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SACRAL NEUROMODULATION: A VALUABLE TREATMENT FOR NEUROGENIC LOWER URINARY TRACT DYSFUNCTION?

Hypothesis / aims of study

Treatment of neurogenic lower urinary tract dysfunction (LUTD) is a challenge because conventional therapies often fail. Sacral neuromodulation (SNM) has become a well established therapy for refractory non-neurogenic LUTD but its value in patients with a neurological cause is unclear.
Thus, we aimed to systematically review the efficacy and safety of SNM for neurogenic LUTD.

Study design, materials and methods

This systematic review was done according to the PRISMA statement. We systematically searched PubMed, EMBASE, and ScienceDirect databases and hand searched the reference list of all included studies and of any relevant review articles. SNM articles were included if they reported on efficacy and/or safety of tested and/or permanently implanted patients suffering from neurogenic LUTD. Two reviewers independently selected studies, assessed their methodological quality, and extracted data.

Results

Of the 26 independent studies (357 patients) included, the evidence level ranged from 2b to 4 according to the Oxford Centre for Evidence-based Medicine. Half (n=13) of the included studies reported data on both test phase and permanent SNM, the remaining were confined to test phase (n=4) or permanent SNM (n=9). SNM testing was successful in 63% (161/256) of the patients and 2% (6/256) had an adverse event (none required surgical revision). Overall, 224 patients underwent neuromodulator implantation and SNM was still successful in 76% (171/224) at a mean last follow-up of 26 months. During/following neuromodulator implantation, 31% (69/224) of the patients had an adverse event and 20% (44/224) underwent surgery because of adverse event.

Interpretation of results

There is evidence indicating that SNM may be effective and safe for the treatment of patients with neurogenic LUTD. However, the number of investigated patients is low and there is a complete lack of randomised controlled trials.

Concluding message

At this time, no definitive conclusions can be drawn from the available evidence regarding the general use of SNM for neurogenic LUTD. Well-designed, adequately powered studies are urgently needed before more widespread use of SNM for neurogenic LUTD can be recommended.

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Is this a clinical trial?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**No**
This study did not require ethics committee approval because	**not needed**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**