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THE RESULT OF REPEAT MID URETHRAL SLING AFTER FAILED MID URETHRAL SLING FOR THE TREATMENT OF FEMALE STRESS URINARY INCONTINENCE

Hypothesis / aims of study

Although mid-urethral sling (MUS) with synthetic materials is associated with high success rates for female stress urinary incontinence (SUI), some patients experience MUS failures, indicating the need for an appropriate salvage procedure. Current options for managing failed MUS include transurethral injection of bulking agent, pubovaginal sling, shortening of the pre-implanted tape or repeat MUS [1]. We evaluated the efficacy of repeat MUS for the treatment of recurrent or persistent SUI after initial MUS.

Study design, materials and methods

We retrospectively analyzed data on patients who had undergone MUS for recurrent or persistent SUI after initial MUS. We assessed uroflowmetry, residual urine volume, urodynamic study, and bladder diary. We evaluated the cure rate and the change of quality of life after the surgery by using the Sandvik questionnaire, incontinence quality of life questionnaire, Bristol female lower urinary tract symptom (BF-LUTS) questionnaire, and satisfaction questionnaire. Subjective cure was defined as "no" experience of SUI in the past 7 days.

Results

A total of 39 women underwent repeat MUS for recurrent or persistent SUI after initial MUS. Mean age was 54 ± 9 year. Mean follow-up after repeat MUS was 23.5 ± 23.4 months. Initial MUS type were retropubic approach in 14 cases and transobturator sling in 25 cases. Mean ALPP was 84.2 ± 23.0 cmH_2O. Mean duration between initial and repeat MUS was 29.8 ± 27.3 months. The overall cure rate was 64.1% (25 of 39); 65.3% in retropubic approach (17 of 26) and 61.5% in transobturator approach (8 of 13). Seventy-five percent of the patients were satisfied with the treatment and 59% of those were "very satisfied". When we compared the characteristics between cure and no cure after repeat MUS, there was no clinical factor which was able to predict the possibility of reoperation (Table 1). Mean total incontinence quality of life scores improved after repeat sling. Mean BF-LUTS questionnaire scores improved significantly; Filling factor, incontinence factor, sexual function, and quality of life domain scores improved after the repeat MUS (p<0.05) (Table 2). Four patients who were incontinent after repeat MUS underwent periurethral injection of bulking agent. There was no severe complication related to the operation.

Interpretation of results

In the current study, 64.1% showed cured SUI after repeat MUS for recurrent or persistent SUI. This cure rate is lower than the result of the initial MUS at previous studies such as 86.8% [2]. However, when we evaluated the effect of repeat MUS as the change of symptom scores and patients' response to the questionnaire about satisfaction, repeat MUS was very effective way for the treatment of failed MUS because the patients reported that their satisfaction was very high. The difference between the operation methods was not statistically significant and there was no clinical factor which was able to predict the possibility of success in a repeat MUS.

Concluding message

A repeat synthetic MUS procedure for persistent or recurrent SUI showed low cure rate than the initial procedure but the satisfaction was high and no significant complications.

Table 1. Comparison of characteristics in 39 patients between cure and no cure after repeat mid-urethral sling.

	Cure	No cure	*p*-value
No. pts (%)	25 (64.1%)	14 (35.9%)	
Mean ± SD age (yr)	54.1 ± 8.9	53.7 ± 8.1	0.714
Mean ± SD body mass index (kg/㎡)	23.6 ± 2.1	23.8 ±3.1	0.965
Mean ± SD No. vaginal deliveries	2.5 ± 1.3	2.4 ± 1.2	0.934
No. menopause (%)	10 (40)	10 (71.4)	
No. persistent or recurrent SUI grade (%)			0.170
1	5 (20	5 (35.7)	
2	15 (60)	4 (16)	
3	5 (20)	5 (35.7)	
No. first MUS type			0.498
Retropubic	8	6	
Transobturator	17	8	
No. repeat MUS type			0.813
Retropubic	17	9	
Transobturator	8	5	

SD ; standard deviation, MUS ; mid-urethral sling

Table 2. Changes in symptom scores by questionnaires and voiding parameters by uroflowmetry before and after repeat mid-urethral sling procedures (Mean ± SD)

	before repeat MUS	after repeat MUS	p-value
total SEAPI score	5.1 ± 2.2	1.9± 2.5	0.000
maximal flow rate (ml/sec)	22.0 ± 8.7	18.1 ± 8.3	0.039
post void residual urine (ml)	17.9 ± 27.5	48.2 ± 60.0	0.007
BF-LUTS questionnaire scores			
Filling sum scores	5.8 ± 3.3	3.6 ± 3.7	0.006
Voiding sum scores	1.5 ± 2.5	2.5 ± 3.6	0.123
Incontinence sum scores	8.4 ± 4.0	3.0 ± 4.3	0.000
Sex sum scores	1.7 ± 1.6	0.4 ± 0.8	0.003
QOL sum scores	9.1 ± 4.8	3.6 ± 5.0	0.000
I-QOL questionnaire domain			
avoidance and limiting behaviors	17.6 ± 11.5	27.2 ± 14.6	0.001
psychosocial impacts	17.3 ± 13.4	29.3 ± 17.9	0.001
social embarrassment	9.5 ± 8.8	16.0 ± 10.1	0.002
total I-QOL scores	45.1 ± 31.4	71.9± 43.1	0.001

SEAPI ; stress-related leakage, emptying ability, anatomy, protection, inhibition, BF-LUTS ; Bristol Female Lower Urinary Tract Symptoms, QOL ; quality of life, I-QOL ; Incontinence Quality of Life

References
1. Curr Urol Rep (2004) 5; 389.
2. J Urol (2007) 177; 214.

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Is this a clinical trial?	**Yes**
Is this study registered in a public clinical trials registry?	**No**
Is this a Randomised Controlled Trial (RCT)?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**No**
This study did not require eithics committee approval because	**This study was done by retrospective chart-review. Therefore, this study may not impact on the subjects directly related to the study.**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**No**