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CHRONIC BILATERAL SACRAL NEUROMODULATION IN PATIENTS WITH BLADDER DYSFUNCTION

INTRODUCTION AND OBJECTIVES: Sacral root neuromodulation can be a beneficial treatment option in patients suffering from therapy-resistent 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 in order to achieve better effectivity of the chronic sacral neuromodulation.

MATERIAL AND METHODS: After assessment of the beneficial effect by means of PNE test, 20 patients (14 with detrusor instability, 6 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 7.2 to 1 per day and the bladder capacity improved from 280 to 350 ml. In patients with hypocontractile detrusor, the initial residual urine level of 350 ml (180 to 468) dropped to 58 ml (38 to 79). Maximum detrusor pressure during micturition rose from initially 12 cmH_2O (8 to 15) to 34 cmH_2O (28 to 45). The average followup period was 13.5 months. There was no sign of deterioration in the effect of modulation in any of the patients.

CONCLUSIONS: Bilateral electrode implantation results in optimal neuromodulation in either hyper- or hypocontractile detrusors.

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