

## IMPACT OF SACRAL NEUROMODULATION ON FEMAL SEXUAL FUNCTION

### Hypothesis / aims of study

Sacral neuromodulation (SNM) has proven to be an effective treatment modality for voiding dysfunctions that are refractory to conservative treatment, particularly urgency frequency (UF), urge urinary incontinence (UUI) and idiopathic nonobstructive urinary retention.

To date few studies<sup>1,2</sup> are available to evaluate the impact of SNM on female sexual function. The aim of this study is to prospectively assess changes in the sexual function of female patients and in the general quality of life after SNM for lower urinary tract dysfunction (only storage symptoms) and their possible correlation with the urinary symptoms improvement.

### Study design, materials and methods

Between May 2003 and February 2008 we evaluated the impact on sexual function in 26 consecutive female patients (median age 53 (35-79) years) undergoing SNM definitive implant for UUI and UF. Of those, 14 patients were sexually active before implantation and considered eligible for the study. All patients completed the Female Sexual Function Index (FSFI)<sup>3</sup>, the status of health questionnaire (SF36) and the bladder diary at baseline and at a mean of 16,4 months postoperatively. The FSFI questionnaire score, the SF36 score and the bladder diary were analyzed to correlate clinical outcome with the quality of life index.

### Results

All patients reported either a general improvement in sexual function (78.5%; n=11) or remained unchanged (21.5%; n=3). No patient reported a worsening of symptoms in any FSFI domain. FSFI overall scores improved after the procedure (53.3%). Significant improvements were noted in five out of six FSFI domains: desire (p=0.002), arousal (p=0.002) satisfaction (p=0.02), lubrication (p=0.002) and orgasm (p=0.0006). The only parameter without significant improvement was pain (p=0.1).

Considering the bladder diary the average number of leaking and the average number of voids decreased respectively from 4.2+-2.1 to 1.2+-0.6 (p<0.001) and from 15.1+-3.9 to 7.2+-1.9 (p<0.001). The mean voided volume increased from 153.4+-43.6 ml to 299.4+-28.2 ml (p<0.001).

The SF36 physical score and mental score improved significantly respectively from 44+-11 to 68+-17 (p=0.0006) and from 35+-17 to 69+-14 (p<0.001).

Intra-patient absolute differences in FSFI total score, incontinence episodes (IE), frequency and voided volume were calculated between baseline and the last follow up. Improvement of FSFI total score is significantly correlated with differences in IE (Spearman's Rho = -0.849, p<0.001), frequency (Spearman's Rho = -0.578, p=0.030) and voided volume (Spearman's Rho = 0.655, p=0.011).

### Interpretation of results

Our study highlights a significant correlation between the improvement of female sexual function and of urinary symptoms. Of particular interest is the finding that >50% of the patients undergoing NMS implantation demonstrated a significant improvement of QOL and sexual function and that none experienced a decrease.

Our results show that the changes of sexual function could be a direct effect of the overall improvement of urinary symptoms although the increase of the quality of life index might as well play a role.

### Concluding message

SNM improves the quality of sexual function in female patients with urgency/frequency and urge urinary incontinence. A better understanding of female sexual function and further studies about the mechanism of action of SNM are needed. The correlation among them will be useful to delineate the influence of this treatment on sexual function not excluding the hypothesis that the nerve stimulation could have a direct effect on sexual function independent of its impact on urinary symptoms.

### References

- 1 Int. Urogynecol J (2007) 18:391-395
- 2 Colonrectal Dis 7(5):523-525
- 3 J Sex Marital Ther 29(1):39-46

<b>Specify source of funding or grant</b>	<b>Nothing.</b>
<b>Is this a clinical trial?</b>	<b>No</b>
<b>What were the subjects in the study?</b>	<b>HUMAN</b>
<b>Was this study approved by an ethics committee?</b>	<b>No</b>
<b>This study did not require ethics committee approval because</b>	<b>It is a prospective observational study that doesn't require any change in clinical practice. All patients approved and signed the informed consent.</b>
<b>Was the Declaration of Helsinki followed?</b>	<b>Yes</b>
<b>Was informed consent obtained from the patients?</b>	<b>Yes</b>