

## SOLIFENACIN IMPROVES QUALITY OF LIFE AND URODYNAMIC PARAMETERS IN SPINAL CORD INJURED PATIENTS WITH NEUROGENIC DETRUSOR OVERACTIVITY.

### Hypothesis / aims of study

Neurogenic detrusor overactivity (NDO) frequently occurs as consequence of spinal cord injury (SCI) or other neurologic conditions as multiple sclerosis (MS). The main concern in these patients is renal damage as a result of high detrusor storage and voiding pressures. Furthermore, urinary symptoms associated a NDO, such as urinary incontinence, are detrimental patients' health-related quality of life (HRQOL). The objectives for current strategies in the treatment of NDO are (1) protection of upper urinary tract, (2) improvement urinary incontinence, (3) restoration of the lower urinary tract function (or parts of it) and (4) improvement of patients' quality of life (1). The antimuscarinic drugs, frequently combined with clean intermittent catheterization (CIC), are considered first-line therapy in these patients. Solifenacin is a once daily oral antimuscarinic drug with a high affinity for the M<sub>3</sub> muscarinic receptor in the bladder, which is regarded to be the main mediator of detrusor contractility (2). The aim of this study was to evaluate the effects on urodynamic parameters and quality of life (QOL) of solifenacin at a dose of 10 mg in spinal cord injured patients.

### Study design, materials and methods

This was a retrospective study. Eighty-three spinal cord injured patients who complained of side effects with use of oxybutynin were treated with 10 mg solifenacin once daily for 12 weeks. Urodynamic evaluation was performed in accordance with the recommendations of the International Continence Society and the variables studied were the bladder compliance, the maximum cystometric capacity and the maximum detrusor pressure. Quality of life analysis was performed by the scores of the Specific Impact of Urinary Problems on Quality of Life (SIUP) and General Quality of Life (GQoL) of the Qualiveen Questionnaire (3). The evaluations were performed at baseline and at 12 weeks. The Wilcoxon test was used to compare variables. The values were expressed as mean and standard deviation. The significance level was 5%.

### Results

Of the 83 patients, 64 (77%) were men and 19 (23%) women. The average age of the patients was 30.23 ( $\pm$  9.25) years. After 12 weeks the maximum cystometric capacity increased from 167.25 ( $\pm$  22.46) ml to 283.21 ( $\pm$  84.39) ml,  $p < 0.001$ . It was observed a decrease in maximum detrusor pressure from 59.58 ( $\pm$  21.42) cm H<sub>2</sub>O to 30.73 ( $\pm$  21.45) cm H<sub>2</sub>O,  $p < 0.001$ . The bladder compliance increased by 16.52 ( $\pm$  4.60) ml / cm H<sub>2</sub>O to 29.61 ( $\pm$  3.94) ml / cm H<sub>2</sub>O,  $p < 0.001$ . The scores of the Specific Impact of Urinary Problems on Quality of Life were reduced from 3.28 ( $\pm$  0.49) to 1.89 ( $\pm$  0.81),  $p < 0.001$ . The scores related General Quality of Life increased from -1.38 ( $\pm$  0.35) to -0.75 ( $\pm$  0.59),  $p < 0.001$ . Seven patients (8.43%) discontinued the medication because of side effects. Eleven patients (13.25%) showed no improvement in urodynamic parameters or quality of life. Dry mouth, worsening of constipation and blurred vision were reported by 22.9%, 18.7% and 7.22%, respectively.

### Interpretation of results

The results of this study revealed that solifenacin led to an increase in bladder capacity and reduced the maximum detrusor pressure for safe limit for the upper urinary tract. Furthermore, it had a positive impact on the quality of life of patient

### Concluding message

The use of solifenacin resulted in a significant improvement in urodynamic parameters and quality of life in patients with detrusor overactivity due to spinal cord injury.

### References

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### Disclosures

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