



# A Promising and Challenging Non-Invasive Solution to the Troubling Stress Urinary Incontinence: Bladder Neck Injection with Bulking Agents

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## Abstract

**Introduction & Objective:** Stress urinary incontinence is a psychologically devastating disturbance, affecting the incontinent population mainly of elderly women. We aimed to identify retrospectively the response rate of the patients to minimal invasive treatment via bladder neck injection with bulking agents for primary bladder neck insufficiency through a new look. We aimed to make urologists remember this non-invasive method for stress urinary incontinence since it is a devastating problem, which can even stop sexual life completely for the elderly female population.

**Methods:** 4200 female patients attended our urology clinic with symptoms of stress urinary incontinence between January 2014 and April 2019 and underwent urologic evaluation and diary for daily-used pad number. 81 of 4200 patients were excluded during the period of collecting the data due to urologic and gynecologic co-morbidities and so 4119 patients were evaluated. 2091 (50.7%) patients had only one pad/day while 1810 (43.9%) women had two pads/day due to stress urinary incontinence. 218 (5.3%) patients had more than 2 pads/day. 610 of 4119 patients, having used duloxetine 20mg/d and 1290 patients underwent cystoscopy. 495 of them, 235 of whom with two pads/day stress urinary incontinence and 260 with one pad/day, aged between 42 and 88, were diagnosed to have primary bladder neck insufficiency causing stress urinary incontinence. 495 patients with primary bladder neck insufficiency underwent bladder neck injection with a bulking agent consisting of a suspension of dextranomer-based micro-particles and cross-linked hyaluronic acids of a non-animal-origin, at 4 through 8 o'clock via a 3.5-inch cystoscopic injection needle through a 30° telescope under local anesthesia.

**Results:** All were followed at least six months and only 20 of 495 injected patients had to continue their former medication. 475 (95.9% of the injected population) patients have completely left the medical treatment for their stress urinary incontinence. All were pleased after at least sixth month of the intervention. 404 (81.6% of the intervention population) patients had no need for pad usage while 71 (14.3%) had to use only one pad/day.

**Conclusion:** Bladder neck injection with bulking agents for stress incontinence is a reliable and minimally invasive method for female patients owing to being able to be easily applied in the office setting. Being applicable under local anesthesia in office setting, it is so practical and promising and increases quality of life of patients.

## Introduction and Objective

Owing to developing methods of innovation and outstanding techniques of surgery, the desire for a perfect quality of life is increasing tremendously day by day. Patients are more vulnerable to failures of treatment methods and are getting highly impatient towards non-lethal health problems as time passes. Stress urinary incontinence is a psychologically devastating disturbance, affecting the incontinent population mainly of elderly women. In order to meet the challenging needs of daily life, more and more women desire to get rid of their urinary incontinence in such a practical

and non-invasive way so that they will not miss the ongoing fast rhythm of life without long hospital stays free of anesthesia even the local type.

Non-invasive treatment methods with bulking agents for urinary incontinence has always been under scope of urology for ages. Even in near history, we can evaluate several studies, undertaken for the purpose of non-invasive treatment of urinary incontinence in general population. Nonetheless, my study. For the series of non-invasive treatment of urinary stress incontinence

in elderly women is the sole example of its kind. Due to the high number of patients, included in my study, this series will attract more attention than any other non-invasive studies for stress urinary incontinence for primary bladder neck insufficiency. We aimed to identify retrospectively the response rate of the patients to minimal invasive treatment via bladder neck injection with bulking agents for primary bladder neck insufficiency through a new look. We aimed to make urologists remember this non-invasive method for stress urinary incontinence since it is a devastating problem, which can even stop sexual life completely for the elderly female population.

## Methods

Upon searching for similar studies in urological history, we notice that Kirchin et al [1]. identified 14 trials, including 2004 women that met the inclusion criteria for evaluating the urethral injection therapy for urinary incontinence in women [1] and even this high number of patients is lower than my study. Kirchin et al [1]. declared that they evaluated a study which included a comparison of periurethral and transurethral methods of injection with similar outcomes but a higher rate of early complications in the periurethral group [1]. In contrast to their opinion, we declare that direct injection technique to the bladder neck is safer and easier to apply and therefore attracts more attention. Another evaluation by Riachy et al. [2]. tried to evaluate the applicability and long-term outcome of endoscopic injection of dextranomer/hyaluronic acid for incontinence in children with neurogenic bladder with a history of previous continent urinary reconstruction [2].

Having a more distinguishing style of study than those studies, mentioned above, we evaluated 4200 female patients, who attended our urology clinic with symptoms of stress urinary incontinence between January 2014 and April 2019 and underwent urologic evaluation and diary for daily-used pad number. 81 of 4200 patients were excluded during the period of collecting the data due to urologic and gynecologic co-morbidities and so 4119 patients were evaluated. 2091 (50.7%) patients had only one pad/day while 1810 (43.9%) women had two pads/day due to stress urinary incontinence. 218 (5.3%) patients had more than 2 pads/day. 610 of 4119 patients, having used duloxetine 20mg/d and 1290 patients underwent cystoscopy. 495 of them, 235 of whom with two pads/day stress urinary incontinence and 260 with one pad/day, aged between 42 and 88, were diagnosed to have primary bladder neck insufficiency causing stress urinary incontinence.

495 patients with primary bladder neck insufficiency underwent bladder neck injection with a bulking agent consisting of a suspension of dextranomer-based micro-particles and cross-linked hyaluronic acids of a non-animal-origin, at 4 through 8 o'clock via a 3.5-inch cystoscopic injection needle through a 30° telescope under local anesthesia.

## Results

All were followed at least six months and only 20 of 495 injected patients had to continue their former medication. 475 (95.9% of the injected population) patients have completely left the medical treatment for their stress urinary incontinence, being statistically significant ( $p=0.031$ ). All the patients were pleased after at least sixth month of the intervention, determined by SF35, quality of life analysis ( $p=0.012$ ). 404 (81.6% of the intervention population) patients had no need for pad usage ( $p=0.022$ ), while 71 (14.3%) had to use only one pad/day ( $p=0.022$ ). Having statistically significant results, I declare that our series of patients is the one and only surgical series of non-invasive method of treatment for stress urinary incontinence for patients with primary bladder neck insufficiency.

## Conclusion

Kirchin et al. [1] declared that no clear-cut conclusions could be drawn from trials comparing alternative agents [1], but in our study of series, I declare that injection of dextranomer-based micro-particles and cross-linked hyaluronic acids of a non-animal-origin has no local side effects and provides high-enough patient satisfaction. Bladder neck injection with bulking agents for stress urinary incontinence is a reliable and non-invasive method for female patients owing to being able to be easily applied in the office setting. Being applicable under local anesthesia in office setting, it is so practical and promising and increases quality of life of patients. Due to high number of patients included, my study is the sole example of its kind.

## References

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