

PROCEDURES SUSPENDING THE URETHRA WITH DIFFERENT TYPES OF SLINGS IN THE TREATMENT OF STRESS URINARY INCONTINENCE IN WOMEN.

Aims of Study

Stress urinary incontinence (SUI) in women is a disorder whose incidence ranges from 22% to 45%, depending on the country and age group. The predisposing factors include numerous labors, overweight, hormone deficiency, reduced collagen amount, predominantly type I and III, as well as weakened pubourethral fascia. According to the recent publications concerning the methods of treatment of SUI, transvaginal urethral suspension with sling procedures, Burch retropubic or laparoscopic approach is highly valued due to its effectiveness and low invasiveness. The paper is a retrospective review of transvaginal procedures applied in the treatment of SUI in female patients using nylon (Zödler), dacron (Tricomed) and prolene net tape (IVS).

Methods

From 1984 to November 2002, 184 procedures treating SUI with three types of slings were performed. In 1984–1988, 16 women were operated on using original nylon Zödler slings, from 1988 to 2001, 121 patients were treated using dacron slings made by a Polish manufacturer Tricomed. From 2001 to November 2002, self-suspending prolene net tape (IVS method) was used in 47 patients. The patients were qualified for surgery on the basis of medical history and gynecological examination with cough test and Bonney test, USG of the urinary tract assessing the posterior vesicourethral angle, urodynamic assessment and urine culture. The vesicourethral angle ranged from 118 to 146° (mean 127°). Body mass index (BMI) was assessed. Obese women accounted for 53.4% of the patients, overweight 33.3% and those with normal body weight 13.3%. The number of deliveries in the surgically treated patients ranged from 0 to 6 (mean 2.5). Age range from 36 to 81 (mean 62 years). Resection of reproductive organs had been performed previously in 9 patients who underwent surgery according to the IVS method. 23 patients had been previously treated surgically for SUI (8 in the IVS group, 15 in the group treated with Zödler or Tricomed slings). All the patients were operated on under subarachnoid anesthesia in gynecological position. The procedures using Zödler or Tricomed slings involved dissection of the anterior vaginal wall from the bladder neck and urethra, then two canals lateral to the bladder neck and running along the posterior surface of the pubic symphysis were formed. The sling was inserted from the vagina through the formed canals, straight abdominal muscles and their sheaths and positioned under the bladder neck. The sling was pulled up and its ends were sutured after incision of the skin over the rectus abdominis fascia. No cystoscopy was performed. The IVS method involves suspension of the proximal segment of the urethra with self-suspending prolene net tape inserted using a special needle from the vagina, behind the pubic symphysis through the pelvic diaphragm, retropubic space, abdominal integument to the skin. After cystoscopy checking the integrity of urinary bladder walls, the tape is left in place with its ends cut below the level of the skin. During the postoperative period the tape, overgrown with connective tissue, provides natural support for the urethra.

Results

Among the patients treated with the Zödler sling, good results were obtained in 13 (81.2%), no improvement in 2 and in 1 the disorder occurred 1 year after the surgery. In 3 patients suppuration, and in 1 dehiscence of the wound in the vagina was observed. Using the dacron loop, cure was obtained in 104 (85.9%) cases. In 5 patients a portion of the tape was removed because of wound suppuration, and in 1 migration of the tape to the bladder was observed. In the group treated with the IVS tape cure was obtained in 39 women (83%), improvement in 7 (15%) and no improvement in 1 (2%). The urinary bladder was injured in 6 patients treated with the Tricomed loop and in 4 during insertion of the needle with the IVS tape. Such complications occurred in patients previously operated on because of SUI from retropubic

approach or treated by irradiation. After correction of the injury, the procedures were continued leaving a Foley catheter. Periodic urine retention after miction was observed in each of the groups: in 3(18.7%) women treated with the Zödler sling, 24(19.8%) treated with the Tricomed sling and 3(6.4%) with the IVS tape. Urgency accompanied urine retention or occurred as an additional symptom in each group with incidence ranging from 10% to 30%. They subsided or were reduced within 4 weeks following the surgery. Increased intraoperative bleeding required only leaving a seton in the vagina for 24 h with no need of transfusion in any of the cases. Mean duration of the procedure, as well as hospitalization, was the shortest in the group treated with the IVS tape.

Conclusions

The results allow to conclude that procedures involving urethral suspension with the aforementioned sling types were effective in 81% - 86% in the treatment of SUI in female patients. Intra-and postoperative, as well as distant complications, are not serious and are acceptable. The dacron sling proved to be well-tolerated material and the results were comparable to those obtained with the original Zödler sling. The IVS method is a low-invasive procedure, relatively safe and effective also in the cases of recurrent SUI.