Introduction
Bladder neck stricture is a well recognized complication after radical prostatectomy reportedly occurring in 0.4 - 32%1-3. It is usually the result of scar tissue encircling and narrowing the reconfigured bladder neck. The constriction of bladder neck may result in symptoms of urinary frequency, urgency, poor stream and incomplete emptying of the bladder. Sometimes urinary retention may develop. The objective of the present study was to examine the incidence, the management and outcome of vesico - urethral anastomotic strictures after bladder - neck sparing open radical retropubic prostatectomy.

Patients and methods
We retrospectively reviewed 445 consecutive patients (mean age 62 years, range 49 - 72) who had open radical retropubic prostatectomy by one surgeon between 2004 - 2014.

Results: The mean follow - up was 32 (8 - 48) months. 28 (6,2%) patients developed an anastomotic stricture. Dilatation of the stricture was an effective treatment.

Conclusion: Stricture of the vesico - urethral anastomosis after bladder - neck sparing RRP is not a rare complication, but can usually be successfully managed with one graduated dilatation.

Key words
prostate cancer; radical prostatectomy; anastomotic stricture; management

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PSA assay and an enquiry about urinary symptoms. Anastomotic strictures were generally managed by dilatation using sounds up to 26F. After dilatations a 16F urethral catheter was left in situ for ≈ 12 hours. Patients who developed recurrent acute urinary retention had a transurethral incision under general anesthesia.

Results
The mean (range) follow-up was 32 (8 - 48) months, during which 28 patients (6.2%) developed some degree of bladder neck contracture. The contracture occurred within 3 months of surgery in 20 patients (71.4%), at 4 - 12 months in 4 (14.3%) and at >12 months in 4 (14.3%). In addition, five men (17.8%) required transurethral incision. All patients eventually stabilized and voided well with a normal flow. At 1 year 96% of men were pad-free and only two reported that incontinence was a serious problem. After the transurethral incision two patients had to use pads for 4 months during the day only. The remaining patients were completely dry.

Discussion
The reported incidence of bladder neck stricture after open RRP (0.4 - 32%) probably depends on the surgical technique and patient-related factors, including the presence or absence of previous surgery of the prostate (table 1). The cause of bladder neck stricture after open RRP is probably multifactorial in most cases and to date the fundamental mechanisms have not been well defined. The factors that might contribute, include the technique of bladder neck reconstruction, postoperative urinary extravasation, previous transurethral or simple retropubic prostatectomy, the duration of catheterization after RP, overseal diathermy for hemostasis of the bladder neck and previous radiotherapy treatment. In our series, none of the patients developed a local recurrence that could have contributed to poor urinary flow. However, two patients had had a previous radiotherapy as part of the management for positive surgical margins. Also three patients had had a previous simple prostatectomy, which potentially could have made bladder neck stricture more likely because of fibrotic changes in the periprostatic tissue and bladder neck.

Table 1

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Year of publication</th>
<th>No. of patients</th>
<th>% stricture</th>
</tr>
</thead>
<tbody>
<tr>
<td>(5)</td>
<td>1980</td>
<td>36</td>
<td>6</td>
</tr>
<tr>
<td>(6)</td>
<td>1981</td>
<td>50</td>
<td>6</td>
</tr>
<tr>
<td>(7)</td>
<td>1983</td>
<td>75</td>
<td>3</td>
</tr>
<tr>
<td>(8)</td>
<td>1987</td>
<td>150</td>
<td>1.3</td>
</tr>
<tr>
<td>(9)</td>
<td>1989</td>
<td>100</td>
<td>9</td>
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<td>(3)</td>
<td>1990</td>
<td>156</td>
<td>11.5</td>
</tr>
<tr>
<td>(10)</td>
<td>1992</td>
<td>620</td>
<td>0.5</td>
</tr>
<tr>
<td>(2)</td>
<td>1996</td>
<td>135</td>
<td>12.6</td>
</tr>
<tr>
<td>(11)</td>
<td>1996</td>
<td>81</td>
<td>4.9</td>
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<tr>
<td>(1)</td>
<td>1998</td>
<td>239</td>
<td>15</td>
</tr>
<tr>
<td>(15)</td>
<td>2004</td>
<td>510</td>
<td>9.4</td>
</tr>
<tr>
<td>Present</td>
<td>2006</td>
<td>445</td>
<td>6.2</td>
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tissue formation. A well-vascularized, watertight suture line is obviously ideal for optimal healing of the anastomosis.12

Excessive blood loss during the operation or hematoma formation soon after RRP might potentially compromise the vascular supply to the urethra and bladder neck. The number and the location of the anastomatic leakage, which could lead to subsequent fibrosis and scarring. However, an over-tight bladder neck reconstruction may increase the chance of subsequent stricture.

In our patients the drain was removed the third postsurgical day in all cases, suggesting that extravasation was not a contributing risk factor for anastomotic stricture. We also applied the technique of bladder-neck sparing, assuming that preserving the bladder neck might result in an earlier return of continence and reduce the number of anastomotic strictures without compromising surgical margins.13

We believe that the dilatation of stricture is the best management which haw the minimal risk of urinary incontinence. The outcome after dilatation of the stricture probably depends on the length, thickens and location of the stricture, as well as on the interval between the original surgery and stricture development. The cold-Knife incision of the stricture alone is effective in only 62%.14

Moreover, incising the stricture results in urinary incontinence almost in all patients. Reconstructive surgery is very seldom required to resolve persistent bladder neck obstruction. All our patients were managed with a graduated dilatation without jeopardizing urinary continence. Dilatation (sounds, bongies, balloon catheter), stricture incision (over a guide wire) or resections have all been proposed for treatment and should be effective. It is important to counsel patients before radical prostatectomy about the potential risk of bladder neck stricture. As they have been well informed in advance is easy to explain the necessity of dilatation of it is required.

In conclusion, stricture of the vesico-urethral anastomosis after bladder-neck sparing RRP is not a rare complication, but can usually be successfully managed with one graduated dilatation. All patients seemed to be stabilized satisfactorily without recourse to more extensive surgical procedures. Patients should be informed of the possibility of stricture before and after surgery.

Περίληψη

Σκοπός: Η διερεύνηση της επίπτωσης, της αντιμετώπισης και των αποτελεσμάτων των αναστομωτικών στενώματων μετά από ριζική προστατεκτομή (ΡΠ) με διατήρηση του αυχένα της ουροδόχου κύστης.


Αποτελέσματα: Η μέση διάρκεια παρακολούθησης ήταν 32 (8-48) μήνες. 28 (6,2%) ασθενείς ανέπτυξαν αναστομωτικό στένωμα. Η διαστολή του στενώματος ήταν μία επιτυχής αντιμετώπιση.

Συμπέρασμα: Το αναστομωτικό στάνωμα μετά από ΡΠ με διατήρηση του αυχένα της ουροδόχου κύστης δεν είναι μία σπάνια επιπλοκή, αλλά μπορεί να αντιμετωπισθεί επιτυχώς με διαστολή.
References


