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THE LONG TERM EFFICACY OF POST-OPERATIVE ADJUSTABLE MID URETHRAL SLING SYSTEM IN PATIENTS WITH INTRINSIC SPHINCTER DEFICIENCY AND RECURRENT STRESS URINARY INCONTINENCE.

Hypothesis / aims of study
In patients with intrinsic sphincter deficiency (ISD) and recurrent stress urinary incontinence (SUI) after previous anti-incontinence surgery, there are concerns about the results of mid-urethral synthetic sling operations. For these patients, the REMEEX® system (post-operative adjustable mid urethral sling system) could be an appropriate method. The aim of this study is to evaluate the surgical outcomes and complications of the REMEEX® system in patients with ISD or recurrent SUI.

Study design, materials and methods
We performed a retrospective study using medical records. Enrolled patients were suffering from recurrent SUI after previous anti-incontinence operations, and some had an additional ISD. SUI was confirmed for all patients with a pre-operation urodynamic study. We defined ISD as a valsalva leak-point pressure (VLPP) lower than 60 cmH_2O during filling cystometry. Preoperative assessment included clinical history, gestational history, and a SANDVIK questionnaire. In the first day after operation, tension was adjusted until there was no leakage after coughing, jumping and straining; after which the tensioner was removed. Postoperative evaluation stratified the patients into 3 groups: cure, improve and fail. These outcomes were made based on each patient's subjective opinion.

Results
Ninety-six patients were enrolled between Sep 2007 and Jul 2012. Sixty-six patients who followed up over 12 months were finally analyzed. The mean age was 63.1 ± 9.9 years of age. The mean follow up period was 17.6 ± 5.4 months. Forty-nine patients had ISD, 17 patients had previous anti-incontinence surgery (Table 1). The mean time of hospitalization was 4 days (3-6). Fifty-four patients (82%) were considered cured, with no subjective urine leakage, 4 (6%) improved, and 8 (12%) of patients were considered part of the fail group. Surgical outcome according to surgical indication was similar in two groups (Table 2). There was no statistical difference between three groups in various parameters (Table 3). Among the fail group patients, 5 had ISD, and 3 had recurrent SUI. In 8 patients with failed after operation, four improved after a 6-month post-operative tension adjustment. There were no post-operative complications such as erosion and urinary retention.

Interpretation of results
The REMEEX® system is an effective procedure with long-term efficacy for ISD and recurrent SUI patients. VLPP was lower in patients with recurrent SUI compared to others, but this was not statistically significant. An advantage of the REMEEX® system is that post-operative tension can be adjusted; a good method for controlling consistent or recurrent urine leakages. Tension adjustment after operation was a relatively easy procedure accomplished with local anesthesia.

Concluding message
The REMEEX® system is an effective procedure to treat patients with recurrent SUI with ISD after their anti-incontinence operations.

Table 1. Baseline characteristics in two groups.

	ISD group (n=49)	Recurred group (n=17)
Age (years)	63.9 ± 10.6	59.1 ± 7.9
BMI (kg/m^2)	25.3 ± 3.1	25.4 ± 2.6
Number of menopause (n. %)	40 (81.7)	12 (70.5)
Frequency of NSVD (times)	2.4 ± 1.4	2.2 ± 1.1
Urodynamic parameters		
Max cystometric capacity (ml)	357.1 ± 75.6	365.7 ± 50.3
VLPP (cmH_2O)	48.4 ± 9.8	67.7 ± 22.5
MUCP (cmH_2O)	69.4 ± 24.2	69.6 ± 8.3
Uroflowmetry parameters		
Qmax (ml/s)	22.9 ± 8.5	20.3 ± 8.3
Voided volume (ml)	241.6 ± 103.8	235.9 ± 49.7
PVR (ml)	3.6 ± 10.5	12.2 ± 48.4

Table 2. Comparison surgical outcomes between two groups

	Cure (n=54)	Improve (n=4)	Fail (n=8)	Total
ISD group	41 (83.6%)	3 (6.2%)	5 (10.2%)	49 (100%)
recurred group	13 (76.6%)	1 (5.8%)	3 (17.6%)	17 (100%)

Table 3. Post-operative results in three groups.

	Cure (n=54)	Improve (n=4)	Fail (n=8)
Age (years)	62.5 ± 9.1	74.5 ± 15.5	63.1 ± 11.2
BMI (kg/m^2)	25.1 ± 3.0	27.1 ± 1.9	25.5 ± 3.0
Number of menopause (n. %)	54 (81.8)	3 (75.0)	5 (62.5)
Frequency of NSVD (times)	2.3 ± 1.3	2.8 ± 2.5	2.8 ± 1.0
Urodynamic parameters			
Max cystometric capacity (ml)	365.4 ± 62.2	344.5 ± 70.9	346.9 ± 90.4
VLPP (cmH_2O)	61.7 ± 23.4	57.5 ± 17.4	49.3 ± 15.0
MUCP (cmH_2O)	74.0 ± 26.3	56.8 ± 17.7	70.3 ± 20.8
Uroflowmetry parameters			
Qmax (ml/s)	20.6 ± 9.4	17.9 ± 9.9	20.0 ± 5.8
Voided volume (ml)	242.8 ± 94.6	246.8 ± 173.9	231.6 ± 76.8
PVR (ml)	6.4 ± 26.8	7.8 ± 6.8	5.0 ± 5.2

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