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# Abstract Reproduction Form B-1

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Title (type in CAPITAL LETTERS): TENSION-FREE RECTANGULAR FASCIAL SLING: A MODIFIED OPERATION TO STRESS URINARY INCONTINENCE

**Aims of Study:**
Base on Aldridge's theory and Ulmsten's TVT procedure, our focus was to create a new more effective procedure to treat patients with stress urinary incontinence (SUI).

**Methods:**
All 30 cases with SUI had been confirmed by urodynamic studies. In addition, we also performed the Q-tip test and 60-minute pad test before and after operation. The following is a brief description of this new procedure. A piece of rectangular rectal fascia, sized 4x1 cm was taken from a 4 cm transverse incision 2 cm above the pubic symphysis. Two sutures of 1"O" prolene were placed on the ends of the strip of the fascia. A 2-cm vertical midline incision was made on the distal part of the anterior vaginal wall. The paraurethral space was developed at both sides of the midurethra. To bring the prolene sutures pass the rectal fascia through a retropubic space; the Pereyra carrier needle was used to place the fascial strip beneath the midurethra. We pulled the sling and adjust the tension until there was no urine leakage when a patient coughed forcefully and then the two sutures were tied to each other above the rectal fascia. The whole procedure was performed under local anesthetic (0.5% xylocaine with epinephrine 1:100,000) infiltration in the operation field and in combination with repeated intravenous injection of Fentanyl and Propofol as needed. The urine catheter was removed immediately after the operation.

**Results:**
A total of 30 women, mean age 45 (range 40-70) with mean parity 2 (range 0-4), underwent tension-free rectangular fascial sling procedure. Mean followup was 3 months (range 1-6). No patient had had unexpected urinary retention. All patients remained completely dry for 1-6 months after this procedure. The result of 60-minute pad test had shown 33 gm (range 5-194) and 0.8 gm (range 0-2.4) in preoperation and postoperation irrespectively ($p<0.001$). The difference of angle change between resting and straining in the Q-tip test showed 29 ( range 5-60) and 31 ( range 9-66) in preoperation and postoperation irrespectively ($p>0.05$). The results of closure urethral pressure profile (CUPP) had no significant difference between preoperative and postoperative urodynamic studies. Preoperative urgency has remained in 3 patients(10%) postoperatively. Complications reported inguinal pain in 2 cases and perineal echymosis in 3 cases.

**Conclusion:**
To achieve a high success rate in an anti-SUI operation, the follow criteria should be meet: 1. To create a proper urethral pressure to prevent urine leakage, 2. No urine retention, 3. Less chance of recurrence, 4. Safety and little chance of complication. In the past, urine retention is the major complication of a sling operation. Therefore, the sling operation was only used for patients with recurrent SUI from previously failed operation or with intrinsic sphincter defect. At the end of operation, the sling is tension-free without pressure on the urethra and patients can void immediately after the procedure. We found there is no improvement in CUPP, urodynamic studies, and the Q-tip test. The new sling procedure shows that high urethral pressure is created only when the abdominal pressure increasing or rectal muscle contracting. The mechanism of preventing urine leakage is similar to Aldridge's theory. On account that the sling is tension free, the sling will not be loosened by cutting into the tissue and the force of urethral compression will not be attenuated by surrounding tissue adhesion along the prolene suture. We expect the efficacy of the new procedure may last longer than other sling cystourethropexies.