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LONGTERM RESULTS AFTER 36 MONTHS FOR CHRONIC BILATERAL NEUROMODULATION

Aims of Study

Sacral root neuromodulation can be a beneficial treatment option in patients suffering from therapy-resistant detrusor instability or detrusor hypocontractility.

The implantable neuromodulation system as described by Tanagho and Schmidt enables unilateral sacral nerve stimulation. The electrode is inserted unilaterally into the sacral canal via the sacral foramen (S3). Reports have been made on sacral neuromodulation failures of up to 50% in patients undergoing this procedure.

We preferred bilateral electrode implantation and tailored laminectomy in order to achieve better effectivity of the chronic sacral neuromodulation.

Methods

After assessment of the beneficial effect by means of PNE test, 32 patients (18 with detrusor instability, 14 with hypocontractile detrusor) underwent tailored laminectomy for bilateral electrode placement. Minimally invasive laminectomy was performed. The electrodes were bilaterally positioned. Laminectomy allows optimum electrode placement and fixation.

Results

In the patients with detrusor instability the incontinence episodes were reduced from 8.6 to 0.9 per day and the bladder capacity improved from 270 to 375 ml. In patients with hypocontractile detrusor, the initial residual urine level of 340 ml (170 to 489) dropped to 54 ml (40 to 66). Maximum detrusor pressure during micturition rose from initially 12 cmH₂O (7 to 15) to 36 cmH₂O (29 to 48). The average followup period was 36 months. There was no sign of deterioration in the effect of modulation in any of the patients.

Conclusions

Chronic sacral bilateral neuromodulation results in optimal longterm results in either hyper- or hypocontractile detrusors.