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Ceresoli A S[1], Guarneri A[1], Finkelberg E[1], Tondelli E[1], Cazzaniga A[1], Grasso Macola G[1]
1. *Ospedale San Giuseppe of Milan - Unit of Urology*

OVERACTIVE URINARY INCONTINENCE AFTER RADICAL PROSTATECTOMY: PRELIMINARY REPORT AFTER 14 CONSECUTIVE CASES TREATED WITH SACRAL NEUROMODULATION

Hypothesis / aims of study

Urinary incontinence (UI) following radical prostatectomy is mainly attributed to sphincter impairment. Any the urge incontinence component can be determined after an appropriate "restitutio ad integrum" of the sphincter function. The experimental model available in clinical practice is represented by patients who have undergone a prostatectomy, with a residual urinary incontinence following the implant of perineal bulbourethral sling. The partial effect achieved after this surgery could be due to the presence of minor or latent functional bladder dysfunction, which becomes dominant after the surgical correction of the sphincter defect. The rationale of this analysis is the evaluation of the efficacy of sacral neuromodulation (SNM), as treatment for urge urinary incontinence in patients who have undergone a perineal bulbourethral sling implant after prostatectomy.

Study design, materials and methods

From January 2010 to December 2011, 14 patients, previously undergone to radical prostatectomy, and implanted with a perineal bulbourethral sling (2) with postoperative residual incontinence of medium-low degree, were subjected to sacral neuromodulation (InterStim – Medtronic) after a complete urodynamic evaluation (3). Bladder diaries and ICIQ-SF questionnaires were completed before and post SNM implant at 3 months follow up. At the 3-months follow-up visit, was recorded also the Patient's Global Impression of Improvement in their UI condition (1).

Data were subjected to a Student's T –test for paired samples for analysis of statistical significance.

Results

A completed overall efficacy was observed in 21% of patients and a partial (≥ 50%) efficacy in the 64%.

The average pad test decreased significantly from 378 ± 304 ml /day to 158 ± 210 ml/day ($p=0.004$) and also the pads' number was reduced significantly from 4.4 ± 2.6 to 1.8 ± 1.7 ($p=0.002$). The ICIQ-SF score decreased significantly from 15.7 ± 3 a 9.9 ± 4.13 ($p<0.001$). Three patients achieved a complete response (CR), 2 patients a partial response (PR) of 75%, seven patients of 50% and 2 patients remained unchanged.

Stratifying according the bladder compliance before the neurostimulation implant, 6 patients (Group 1) had a normal bladder compliance, and 8 patients (Group 2) had a reduced compliance (less than 10ml/cm H_2O). After SNM, the improvement of pad test, pads' number, nicturia and quality of life resulted statistically significant ($p < 0.05$) in Group 2 (patients with a reduced compliance) while in Group 1 only the change in pads' number was significant ($p > 0.05$).

Interpretation of results

The improvement of 50% in urinary leakage in 85% of patients treated shows the potential effectiveness of NMS as treatment of the urge incontinence component post-radical prostatectomy. A relationship was found between reduced bladder compliance and efficacy of the therapy, considering the number of urinary incontinence episodes and the improvement of quality of life measured, respectively, with pad test and ICIQ score.

Concluding message

In this series of patients, the residual UI was treated effectively with NMS especially when the urodynamic evaluation, performed after the implantation of the sling perineal bulb, showed a reduction in bladder compliance. A longer follow up is necessary to evaluate the durability of the effectiveness of this method and to confirm the bladder compliance as predictive factor for the clinical efficacy of SNM as treatment of UI in men who have undergone a prostatectomy.

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Disclosures

Funding: NONE **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** it is a retrospective evaluation of data from the clinical practice **Helsinki:** Yes **Informed Consent:** Yes