

Abstract 130: Long-term outcomes following Sacral Nerve Stimulation in patients with Severe Constipation

Meskin, F., Thin, N.N., Bearn, P.E

Department of Colorectal Surgery, Ashford and St. Peter's Hospitals NHS Foundation Trust, Surrey, UK

Introduction

Sacral nerve stimulation (SNS) has previously been used as a therapy for constipation. Studies have reported varying efficacy at both medium and long-term follow-up^{1,2,3}. In recent years, NICE guidance no longer recommends SNS for slow-transit constipation or patients with predominant constipation/rectal evacuatory disorders (RED) in the UK.

As a regional implant centre, our patient cohort dates back to 2011, allowing detailed review of a subgroup of patients treated with SNS for constipation and/or RED to assess long-term follow-up outcomes and treatment efficacy.

Methods and Materials

- Study design: retrospective audit of prospectively collected data
- Between 2011 to 2018, 14 consecutive patients with severe medically refractory constipation/RED were included in the study.
- All 14 were assessed and deemed suitable for SNS treatment. All had maximized conservative management and had been discussed in the local pelvic floor MDT.
- SNS was performed in all 14 patients by the standard 2-stage technique - Peripheral Nerve Evaluation (PNE) then permanent implantation.
- Long-term clinical outcomes of patients who went on to permanent implantation were collected.
- Study endpoints were selected from a previous study by Maeda *et al.*³ of clinical outcomes and reportable events in SNS patients treated for faecal incontinence.
- Outcomes were classified into three ordinal categories: good (less than 5 reportable events), acceptable (multiple reportable events +/- adjunctive treatments) and sub-optimal (discontinuation of therapy).
- Reportable events were collected prospectively as 'open label' including suboptimal therapeutic responses, adverse events and other events related to the SNS that required additional clinical management.
- All patients were clinically reviewed at latest follow-up point in February 2022. Wexner and Patient Satisfaction Likert Scores were collected and compared to pre-implantation levels.
- Statistical analysis was undertaken on paired data sets using Wilcoxon rank correlation for non-parametric data. Analysis was undertaken on Graphpad Prism® software.

Results

14 patients (13 female, 1 male, median age 43.3 years) were identified: 4 were diagnosed with slow-transit constipation and 10 with mixed rectal evacuatory disorder. Median follow-up was 8.3 years.

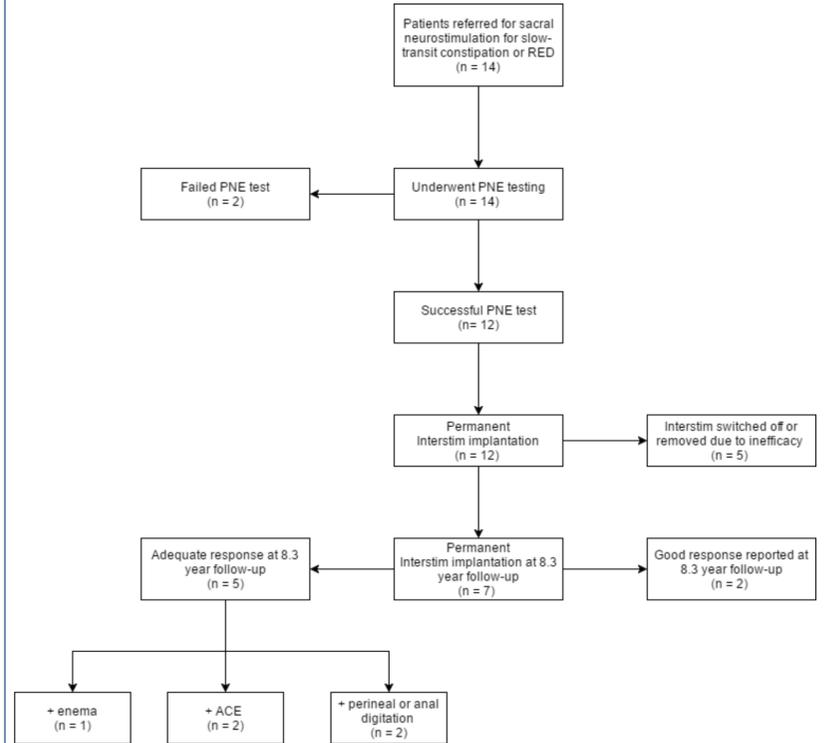


Figure 2 Consort diagram of SNS-treated constipation and RED patient cohort

Clinical Outcome	N	%
Good	2	16
Adequate	5	42
Suboptimal	5	42

Table 1 Clinical outcomes classifying therapeutic efficacy. Resolution of symptoms with no additional therapies was identified as a 'good' outcome. The requirement for adjunct therapy and reprogramming was deemed an 'adequate' response.

