

SAFETY AND EFFICACY OF REMEEX SLING SYSTEM FOR FEMALE URINARY INCONTINENCE AND FEASIBILITY OF RE-ADJUSTMENT

Hypothesis / aims of study

Determining the optimal balance for incontinence/obstruction is crucial step in setting the proper tension during the mid-urethral sling operation. The re-adjustable mid-urethral sling (REMEEX system; Neomedic International, Terrassa, Spain) is a device in which sub-urethral tension can be adjusted several months or even years after surgery. However, implantation of the REMEEX system may increase the amount of foreign bodies and may increase the possibility of infection. We assessed the safety and efficacy of implantation of the REMEEX system in female stress urinary incontinence (SUI) with recurrence, intrinsic sphincter deficiency (ISD), or detrusor underactivity (DU).

Study design, materials and methods

The study cohort included 100 female patients who underwent REMEEX mid-urethral sling operation between Mar. 2008 and Feb. 2012. Patients were evaluated before surgery by physical examination, uroflowmetry & PVR measurement, flexible cystoscopy, urodynamics, 1-hour pad test, and relevant questionnaires. All patients had recurrent SUI (previous mid-urethral sling operation), ISD (defined as a ALPP <60 cm H₂O or MUCP <20 cm H₂O), or DU (defined when Q_{max} was ≤12 mL/sec and PdetQ_{max} was ≤10 cmH₂O during a pressure-flow study). Treatment success was defined as 'cured' (absence of subjective complaint of leakage and absence of objective leakage on the stress test) or 'improved' (rare leakage subjectively, but satisfaction regardless of the stress test) through the patient interview and the stress test by a physician or medically qualified research assistant. All other outcomes and use of any treatment for postoperative incontinence were considered as failures. Complications were evaluated according to the Clavien-Dindo system.

Results

Twenty-five patients (25%) were diagnosed with ISD, 23 (23%) with DU, 39 (39%) with both ISD and DU, and 13 (13%) with recurrent SUI based on the preoperative conditions. At the final follow-up visit, the cure and improvement rates were 80% and 11%, respectively. Each group showed the similar results (Table 1). During the mean follow-up of 16 months, 64 patients (64%) required the sling tension re-adjustment (Table 2). The mean number of re-adjustment and the duration between surgery and last adjustment (the longest duration: 75months after surgery) were similar among each group. Complications included intraoperative trocar bladder perforation in 11 patients, which was spontaneously recovered without reoperation, and mesh erosion in two patients, requiring revision under local anesthesia.

Interpretation of results

Based on our findings, the REMEEX system was effective in female SUI with recurrence, ISD, or DU with few and transient complications. The REMEEX system can be re-adjusted under local anesthesia several months or even years after surgery.

Concluding message

The REMEEX system resulted in a success rate of 91% at a mean follow-up of 16 months with few and transient complications in female SUI with recurrence, ISD, or DU. The REMEEX system enabled postoperative re-adjustment of sling tension as needed during follow-up (up to 75 months after surgery).

Table 1. Outcomes of the REMEEX mid-urethral sling operation

	ISD (n=25)	DU (n=23)	Both ISD & DU (n=39)	Recurrence (n=13)	Total (n=100)	p-value
Cure, n (%)	23 (92.0)	20 (87.0)	28 (71.8)	9 (69.2)	80 (80.0)	0.328†
Improve, n (%)	2 (8.0)	2 (8.7)	5 (12.8)	2 (15.4)	11 (11.0)	
Fail, n (%)	0 (0.0)	1 (4.3)	6 (15.4)	2 (15.4)	9 (9.0)	
Mean F/U duration, months ± SD	16.5±15.3	9.3±11.1	18.7±20.8	17.4±17.9	15.8±17.4	0.216
ANOVA-test, †Chi-square test						

Table 2. Re-adjustment number and duration between surgery and last adjustment

	ISD (n=25)	DU (n=23)	Both ISD & DU (n=39)	Recurrence (n=13)	Total (n=100)	p- value
Readjustment*, n (%)	16 (64.0)	17 (73.9)	23 (59.0)	8 (61.5)	64 (64.0)	0.696 †
Mean No. of readjustment ± SD	1.3±1.6	1.2±1.1	1.3±1.7	1.6±1.8	1.3±1.5	0.903
Mean duration between surgery and last adjustment, months ± SD	9.1±16.4	2.8±4.7	5.3±15.7	5.7±8.3	5.7±13. 0	0.609
*Readjustment : re-adjusted after 3 months following surgery ANOVA-test, †Chi-square test						

Disclosures

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