

## RADICAL PROSTATECTOMY (RP) AND SPHINCTER DAMAGE – WHAT CAN WE LEARN FROM PITFALLS?

### Hypothesis / aims of study

Urinary incontinence secondary to a surgical lesion of the external urethral sphincter is a rare but well known complication after RP. Representing the only center in Germany for sphincter repair by tissue engineering 162 patients from 45 different urological clinics in Germany underwent treatment at our institution from 2005 to October 2007. All patients were suffering from urinary incontinence grade III after RP.

### Study design, materials and methods

162 patients with sphincter damage caused by RP were enrolled according to the following inclusion criteria:

- Stress urinary incontinence grade III
- Residual free bladder emptying
- Duration of incontinence > 12 months
- Refractory incontinence

Diagnosis was established by PAD test, urethrocystomanometry and urethrocystoscopy.

### Results

The mean age of the patients was 70 years (range:56-81). Duration of incontinence was 60 months (range: 12-121). 70% of the patients had been treated by retropubic RP, 22% by laparoscopic RP and 8% by perineal RP previously. All patients had a lesion of the external sphincter, which was documented by endoscopy. In 94/162 (58%), the defect was caused by penetration of the muscle with anastomosis suture. In 127/162 (79%) of the cases there was a direct sphincter lesion in the sense of transection. In 143/162 (88%) the defect was localized in the lower and in 19/162 (12%) in the upper circumference. An additional relevant concomitant stricture of the anastomosis was seen in 49/162 (30%) Incision of the stricture was realized by urethrotomy following Sachse-technique.

### Interpretation of results

88% of the included patients (sphincter penetration + concomitant stricture) had a sphincter damage caused by technical failure during anastomization. The majority of sphincter defects were located close to the dorsal sutures. We recommend the use of special needles (e.g. 27,0 mm 5/8c UR- 6) to avoid sphincter penetration while suturing. Furthermore patients with decreased urinary flow after removal of the catheter are suspicious for penetration of the sphincter. In these patients endoscopic removal of the suture within one month after RP is mandatory. Under these guidelines, in our patient cohort, the rate of sphincter damage is less than 3% after RP.

### Concluding message

Prevention of sphincter penetration as well as early detection of sphincter penetration may decrease postoperative continence alterations after Radical prostatectomy.

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<b><i>Is this a clinical trial?</i></b>	<b>No</b>
<b><i>What were the subjects in the study?</i></b>	<b>HUMAN</b>
<b><i>Was this study approved by an ethics committee?</i></b>	<b>No</b>
<b><i>This study did not require ethics committee approval because</i></b>	<b>No special procedure other than cystoscopy was performed. Investigations were not part of a clinical trial.</b>
<b><i>Was the Declaration of Helsinki followed?</i></b>	<b>Yes</b>
<b><i>Was informed consent obtained from the patients?</i></b>	<b>Yes</b>