

**IS THERE A RATIONAL BASIS FOR TREATING INCONTINENCE WITH THE MALE SLING? A CLINICAL AND URODYNAMIC STUDY.****Hypothesis / aims of study**

To verify the urodynamic phenomena involved in the improvement of continence after the male sling surgery with bone fixation for treatment of post prostatectomy incontinence.

**Study design, materials and methods**

Nine patients with average age of 69.7 years old ( 58 to 78 y.o.) and with urinary incontinence for at least one year after surgery were enrolled in this study. Eight of them have been submitted to radical retropubic prostatectomy and one to transurethral resection of prostate for benign disease. All patients were submitted to complete urodynamic evaluation pre and post the treatment. Initially, the Valsalva Leaking Point Pressure (VLPP) varied from 15 to 61 cm H<sub>2</sub>O, with an average of 34.9 cm H<sub>2</sub>O. Others urodynamic values previous to surgery are described in Table 1. All of them were submitted to a polypropylene sling procedure with bone fixation (InVance\*-AMS). The polypropylene tension was applied to create a 70 cm H<sub>2</sub>O compression in the bulbous urethra, checked at the surgery by resistance to the retrograde infusion of saline. This compression was accomplished in only one patient, with an average of 55 cm H<sub>2</sub>O (40 to 70 cm H<sub>2</sub>O). The average time of follow up was 6.2 months.

**Results**

Comparison of the urodynamic results before and after surgery is exposed in Table 1. In only one out of the nine patients no leaking was observed at the exam. A clear improvement in the VLPP was found with an average change from 34.9 to 88.3 cm H<sub>2</sub>O. Pressure-flow studies presented a change from 19.1 to 30.6 cm H<sub>2</sub>O in maximal detrusor micturition pressures and a decrease of maximal flow from 23.2 to 16.7 ml/s. No residual urine was found pre or post operatively.

Table 1

<b>Urodynamic findings</b>	<b>Pre sling</b>	<b>Post sling</b>
VLPP (cm H <sub>2</sub> O)	34.9 (15-61)	88.3 (47-124)
Maximal bladder capacity (ml)	422.9 (314-521)	441 (314-600)
Compliance (ml/cmH <sub>2</sub> O)	51.9 (6.6-183.7)	38.5 (13-151)
Maximal detrusor micturition pressure ( cm H <sub>2</sub> O)	19.1 (6.9-38.1)	30.6( 18.6-48)
Maximal flow ( ml/s)	23.2 (11-49)	16.7 (8.6-42.2)

Clinically, four patients consider themselves dry and two refer total failure of the treatment. The other three, present partial continence, with only a decrease of leaking episodes, although satisfied with the results.

**Interpretation of results**

There are urodynamic findings justifying some improvement of continence after the male sling compression procedure, represented by increased micturition detrusor pressure and decreased correspondent urinary flow. The augment of VLPP is in accordance with this improvement, nevertheless more emphasized than expected by the grade of obstruction created by the sling compression.

**Concluding message**

The male sling procedure with bone fixation promotes a variable improvement in continence, in accordance to the urodynamic changes obtained, but the grade of intra-luminal compression alone does not explain totally their mechanism of action.