

## **SUDDEN DECLINE OF EFFECT OF PORCINE DERMAL SLING (PELVICOL®) IN THE TREATMENT OF STRESS URINARY INCONTINENCE: IS IT DUE TO THE IMPLANTATION TECHNIQUE?**

### Hypothesis / aims of study

We report on the sudden decline of effect of porcine dermal sling (Pelvicol implant, Bard) for the treatment of stress urinary incontinence (SUI) in our clinic.

### Study design, materials and methods

We retrospectively analyzed the follow up results of 23 patients with urodynamically proven stress urinary incontinence who underwent Pelvicol sling implantation.

Technique: Prior to surgery a pelvicol sling of 1.5-2 cm x 12–15 cm was prepared. On both lateral sides a monofilament synthetic absorbable suture (PDS®) was fixated in order to be able to pull through the sling and it to be knotted on the pubic bone. The anterior vaginal wall was incised lengthwise. Thereafter a para-urethral dissection towards the endopelvic fascia was done. A small suprapubic incision till the level of the fascia was made. The pelvicol sling is then pulled through using a TVT positioning device. The sling is positioned and fixed midurethrally and the PDS® sutures are knotted on the pelvic bone.

### Results

We analyzed 23 women, mean age 53.2 years (range 38.4-78.7), who were operated upon in 2003 and 2004. 19 with pure stress urinary incontinence, 4 had mixed urinary incontinence. Mean follow up at the time of the analysis was 13.5 months (range 1.8–25.3). Two weeks after surgery 14 patients (71%) experienced no more urine loss, 5 patients (22%) reported a subjective improvement of 70% or more, but were not completely dry. 4 patients (17%) had minimal to no improvement of their complaints after surgery. 4 Out of the 14 'dry' patients and 6 out of the 5 'improved patients' experienced a sudden decline in effect 3-6 months after surgery. In the other patients the effects seen at 2 weeks follow up remained stable at least till the time of the analysis. The 6 patients who had a loss in effect all describe, not a gradual, but a sudden decline. 2 out of the 6 report they felt something 'snap'. On physical examination no suburethral sling or fibrosis was palpable.

### Interpretation of results

Our results show a similar patient-determined cure rate as is described in literature [1]. But it is the first time that this sudden decline in effect is reported. We hypothesize that our operation technique is partly responsible for the decline in effect. The soluble PDS sutures may have been absorbed too quickly in these patients which caused a loss in the midurethral support. An other explanation is provided by literature; several authors have described autolysis of bioslings [2]. However the theory that the suburethral fibrosis would be sufficient to provide adequate support is not backed up by our results.

Our results show that independent of the clinical success and tension free placement of the sling a sudden decline in effect can occur (26% of our patients).

### Concluding message

Pelvicol slings are effective in the treatment of stress urinary incontinence. But as a sudden decline in effect can occur we should think about further optimization of these slings. For instance the porcine dermal sling could be used in combination with non-absorbable sutures. An other option is to make a sling of only porcine dermis (and use no PDS sutures). And lastly we should look for biomaterial that will not show autolysis.

1. Randomized trial of porcine dermal sling (Pelvicol implant) vs tensionfree vaginal tape (TVT) in the surgical treatment of stress incontinence: a questionnaire-based study. J Urol. 2003 Sep;170(3):1049.
2. Failure of allograft suburethral slings. BJU Int. 1999 Nov;84(7):785-8.