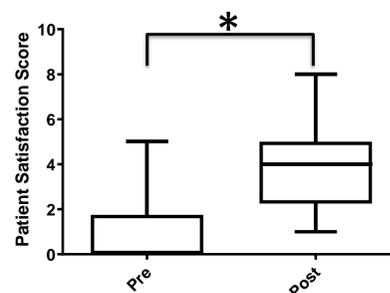


Figure 3A Patient Satisfaction score reduction identified in SNS-treated patients (n=12) (stat. significant p<0.05)

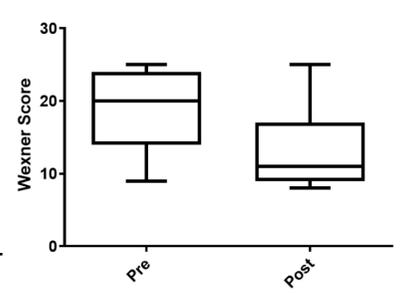
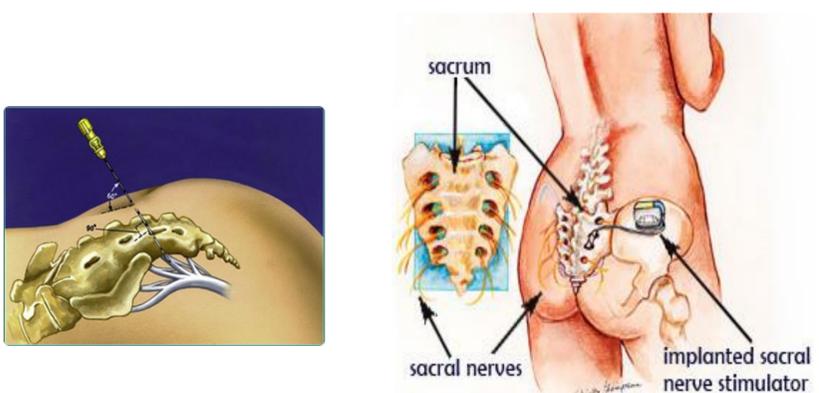


Figure 3B Pre- and post-implantation Wexner scores (n=12). A reduction is observed from 18 to 13.

Conclusions

Although our series contains only 12 patients, the findings suggest that SNS as a therapy for slow-transit constipation/RED may not be as effective compared to faecal incontinence. 17% of patients reported a good outcome with no additional therapies required for symptomatic improvement, in keeping with other published data. Long-term clinical outcomes do however, reflect a significant improvement in patient satisfaction. With few patients experiencing long-term benefit from SNS as a standalone therapy, the majority will have continued reportable events to ensure continuous optimised therapy.

Our data reflects one of the longest follow-up periods reported. We were unable to identify a correlation between therapeutic efficacy, patient factors and investigative parameters.



Temporary stimulation
PNE
Operation 1

Permanent stimulation
Device and timed lead implantation
Operation 2

Successful 2-week evaluation

References

- Gortazar de las Casas, S., Rubio-Pérez, I., Saavedra Ambrosy, J. *et al.* Sacral nerve stimulation for constipation: long-term outcomes. *Tech Coloproctol* **23**, 559–564 (2019).
- Govaert B, Maeda Y, Alberga J, Buntzen S, Laurberg S, Baeten CG. Medium-term outcome of sacral nerve modulation for constipation. *Dis Colon Rectum*. 2012 Jan;55(1):26-31
- Maeda Y, Lundby L, Buntzen S, Laurberg S. Sacral nerve stimulation for constipation: suboptimal outcome and adverse events. *Dis Colon Rectum*. 2010 Jul;53(7):995-9.