

## SACRAL NERVE MODULATION IN PATIENTS WITH FAECAL INCONTINENCE: 9 YEARS FOLLOW-UP FROM A SINGLE CENTER

### Hypothesis / aims of study

Sacral nerve modulation has been shown to be effective in treating patients with faecal incontinence. The treatment is minimally invasive and can be performed in local anesthesia. The aim of this retrospective study from a single centre was to evaluate efficacy of sacral nerve modulation (SNM) in a large series of patients with faecal incontinence.

### Study design, materials and methods

This study is a retrospective evaluation of Sacral Nerve Modulation over a 9 year period.

Sacral nerve modulation was performed in 286 consecutive patients, 253 women and 33 men, between April 2004 and December 2013. Median age of the patients was 61,2 years (range 21,7 – 87,9 years). 162 patients had idiopathic faecal incontinence, 54 patients had previous sphincter rupture from childbirth, 7 patients had irradiation injury to the rectum or anal canal, 23 patients had previous anal og rectal surgery, 32 patients had neurological disease or disc prolapse and in 8 patients no information could be found. All patients received best conservative care before operation according to a standard algorithm. St. Marks Incontinence Score and anorectal physiology testing including anal manometry and rectal volume tolerability was performed at baseline and 3 months after operation.

### Results

All patients underwent testing for 3 weeks with either temporary wires or the tined lead. Patients with reduction of symptoms were offered implantation of a permanent stimulator. Overall, in 219 patients (76.5%) a definitive implantation of a stimulator was performed. In 67 patients, there was no improvement of symptoms to SNM during testing. Implantation rate was 72.4% in patients over 70 years of age and 78.4 in patients under 70 years of age, however this difference was not significantly different (Fischers exact test). In patients who were implanted, St. Marks incontinence score decreased from 17.6 (16.1-19.3, 95% C.I.) at baseline to 9.7 (5.6-13.8, 95% C.I.) 3 months after implant,  $p < 0.001$ , t-test. Number of defaecations per week decreased from 23.9 (21.2-26.6, 95% C.I.) at baseline to 13.7 (12.2-15.2, 95% C.I.) 3 months after implant,  $p < 0.001$ , t-test. Incontinence episodes per week at baseline decreased from 5.5 (3.9-7.1, 95% C.I.) to 1.3 (0.8-1.9, 95% C.I.) at 3 months after implant.

Results of anorectal physiology measurements are summarized in Table 1.

Table 1

Anorectal physiology	Baseline (95 % C.I. for mean)	After SNM (95 % C.I. for mean)	P (t-test)	
Resting pressure (mmHg)	76.2 (70.3-82.1)	79.2 (73.8-84.6)	NS	were had a
Squeeze pressure (mmHg)	113 (104-122)	122 (113-131)	NS	
First sensation of content (ml)	35.6 (30.2-41.0)	33.2 (29.1-37.2)	NS	
Desire to defecate (ml)	72.3 (65.8-78.9)	70.7 (65.7-75.6)	NS	
Maximum tolerable volume (ml)	123 (114-131)	124 (117-131)	NS	

reoperation. The most common complications to implantation was repositioning of the electrode (N=16) or the stimulator (N=17) due to pain. Removal of the stimulator was done in 10 patients (6 patients with no function, 3 due to planned MRI-scanning and one patient the battery was out).

### Interpretation of results

Sacral Nerve Modulation was found to be successful in treating patients with faecal incontinence if testing showed improvement of symptoms. Overall, more than 75% of patients will benefit from this treatment irrespective of age. After implantation of the stimulator, the number of incontinence episodes and defaecation as well as incontinence score decreased significantly, whereas no difference in anal physiology testing was found.

### Concluding message

Sacral Nerve Modulation for treatment of faecal incontinence is effective with long lasting efficacy. Up to 20% of patient will have a reoperation.

### Disclosures

**Funding:** No funding **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** This is a retrospective study **Helsinki not Req'd:** This is a retrospective study **Informed Consent:** No