

# Mid-urethral sling surgery was as safe in obese women as in normal-weight women one month after surgery

Ultrasound findings and early postoperative complications of mid-urethral sling surgery: a comparative evaluation in obese and normal-weight women

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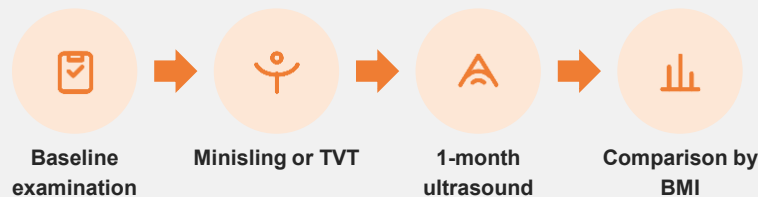
## Background and aim

Obesity is a well-known risk factor for stress urinary incontinence (SUI), likely due to chronically increased intra-abdominal pressure, and has been associated with poorer surgical outcomes. Consequently, some centers restrict access to surgical treatment based on body mass index (BMI).

**Aim:** to compare ultrasound outcomes and complications of mid-urethral sling (MUS) surgery (minisling Altis® and retropubic TVT-Exact®) between obese and normal-weight women, one month after surgery.

## Methods

- Design:** retrospective study in the urogynecology unit of a tertiary university hospital.
- Participants:** 154 women undergoing MUS surgery; 76.6% isolated procedures, without concomitant prolapse repair.
- Baseline:** demographics, clinical data, physical examination, urogynecological ultrasound and urodynamics.
- Groups:** normal weight (BMI <30 kg/m<sup>2</sup>) vs obese (BMI ≥30 kg/m<sup>2</sup>); subgroup analysis for BMI ≥35 kg/m<sup>2</sup>.
- Outcomes:** intraoperative complications, early postoperative symptoms and ultrasound findings at one month.



**References:** Barco-Castillo C, Plata M, Zuluaga L, et al. Obesity as a risk factor for poor outcomes after sling surgery in women with stress urinary incontinence: A systematic review and meta-analysis. NeuroUrol Urodyn. 2020;39:2153–2160.  
Fuselier A, Hanberry J, Margaret Lovin J, et al. Obesity and Stress Urinary Incontinence: Impact on Pathophysiology and Treatment. Curr Urol Rep. 2018;19:10.

## Results

154

Women included

58 / 96

Minisling / TVT

**Bladder injuries were rare (3/154, 1.9%) and occurred at similar rates across normal-weight and obese women. No significant differences were observed between groups in terms of postoperative complications symptoms or ultrasound findings at one month.**

Table 2. Descriptive and comparative analysis of patients one month after surgery

| Outcomes                           | All         | BMI <30     | BMI ≥30     | p-value |
|------------------------------------|-------------|-------------|-------------|---------|
| ICIQ-UI-SF, mean (SD)              | 1.7 (3.9)   | 1.1 (2.7)   | 2.8 (5.5)   | 0.061   |
| SUI symptoms, n (%)                | 11 (7.2)    | 5 (4.9)     | 6 (13.0)    | 0.095   |
| UUI symptoms, n (%)                | 36 (23.7)   | 22 (21.4)   | 13 (28.3)   | 0.405   |
| VD symptoms, n (%)                 | 19 (12.5)   | 14 (13.6)   | 5 (10.9)    | 0.793   |
| VAS pain, mean (SD)                | 0.5 (1.4)   | 0.4 (1.3)   | 0.8 (1.5)   | 0.128   |
| PGI, mean (SD)                     | 1.6 (0.9)   | 1.5 (0.7)   | 1.8 (1.1)   | 0.051   |
| PGI ≤ 2, n (%)                     | 112 (85.8)  |             |             |         |
| PVR, mean (SD)                     | 35.6 (55.4) | 37.1 (59.4) | 33.5 (47.3) | 0.732   |
| PVR > 100 cc, n (%)                | 9 (6.8)     | 5 (5.6)     | 4 (9.8)     | 0.380   |
| Positive stress test, n (%)        | 5 (3.3)     | 3 (2.9)     | 2 (4.4)     | 0.721   |
| Complications, n (%)               |             |             |             | 0.759   |
| UTI                                | 11 (7.3)    | 6 (5.8)     | 5 (11.1)    |         |
| Pain                               | 13 (8.6)    | 8 (7.8)     | 4 (8.9)     |         |
| VD                                 | 14 (9.3)    | 9 (8.7)     | 5 (11.1)    |         |
| SUI persistence                    | 5 (3.3)     | 2 (1.9)     | 3 (6.7)     |         |
| De novo UUI                        | 3 (2.0)     | 2 (1.9)     | 1 (2.2)     |         |
| MUS vaginal exposure               | 3 (2.0)     | 1 (1.0)     | 2 (4.4)     |         |
| Others                             | 5 (3.3)     | 3 (2.9)     | 2 (4.4)     |         |
| MUS tension, n (%)                 |             |             |             | 0.673   |
| Slightly tight                     | 4 (2.6)     | 3 (2.9)     | 1 (2.2)     |         |
| Slightly loose                     | 4 (2.6)     | 2 (1.9)     | 2 (4.4)     |         |
| Position, n (%)                    |             |             |             | 0.850   |
| Middle third                       | 134 (88.7)  | 92 (89.3)   | 39 (86.7)   |         |
| Middle-proximal                    | 3 (2.0)     | 2 (1.9)     | 1 (2.2)     |         |
| Proximal                           | 1 (0.7)     | 1 (1.0)     | 0 (0.0)     |         |
| Middle-distal                      | 9 (6.0)     | 5 (4.9)     | 4 (8.9)     |         |
| Distal                             | 4 (2.6)     | 3 (2.9)     | 1 (2.2)     |         |
| Partial urethral kinking, n (%)    | 4 (2.6)     | 1 (1.0)     | 3 (6.7)     | 0.084   |
| MUS sonographically perfect, n (%) | 127 (84.1)  | 88 (85.4)   | 36 (80.0)   | 0.469   |

SUI: stress urinary incontinence; UUI: urgency urinary incontinence; VD: voiding dysfunction; VAS: visual analog scale; PGI: Patient Global Impression of change; PVR: post-void residual volume; UTI: urinary tract infection; MUS: mid-urethral sling.

**Concluding message:** MUS surgery showed low complication rates and favorable one-month ultrasound outcomes regardless of BMI. BMI alone should not preclude surgery for SUI when appropriate preoperative assessment and surgical expertise are applied.