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FACTORS AFFECTING THE RESULTS OF MIDURETHRAL SLING FOR MIXED URINARY INCONTINENCE WOMEN

Hypothesis / aims of study

To investigate outcomes after midurethral sling (MUS) operations in women with mixed urinary incontinence (MUI) and to identify factors affecting favourable outcome.

Study design, materials and methods

A retrospective data were collected from 279 women with MUI who underwent MUS operation with at least 2 years follow up. A disease-specific validated questionnaire, 24-hr pad test, standardized stress test, residual urine, and maximum urinary flow were used before and after a MUS operation. The patients were divided according to predominance symptom of bother (stress-predominance or urgency-predominance). They were also divided according to presence of detrusor overactivity (DO) in filling cystometry. The patients with DO were further subclassified into high (HPDO, detrusor pressure at which involuntary contraction occur during filling cystometry greater than 15 cmH2O), and low pressure (LPDO, less than 15 cmH2O) group. Postoperatively, patient's global impression of improvement, Bristol Female Lower Urinary Tract Symptom (BFLUTS), improvement of stress incontinence (SUI) and urgency were analysed. SUI cure was defined as a condition where the women were very satisfied with the MUS operation and had negative stress test and 24 hr pad tests. Resolution of urgency was defined as total absence of the symptoms without pharmacological therapy.

Results

Overall success rates of SUI were 96.4% (cured at 82.4 % and improved at 14 %). The predominance of bothering symptoms or the presence of DO itself did not influence the over all success rates of SUI. However, HPDO group showed significantly poor SUI cure rate than LPDO group. Urgency incontinence resolved in 176 (63%), improved in 60 (21.5%), while aggravated or persisted in 43 (15.4%). Preoperative variables positively influencing the resolution of urgency, improvement quality of life (QOL) and global impression of improvement were stress-predominant mixed incontinence, absence of DO, and low pressure DO.

Interpretation of results

The success rate of SUI in MUI patients was not influenced by predominant symptoms (stress or urgency) or presence of DO in cystometry. However it was lower in HPDO group compared to LPDO group. The resolution rate of urgency in MUI patients was better in stress predominant group compared to urgency predominant group and it was also better in patients with DO compared to the patients without DO in cystometry.

Concluding message

Our results suggest that MUS for MUI showed favourable good outcome both in SUI and urgency symptom. Women with stress-predominant MUI (vs urgency-predominant MUI), without DO (vs with DO), or with LPDO (vs HPDO) showed high resolution rate of urgency after the MUS for MUI. The cure rate of SUI is not influenced by predominant symptom of either stress or urgency.

Table. Characteristics and outcomes according to predominant symptoms and existence of detrusor overactivity in urodynamic study

	Overall patients (n=279)	**Symptom predominance**			**Detrusor overactivity**		
		SMUI (n=129)	UMUI (n=150)	p-value	Presence (n=88)	Absence (n=191)	p-value
Age (years)	55.2±8.6	54.8±8.4	55.6±8.7	*0.422*	54.6±9.1	55.5±8.3	*0.461*
Parity (no.)	3.0±1.1	2.9±1.1	3.0±1.0	*0.723*	3.0±1.0	3.0±1.1	*0.964*
Sx period (yrs)	8.2±5.9	8.3±5.6	8.2±6.1	*0.942*	8.1±5.8	8.3±6.0	*0.854*
Stamey grade				*0.573*			*0.595*
Grade I (%)	29 (10.4)	16 (12.4)	13 (8.7)		11 (12.5)	18 (9.4)	
Grade II (%)	201 (72.0)	90 (69.8)	111 (74.0)		60 (68.2)	141 (73.8)	
Grade III (%)	49 (17.6)	23 (17.8)	26 (17.3)		17 (19.3)	32 (16.8)	
Results of stress incontinence (%)							
Cured	230 (82.4)	111 (86.0)	119 (79.3)	*0.303*	67 (76.1)	163 (85.3)	*0.148*
Improved	39 (14.0)	15 (11.6)	24 (16.0)		16 (18.2)	23 (12.0)	
Failed	10 (3.6)	3 (2.3)	7 (4.7)		5 (5.7)	5 (2.6)	
Results of urgency symptoms (%)							
Resolved	176 (63.1)	100 (77.5)	76 (50.7)	***<0.01****	46 (52.3)	130 (68.1)	***0.013****
Improved	60 (21.5)	19 (14.7)	41 (27.3)		28 (32.8)	32 (16.8)	
Unchanged	43 (15.4)	10 (7.8)	33 (22.0)		14 (15.9)	29 (15.2)	
Patient's global impression of improvement (%)							
Very satisfied	201 (72.0)	104 (80.6)	97 (64.7)	***0.012****	53 (60.2)	148 (77.5)	***0.010****
Satisfied	47 (16.8)	15 (11.6)	32 (21.3)		20 (22.7)	27 (14.1)	
Dissatisfied	31 (11.1)	10 (7.8)	21 (14.0)		15 (17.0)	16 (8.4)	

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Is this study registered in a public clinical trials registry?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**Korea University Medical Center Anam Hospital IRB**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**