

## THIRTEEN-YEARS OUTCOMES OF INCONTINENCE URINARY SURGERY ACCORDING TO BODY MASS INDEX

### Hypothesis / aims of study

The aim of this study is to evaluate the long term results after tension-free vaginal tape procedure in the treatment of female urinary incontinence according to the body mass index (BMI).

### Study design, materials and methods

Prospective observational study conducted in a referral hospital center, which included 822 women with stress incontinence and mixed urinary incontinence. These patients underwent surgery using transvaginal suburethral tension-free mesh, retropubic (TVT®) between 2000-2005 or transobturator (TVT-O®) from 2005 to 2012. All were interviewed and explored before surgery and in all cases performed preoperative urodynamics.

Patients were followed after surgery at 30 days, 6 months, one year and two years. Subsequently, continuous monitoring was doing using annual telephone interview to date. All patients answered to validated Spanish ICIQ-SF and subjective question: "How do you feel after surgery: cured, improved, same or worse?".

The variables considered were age, type of incontinence, type of surgery (TVT or TVT-O), associated surgery, anesthesia, hospital stay, catheter days, complications and outcomes: ICIQ-SF score, subjective patient opinion and incontinence recurrence rates.

Patients were classified according to BMI as underweight (BMI <18 n = 3), normal (IMC18-24.9 n = 111), overweight (BMI 25-29.9 n = 366), type I obesity (BMI 30-34.9 n = 225), type II obesity (BMI 35-40 n = 93) and morbidly obese or obesity III (BMI > 40 n = 24).

We recorded all this information in a Access® database and analyzed using SPSS® 18.0. Comparison of categorical variables was calculated using the chi-square test and Student t test for quantitative variables.

### Results

524 (63.7%) patients had stress urinary incontinence, 266 (32.4%) mixed incontinence and in 30 (3.9%) cases not referred any incontinence (occult incontinence).

The mean age was 59.55 years (SD 11.57), mean BMI 29.66 (SD 4.82), mean hospitalization stay 1.56 days (SD 1.75).

Only 55 (6.1%) had a history of antiincontinence surgery and 17 (2.1%) prolapse surgery.

288 and 534 TVT and TVT-O were performed. Concomitant surgery were: 264 vaginal hysterectomies, 279 anterior classical repair, 78 anterior Prolift® mesh, 40 posterior classical repair, and 49 posterior Prolift® mesh.

We identified 29 intraoperative complications, 23 (2.8%) bladder injuries, 4 (0.5%) vascular lesions, 2 (0.2%) intestinal lesions and one (0.1%) anesthesia adverse effects.

We detected 121 immediate postoperative complications, 84 (10.2%) urinary retention, 34 (4.1%) cystitis, 2 (0.2%) mesh infections and one (0.1%) vaginal vault hematoma.

124 late postoperative complications were diagnosed, 44 (5.5%) mesh extrusions, 47 (5.7%) repeated cystitis, 23 (2.8%) persistence of chronic pain and 10 (1.2%) cases of urinary retention. The average catheter time was 2.25 (SD 5.42) days.

ICIQ-SF mean score after surgery was 3.66 (SD 3.77). We observed significance relationship between elevated BMI with higher score test (p 0.003) (See figure 1)

We didn't find significant difference for: hospital days, days of catheterization and type of antiincontinence surgery device.

In the postoperative control, significant differences were found comparing the objective cure rate (cured, improved, same or worse) between the BMI groups at 6 months, one year, two and five years. We also found significant differences in incontinence and recurrence rate at 6 months and 5 years.

Comparing the normal weight group with obese group (BMI > 30), we observed obese patients were aged (p 0.01).

In the overweight and obesity groups analysis no significant differences were found for the variables of age, hospital days and days of catheterization or surgical technique. We also confirmed the highest score of ICIQ-SF for this group (p 0.009).

Recurrence of incontinence and perception of cure-improvement, were both statistically significant from one year to 5 years.

We haven't found significance differences comparing continence normal weight rate versus overweight, however there is significance differences between overweight versus obesity and normal weight-overweight versus obesity.

### Interpretation of results

During postoperative control, urinary urge incontinence, in all groups of patients was the one that appeared most frequently, observing a greater proportion in type III obesity, influenced by associated pathology.

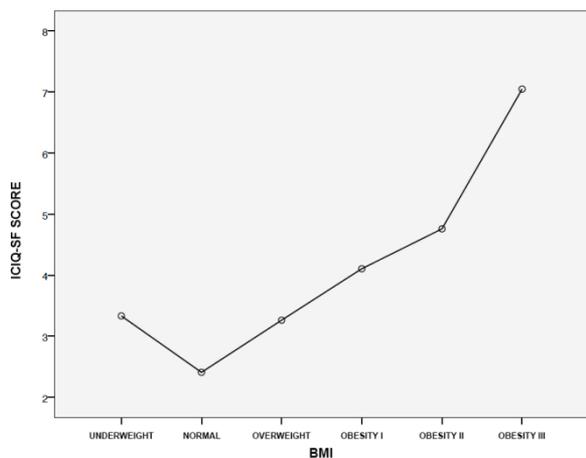
We observed cured-improved percentage oscillated between 94% at 6 months and 70% at 5 years, this value value is respected in all BMI groups.

Increasing ICIQ-SF scores in patients with high BMI values were observed.

### Concluding message

Elevated BMI is a risk factor for worse short-and long-term urinary incontinence surgery outcomes, as we have demonstrated in the study.

**Graphic 1.** ICIQ-SF score.



Graphic 2. Postoperative control

	6 month					1 Year					5 years				
	N	O	O I	O II	O III	N	O	O I	O II	O III	N	O	O I	O II	O III
<b>Cure</b>	74.5 % n=74	79.8 % n=26	72.9 % n=14	56% n=42	66.7 % n=14	71.7 % n=66	78.6 % n=23	64.4 % n=12	52.4 % n=33	55 % n=1	58.5 % n=24	50% n=74	37% n=34	33.3 % n=9	20% n=2
<b>Better</b>	21.4 % n=21	14.8 % n=49	23.1 % n=47	30.7 % n=23	23.8 % n=5	25% n=23	15.4 % n=46	23% n=42	31.7 % n=20	25 % n=5	29.3 % n=12	37.2 % n=55	30.4 % n=28	40.7 % n=7	50% n=5
<b>Equal</b>	3.0% n=3	3.6% n=12	3% n=6	12% n=9	9.5% n=2	3.3% n=3	3.7% n=11	7.1% n=13	12.7 % n=8	20 % n=4	4.9% n=2	6.1% n=9	15.2 % n=14	25.9 % n=7	30% n=3
<b>Worse</b>	1% n=1	1.8% n=6	1% n=2	1.3% n=1	0% n=0	0% n=0	2.3% n=7	0.5% n=1	3.2% n=2	0% n=0	7.3% n=3	6.8% n=10	17.4 % n=16	0% n=0	0% n=0

N: Normal O: Overweight OI: Obesity I O II: Obesity II O III: Obesity III

Disclosures

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