

BILATERAL MESH REPLACEMENT OF THE UTEROSACRAL LIGAMENTS AS SURGICAL TREATMENT OF INVOLUNTARY URINE LEAKAGE ACCOMPANIED BY URGENCY (UUI) IN WOMEN

Hypothesis / aims of study

A vaginal surgical procedure for the treatment of pelvic organ prolapse was reported.¹ Basically, in that study the apex on the vagina was sutured close to the apical end of the left and right uterosacral ligament (USL). Beside the “excellent anatomical correction of the prolapse” they noted a “significant improvement of voiding function”.¹ Recently this bilateral USL fixation was combined with a pubovaginal sling in patients who additionally suffered from stress urinary incontinence (SUI).² SUI was successfully treated in all patients after this combined procedure. However, the most remarkable observation in this study was that also 14 of 17 (82%) patients suffering from urgency urinary incontinence (UUI) were cured after these operations.

This observation led us to hypothesize that a nonfunctional USL play a critical role in the development of involuntary urinary leakage accompanied by or immediately preceded by urgency (UUI).³ We therefore decided to replace the defective USL by alloplastic tapes in these patients.

While these recently reported studies focused their treatment on patients with advanced pelvic organ prolapse (POP-Q stages II – IV) we focused our treatment on women suffering from UUI symptoms with less advanced pelvic organ prolapse (POP-Q stage I). We chose an abdominal approach for a bilateral mesh augmentation with polyvinylidene fluoride (PVDF) tapes of the USL.

The operations were named cervico-sacropexy (CESA) or vagino-sacropexy (VASA) depending on the site of fixation, being either the sacrum and cervix or sacrum and vagina.

The bilateral mesh replacement of the uterosacral ligaments was developed for treatment of female pelvic organ prolapse. The aim of the present study was to evaluate the effect of this surgical treatment on involuntary urinary leakage accompanied by or immediately preceded by urgency.

Study design, materials and methods

This was a retrospective study of 114 women suffering from involuntary urinary leakage accompanied by or immediately preceded by urgency (UUI) who failed conservative treatment. They were operated on a bilateral mesh replacement of the uterosacral ligaments. All patients had pelvic organ prolapse stage I.

Urinary incontinence symptoms were assessed according to validated urinary incontinence questionnaires. Cure was defined by the following criteria: a voiding frequency < 8 times per day and < 2 times per night and no involuntary leakage of urine.

Outcome was evaluated 4 months after surgery. Patients who were still suffering from urinary incontinence received an additional transobturator sling. The final outcome was assessed 4 months thereafter.

For augmentation of the uterosacral ligaments specially designed polyvinylidene fluoride (PVDF) tapes were used. In patients with a cervical stump two PVDF tapes with the length of 8.8 cm were placed in the peritoneal fold of the USL bilaterally from the rectum. These tapes were attached distally on the cervical stump and proximally to the pre-sacral fascia in front of the S1 / S2 sacral vertebra by non-absorbant sutures. In patients with total hysterectomy two PVDF tapes of 9.3 cm length placed at the vaginal stump on top of the vaginal cuff scar. These open abdominal operations were named cervico-sacropexy (CESA) or vagino-sacropexy (VASA), depending on the site of fixation, being either the sacrum and cervix or sacrum and vagina. Rectopexy was omitted.

Results

114 women with involuntary urinary leakage accompanied by or immediately preceded by urgency (UUI) and / or stress urinary incontinence (SUI) were surgically treated by bilateral cervico-sacropexy (CESA) (n=42) and vagino-sacropexy (VASA) (n=72). After CESA 25 patients (60%) and after VASA 37 patients (51%) were cured of their urinary incontinence symptoms. 37 out of the 52 patients who were not cured agreed to an additional transobturator sling. The overall cure rate for patients who received a CESA and a transobturator sling was 86% (31 out of 36 patients).

Interpretation of results

The cure rate for patients who used all appropriate methods available (CESA / VASA ± transobturator sling) was 86% (31 out of 36 patients) for CESA and 84% (53 out of 63 patients) after VASA.

Concluding message

The bilateral replacement of the uterosacral ligaments by means of CESA and VASA cured between 51% and 60% of the patients with involuntary urinary leakage accompanied by or immediately preceded by urgency. After an additional transobturator sling an overall cure rate of 84% to 86% was observed.

Disclosures

Funding: There was no funding or grant. **Clinical Trial:** No **Subjects:** NONE