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SACRAL NERVE MODULATION IN PATIENTS WITH CONSTIPATION: 5 YEARS FOLLOW-UP FROM A SINGLE CENTER

Hypothesis / aims of study

Sacral nerve modulation has in studies been shown to be effective in treating patients with constipation. 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 severe constipation.

Study design, materials and methods

This study is a retrospective evaluation of Sacral Nerve Modulation over a 5 year period.
Sacral nerve modulation was performed in 77 consecutive patients, 66 women and 11 men, between February 2006 and October 2011. Median age of the patients was 45 years (range 17 – 76 years). 55 patients had slow transit constipation and 22 patients had normal transit constipation. All patients received best conservative care before operation according to a standard algorithm. Cleveland Clinic Constipation Score and anorectal physiology testing including anal manometry and rectal volume tolerability was performed at baseline and 3 months after operation.

Results

77 patients underwent testing for 3 weeks with temporary wires. In 10 patients the test was inconclusive, why the test was repeated with a tined lead. Patients with reduction of symptoms were offered implantation of a permanent stimulator. Overall, in 41 patients (53%) a definitive implantation of a stimulator was performed. In 36 patients, there was no improvement of symptoms to SNM during testing. In 55 patients who had slow transit constipation, 30 (54%) had a permanent implant whereas in 22 patients with normal transit constipation, 11 (50%) had a permanent implant. No difference between slow transit and normal transit constipation was found, p=0.80 (Fishers Exact test). In patients who were implanted, Cleveland Clinic Constipation score decreased from 14.9 (7.4 – 22.4, 95% C.I.) at baseline to 9.5 (3.5 – 15.5, 95% C.I.) p< 0.001, t-test.

Results of anorectal physiology measurements are summarized in Table 1.

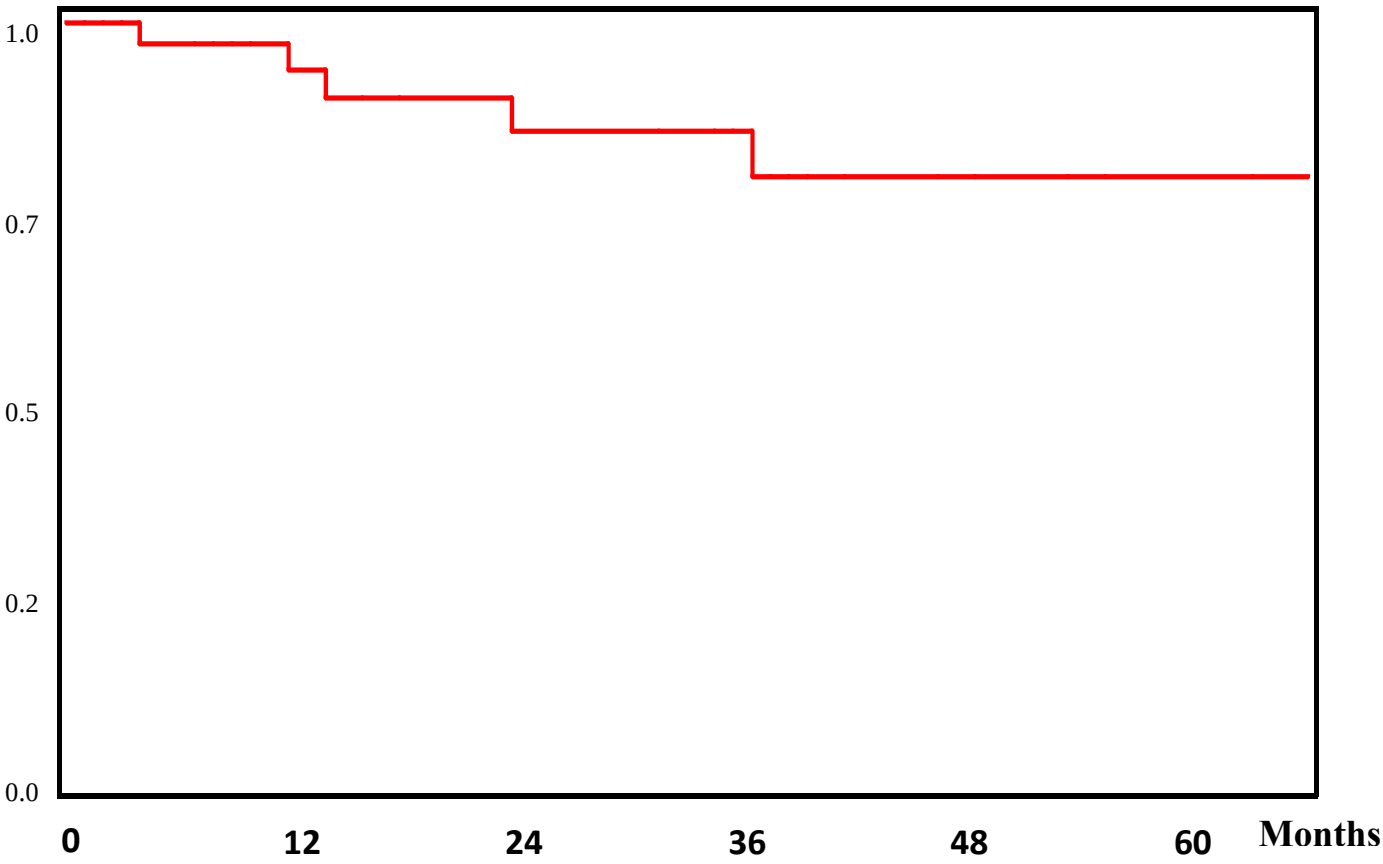
Table 1

Anorectal physiology	Baseline (95 % C.I. for mean)	After SNM (95 % C.I. for mean)	P (t-test)
Resting pressure (mmHg)	129 (114 – 144)	128 (108 – 148)	NS
Squeeze pressure (mmHg)	187 (155 – 219)	194 (172 – 216)	NS
First sensation of content (ml)	60.5 (46.1 – 74.9)	37.8 (26.4 – 49.2)	P< 0.05
Desire to defecate (ml)	120 (94 – 146)	103 (85 – 121)	NS
Maximum tolerable volume (ml)	186 (153 – 219)	178 (144 – 212)	NS

Complications to implantation was removal of the stimulator in 5 patients (3 no function, one due to planned MRI-scanning and one due to skin problems), 2 patients had the stimulator repositioned due to pain and in 7 patients the electrode was replaced due to pain or decreased function.

Figure 1 shows the survival curve for the implanted stimulators.

Patients with constipation:



At risk	29	21	17	5	1
Removed	1	3	4	5	5

Interpretation of results

Sacral Nerve Modulation was found to be successful in treating patients with severe constipation if testing showed improvement of symptoms. Overall, 45% of patients will benefit from this treatment, which is acceptable since these patients have poor quality of life. After implantation of the stimulator, constipation score decreased significantly in both groups. Anal manometry showed an volume for first sensation of content in the rectum, which may explain the improved ability to defecate.

Concluding message

Sacral Nerve Modulation for treatment of severe constipation is effective with long lasting efficacy. However, only after testing showed improvement of symptoms.

Disclosures

Funding: Michael Sorensen is a member of the European Advisory Board on Interstim treatment (Medtronic) Teaching (Medtronic) **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** This was a retrospective study **Helsinki:** No **Helsinki not Req'd:** Patients were not asked if they wanted to participate in this retrospective study **Informed Consent:** No