ORIGINAL RESEARCH—SURGERY

Periurethral Injection of Polyacrylamide Hydrogel for the Treatment of Stress Urinary Incontinence: The Impact on Female Sexual Function

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ABSTRACT

Introduction. Urinary incontinence can negatively affect sexual function.
Aim. To investigate sexual function in female patients treated for urodynamic stress incontinence (USI) by periurethral injections.
Methods. This double-center prospective study included 29 female patients who were treated for USI by periurethral injections of polyacrylamide hydrogel (Bulkamid®; Ethicon Women's Health and Urology, Contura, Denmark).
Main Outcome Measures. Patients answered the International Consultation on Incontinence Questionnaire short form, the Incontinence Impact Questionnaire, and the Patient Global Improvement Impression. The Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire-12 (PISQ-12) was used to evaluate sexual function at baseline and at 1-year follow-up. Patients were also asked to rate their sexual activity by using a 10-mm visual analog scale at baseline and at 12-month follow-up. Subjective and objective success was examined.
Results. All patients were discharged on the same day of treatment and there was no intraoperative complication. At 1-year follow-up, the subjective success rate was 89.7% and the objective success rate was 79.3%. At 1 year from the first treatment, all the 23 sexually active patients continued to have regular sexual life. Six women reestablished sexual activity after the treatment. The total PISQ-12 scores showed a significant improvement in quality of sexual life of patients who were sexually active before surgery.
Conclusions. Periurethral injections of polyacrylamide hydrogel to treat USI are clinically effective and safe. These surgical procedures cause significant improvements in sexual function and sexual satisfaction of patients. **Leone Roberti Maggiore U, Alessandri F, Medica M, Gabelli M, Venturini PL, and Ferrero S. Periurethral injection of polyacrylamide hydrogel for the treatment of stress urinary incontinence: The impact on female sexual function. J Sex Med 2012;9:3255–3263.**

Key Words. Female Sexual Function; Periurethral Injection; Stress Urinary Incontinence

Introduction

Urinary incontinence (UI) is the complaint of any involuntary leakage of urine [1] and its estimated prevalence is 13–46% [2]. UI is a social burden [3,4] and may significantly interfere with women activities reducing quality of life, involving social relationships, emotional well-being, daily activities, psychological, physical, occupational, and sexual behaviors in women of all ages [5–8]. Female sexual dysfunction (FSD) is defined as disorders of desire, arousal, orgasm, or pain that cause personal distress [9] and it has an estimated prevalence of 39–53% in the general population [7,10,11]. UI can negatively influence sexual function in up to 68% of women, decreasing sexual activity and causing poorer marital relationship [12,13]. The deterioration of sexual function does

not differ according to type of UI (urodynamic stress incontinence [USI], detrusor overactivity, and mixed UI) [13]. Wetness, concerns over odor, fear of leakage or effective loss of urine during intercourse, embarrassment, and depression are the main reasons of FSD and of avoiding sexual activity in patients with UI [13,14]. In addition, advanced age and pelvic-floor dysfunction are frequent in patients with UI and, therefore, these patients may complain low libido, vaginal dryness, and dyspareunia [15]. Furthermore, patients with anterior vaginal wall prolapse are at increased risk of suffering stress UI and coital incontinence, which are symptoms that deteriorate sexual behaviors [12,13,16]. In women with anterior vaginal wall prolapse, coital incontinence may be facilitated by the increase of intra-abdominal pressure during intercourses and by the change in the anatomical position of the bladder neck during penetration [16]. With the introduction of the pelvic organ prolapse quantification (POP-Q) system, the anterior vaginal wall prolapse was commonly correlated to the Ba point measurement, which represents the most distal position of any part of the upper anterior vaginal wall from the anterior vaginal fornix to the urethrovesical crease [17].

Beside the most common incontinence treatments represented by positioning midurethral slings and by Burch colposuspension [18,19], injectable agents may be used to treat UI in patients with comorbidities, high anesthetic risk, and in those who prefer a less invasive approach [18]. If UI is the most evident factor in causing FSD, it can be presumed that the resolution or amelioration of this symptom can be followed by sexual function improvement [8,20]. To the best of our knowledge, no previous study investigated the effect of periurethral injections, as continence treatment, on female sexual function.

Aims

The aim of this study is to investigate sexual function in female patients treated for USI by periurethral injections. In addition, the correlation between Ba point measurement with sexual function and sexual satisfaction was analyzed.

Methods

Study Population

This double-center prospective study included female patients who were treated for USI with periurethral injections between June 2009 and December 2010. The ethics committees of the two hospitals approved the study. The inclusion criteria for the study were the following: stress UI symptoms persisting for ≥12 months with subsequent confirmed diagnosis by urodynamic assessment, age ≥18 years, sexually active women, women who were not sexually active before treatment but reestablished sexual activity at follow-up, and signed informed consent. Patients with urethral hypermobility, overactive bladder syndrome, mixed UI, detrusor overactivity on urodynamic investigation, pelvic organ prolapses >stage 1 according to the POP-Q system [17], previous surgery for pelvic-floor diseases (prolapse/incontinence), autoimmune or connective tissue diseases, and pregnancy were excluded from the study. All methods and definitions used in the manuscript are those recommended by the International Continence Society [1].

The following information was collected for each patient: age, marital status, body mass index, medical history, menopause, and use of hormone replacement therapy. Patients were asked if they were sexually active; if they were inactive, it was requested to indicate the reason.

The main objective of this study was to evaluate the changes in sexual function of women who were treated for USI with periurethral injections. The efficacy and adverse effects of treatment were also evaluated.

Preoperative and Follow-Up Investigations and Assessment of Symptoms

Study subjects underwent pelvic examination and multichannel urodynamic testing (cystometry, urethral profile, and uroflowmetry). Stress cough testing and cotton-swab test (Q-tip test) [21] were performed and prolapse was classified according to the POP-Q system [17]. The results of 3-day micturition diary (number of incontinence episodes) and 24-hour pad-weighting test were collected for each patient. At 1-year follow-up, the urodynamic study was repeated to evaluate the potential postoperative complications after treatment.

Patients answered standardized questionnaires administered in Italian: the International Consultation on Incontinence Questionnaire short form (ICIQ-SF) to assess incontinence [22], the Incontinence Impact Questionnaire (IIQ-7) to investigate the impact of incontinence on quality of life [23], and the Patient Global Improvement Impression (PGI-I) that was used to define the grade of satisfaction about symptom improvement after surgery [24]. The Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire-12 (PISQ-12)