**Reduced versus standard intradetrusor onabotulinumtoxinA injections for treatment of overactive bladder**


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**OBJECTIVES:** To compare the efficacy of a reduced 5-site injection technique of intradetrusor onabotulinumtoxinA to the standard 20-site technique for treatment of overactive bladder.

**MATERIALS AND METHODS:** In this randomized non-inferiority trial, men and women undergoing treatment of overactive bladder with office intradetrusor onabotulinumtoxinA injections were eligible. Immediately prior to the procedure, subjects were randomized to receive 100 units of onabotulinumtoxinA, administered via a reduced 5-site injection technique with 2mL per site (study) or a standard 20-injection technique with 0.5mL per site (control). Subjects completed standardized questionnaires at baseline and at 4-12 weeks post-procedure to determine symptom severity and treatment efficacy. The primary outcome was treatment efficacy between groups as determined by the Overactive Bladder Questionnaire-Short Form bother and quality of life scales (OABq-SF), International Consultation on Incontinence Questionnaire (ICIQ), and Patient Global Impression of Improvement (PGI-I) scores. Secondary outcomes were incidence of urinary tract infection (UTI) and urinary retention requiring catheterization. A 15-point difference in change of OABq-SF scores was set as the noninferiority margin.

**RESULTS:** Eighty-one subjects were randomized with complete data for 73 subjects available for analysis (36 control, 37 study). There were no differences in baseline demographics. Both arms demonstrated significant improvement in OABq-SF (Figure 1) and ICIQ scores from baseline to follow-up (p<.001). Treatment success based on PGI-I scores was 58%, with no statistically significant difference between arms (48.7% control vs 67.5% study, p=.12). The change in OABq-SF bother scores was similar between arms (control 45.9 points vs study 34.9 points, p=.07); however, there was a statistically significant difference in the change in OABq-SF quality of life scores (control 32.8 points vs study 21.6 points, p=.03) favoring the control arm. The study arm did not demonstrate non-inferiority to the control arm. Subjects receiving the reduced injection technique expressed more willingness to undergo the procedure again (OR 3.93, 95% CI 1.45-11.22, p=.004, Figure 2). Incidence of UTI and urinary retention were similar between groups (UTI 28.9% control vs 14.2% study, p=.16 and urinary retention 0% control vs 5.4%, p=.49).

**CONCLUSION:** A reduced injection technique for administration of intradetrusor onabotulinumtoxinA demonstrates similar efficacy to the standard injection technique but did not meet the prespecified criteria for noninferiority. However, the reduced injection technique significantly improved symptoms and quality of life from baseline and conferred similar risks of adverse events. Since patients receiving the reduced injection technique were more willing to repeat treatment, this technique may increase treatment continuation.

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**Ergonomic simulation investigating the association between surgeon characteristics and laparoscopic device strain in gynecologic surgery**

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