with a PNE procedure, this was successful in 28 (65.2%) patients. Ninety-one TLP procedures were performed, 77 were 2-stage procedures and 14 single-stage procedures. Of all tested patients 59 (56.2%) were implanted with a definitive system. In 39 patients there was a successful result for only urinary symptoms, in 15 patients there was a successful result for both symptoms and in 2 only for their fecal symptoms. Table 2 shows the results of all patients tested with TLP, stratified by combination of symptoms.

**Table 2. Success rate of TLP test stimulation, stratified by combination of urinary and fecal symptoms**

Combination of symptoms	TLP success		% success
	yes	no	
UR + FI	1	3	25%
UR + constipation	11	15	42%
UR + both	1	1	50%
OAB + FI	19	9	68%
OAB + constipation	19	7	73%
OAB + both	3	0	100%

### Interpretation of results

In our study, 56% of all patients successfully responded to test stimulation and underwent implantation with a permanent device. A quarter of patients showed >50% improvement in both urinary and fecal symptoms. Although this rate might seem low, these patients have a clinically significant reduction in both symptoms, most probably leading to a high overall satisfaction and quality

of life. As far as we know, there is no other single-modality treatment that can have this impact in patients with combined urinary and fecal symptoms. We found the highest response to TLP in patients with OAB as the primary complaint

#### Concluding message

SNM is feasible treatment option for patients with combined micturition and defecation disorders. Patients with combined symptoms who experience OAB might be the better candidates for SNM.

#### Disclosures

**Funding:** WAMU foundation **Clinical Trial:** Yes **Public Registry:** No **RCT:** No **Subjects:** HUMAN **Ethics Committee:** METC Maastricht **Helsinki:** Yes **Informed Consent:** Yes