

## ABSORBABLE VERSUS NON-ABSORBABLE GRAFT - RESULTS IN PERINEAL BONE-ANCHORED MALE SLING FOR INTRINSIC SPHINCTER DEFICIENCY

### Hypothesis / aims of study

Stress urinary incontinence is one of the bothersome complications of radical prostatectomy and affects significant number of men after surgery. The main etiology of postprostatectomy incontinence is intrinsic sphincter deficiency. We report a retrospective study of bone-anchored male sling comparing absorbable and non-absorbable sling material.

### Study design, materials and methods

Thirty-nine men underwent bone-anchored male sling surgery for stress urinary incontinence (SUI). All patients had radical prostatectomy. Patients with previous salvage external beam radiotherapy and high serum PSA values, which may indicate recurrent disease, incontinence due to neurogenic or posttraumatic etiology, or following surgery such as TURP were excluded. Urodynamic evaluation to determine leak point pressure, maximal flow rate and detrusor overactivity was performed preoperatively. Bladder volumes and postvoiding residual volumes were also determined. The number of pads per day (PPD) that patients wearing were recorded preoperatively and during the visits postoperatively. Success was defined as subjectively dry with no or only 1 pad used daily for security without any episode of leakage, or improvement subjectively with a decrease of 50% or more in pads daily. Twelve patients had absorbable material (1 SIS, 6 dermis graft, 4 dermis+fascia lata graft, 1 fascia lata graft) and 27 had nonabsorbable material (1 polypropylene mesh, 26 silicone coated polypropylene mesh).

### Results

The mean ages of the patients, bladder capacities, detrusor leak point pressures, maximal flow rates and post voiding residual volumes are represented in Table 1. There was no difference between absorbable graft and non-absorbable mesh groups in respect of the type of incontinence (SUI vs. mixed incontinence) (chi-sq. test,  $p=0.052$ ) and degree of SUI (mild; 1-2 PPD, moderate; 3-5 PPD, severe; >5 PPD) (chi-sq. test,  $p=0.3$ ). Postoperative pad usage was represented in Table 2. The follow-up period for the patients who had absorbable graft was  $9.1\pm 5.5$  months, and that of who had non-absorbable mesh was  $17.8\pm 6.3$  months.

Table 1. Preoperative urodynamic data of the patients

	Non-absorbable (n=27)	Absorbable (n=12)	p*
Age	67.8±8.1	65.9±10.1	0.6
Bladder capacity (mL)	438±148.2	428±76	0.9
Leak point pressure (cmH <sub>2</sub> O)	56.2±23.4	59±27.3	0.9
Maximal flow rate (mL/min)	14±5.1	19.3±7.1	0.1
Post void residual urine volume (mL)	13±24.8	13±26.1	0.4

S.D.; standart deviation

\*Mann Whitney U test

Table 2. Postoperative change in the number of pads with respect of sling material

	Non-absorbable	Absorbable
No pads	15	1
Less pads > 50% before	11	1
Same as before	1	10
Total	27	12

Pearson chi-sq=24.6,  $p<0.0001$

### Interpretation of results

Urodynamic data, preoperative type of incontinence and severity of incontinence in both groups were identical ( $p>0.05$  for all). 83% of the patients in the absorbable graft group failed after a mean follow up of 9.1 (range 1-17) months. Only one patient (4%) failed in the non-

absorbable group. Success rate of the male sling surgery with absorbable graft group was significantly lower than non-absorbable group ( $p < 0.001$ ) (Table 2).

**Concluding message**

The bone-anchored male sling prevents urinary leakage possibly by external compression on the urethra. The success of the surgery using absorbable material is not long lasting, since the absorbable materials probably gets degraded by the tissue reaction and loses the compression forces on the urethra. In order to achieve and maintain continence non-absorbable or non-degradable sling material should be used in perineal male sling. However, long term follow up is necessary to establish the durability of non-absorbable sling material.