

ASSOCIATION BETWEEN BLOOD VESSEL CHANGES OF BLADDER MUCOSA AND STORAGE SYMPTOMS IN FEMALE STRESS URINARY INCONTINENCE PATIENTS

changes. Hypothesis / aims of study

Although midurethral sling (MUS) surgery is a very effective procedures to relieve stress urinary incontinence (SUI) as well as mixed incontinence, urgency/frequency and urge incontinence remain in some patients post-operatively and bother the patients. In this study, we investigated that the cystoscopic findings of blood vessel changes such as neovascularization and telangiectasia in bladder mucosa associated with the development of storage symptoms in stress urinary incontinence before and after operation.

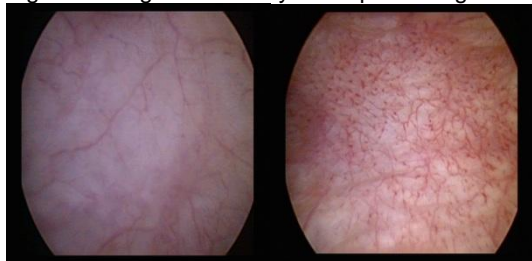
Study design, materials and methods

60 patients who were admitted for MUS surgery included in our study. 20 patients were genuine stress incontinence (group 1), 20 were SUI with urgency/frequency (group 2) and 20 were mixed incontinence (group 3). Average age was 53 year-old (range 38-70). Cystoscopic examination were done under anesthesia before midurethral sling procedure and blood vessel changes was classified as neovascularization, telangiectasia (Fig. 1). Association between blood vessel changes and presence of storage symptoms was evaluated and storage symptoms was defined as documentation of urgency/frequency, nocturia.

Results

There was no operation-related complications such as bladder perforation, mesh erosion and urethral injury. 4 cases in group 1, 16 cases in group 2, 18 cases in group 3 showed blood vessel changes. Persistent storage symptoms observed in 1 case (group 1), 3 cases (group 2) and 4 cases (group 3) post-operatively (Table 1). There was no case of new development of storage symptoms in which did not showed mucosal blood vessel changes pre-operatively. As storage symptoms severe in stress urinary incontinence, the incidence of mucosal blood vessel changes increased. Persistence of storage symptoms was limitedly observed in blood vessel changed patients.

Fig. 1. Telangiectasia in cystoscopic findings



		Genuine stress incontinence		Stress urinary incontinence with urgency./frequency		Mixed incontinence	
		Pre-op.	Post-op.	Pre-op.	Post-op.	Pre-op.	Post-op.
	Positive	4	1	16	3	18	4
			3		13		14
	Negative	16	0	4	0	2	0
			16		4		2
	Total	20	20	20	20	20	20

Telangiectasia(-) Telangiectasia(+)

Table 1. Correlation between storage symptom and telangiectasia

		Genuine stress incontinence		Stress urinary incontinence with urgency./frequency		Mixed incontinence	
		Pre-op.	Post-op.	Pre-op.	Post-op.	Pre-op.	Post-op.
Bladder mucosa vessel changes	Positive	4	1*	16	3*	18	4*
			3		13		14
	negative	16	0*	4	0*	2	0*
			16		4		2
Total	20		20		20		

Interpretation of results

The incidence and severity of storage symptoms were closely related with bladder mucosal vessel changes.

Concluding message

Storage symptoms in stress urinary incontinence may be associated with factors which provoke the over-expression of mucosa blood vessel changes.

References

1. Hextall A. Estrogen and lower urinary tract function. *Maturitas* 2000;36:83-92
2. Berger RE, Miller JE, Rothman I, Krieger JN, Muller CH. Bladder petechiae after cystoscopy and hydrodistension in men diagnosed with prostate pain. *J Urol* 1998;159:83-5

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<i>What were the subjects in the study?</i>	HUMAN
<i>Was this study approved by an ethics committee?</i>	Yes
<i>Specify Name of Ethics Committee</i>	DCUMC IRB
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	No