

PERIPHERAL NEUROMODULATION OF THE S3 IMPROVES BLADDER CAPACITY AND REDUCES PERCEPTION OF URGENCY IN PATIENTS WITH OVERACTIVE BLADDER .

Hypothesis / aims of study

An urgency and frequency syndrome due to an overactive bladder can successfully be treated by efferent nerve stimulation of the S3 spinal regions that affect bladder control, with a minimal invasive transcutaneous access to the posterior tibial nerves. This technique so called SANS (Stoller afferent Nerve Stimulation) named after its inventor, urologist , Marshall Stoller, born in Canada in 1989 . SANS is used by urologists and gynaecologists to treat urinary urge incontinence, urgency, frequency, and pelvic pain.

The SANS device works by sending a mild electrical current through a very fine needle inserted near a nerve bundle in the ankle (posterior tibial nerve) .. Patients normally receive one 30 minutes nerve stimulation session weekly for 10 to 12 weeks. . The aim of this study was to investigate efficacy of SANS in a group of patient affected by frequency- urgency syndrome due to overactive bladder.

Study design, materials and methods

64 patients (46 women and 18 men), mean age 56 years (range 34-70) suffering from urgency-frequency syndrome, as documented by a voiding chart and an urodynamic study, performed according the ICS recommendation, were diagnosed with overactive bladder.

The patients were treated with 12 peripheral stimulations with Stoller Afferent Nerve Stimulator (SANS) utilising a minimal invasive transcutaneous access to the posterior tibial nerves.

The patients before and after treatment filled a voiding diary, SF36 questionnaire, subject's perception of bladder condition, subject's perception of urgency and at the end of treatment the subject's perception of treatment benefit. The frequency of treatment was 3 times/week for 12 weeks.

The follow-up was a mean 9,5 months post treatment.

Results

One patient suspended treatment for leg pain. No others complications were observed. 21 patients (33,3 %) had a complete response and were considered cured; 30 pts (50 %) showed significant improvement; and 12 pts (16,7%) were classified as non-responders, according to the subject's perception of treatment benefit.

Interpretation of results

Urodynamic evidence of bladder over activity, present in all patients before to the treatment, was eliminated in 35 % of patients. In all patients, mean (SD) total bladder capacity increased significantly from a 155 (50-259) to 230 (85-400) ml ($p < 0.001$).

In the 75 % of patients the treatment reduced the perception of urgency.

We obtained also a decrease in the number of pads per day.

Concluding message

Also considering a short follow-up, our experience with SANS in the treatment of urgency-frequency syndrome is satisfactory. According to the literature, the use of SANS in the treatment of overactive bladder in efficacy, safety and low expansive and increases significantly the bladder capacity and reduced the perception of urgency and we evaluate this treatment of first line after a medical therapy's failure.

References

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<i>What were the subjects in the study?</i>	HUMAN
<i>Was this study approved by an ethics committee?</i>	No
<i>This study did not require ethics committee approval because</i>	this therapy is in our protocol
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	Yes