Early urinary continence recuperation after nerve-sparing radical prostatectomy with bladder neck suspension


ABSTRACT

OBJECTIVE: To determine if bladder neck suspension and pexis after nerve-sparing radical prostatectomy results in an improvement of short- and mid-term urinary continence.

MATERIALS AND METHODS: An observational study with a determined sample for convenience was carried out. Patients were nonrandomly assigned to two groups. A total of 79 consecutive patients presenting with localized prostate adenocarcinoma who underwent laparoscopic prostatectomy with bilateral neuromuscular preservation were included in the study. Group I was made up of 40 patients who underwent laparoscopic prostatectomy with running suture urethrovesical anastomosis. Group II consisted of 39 patients who underwent bladder neck pexis/suspension after urethrovesical anastomosis.

RESULTS: Urinary continence was evaluated on days 1, 7, 30 and 90 of Foley catheter removal. In Group I continence on day one of catheter removal was 27.5%, on day seven 62.5%, on day thirty 75% and on day ninety 80%. In Group II on day one continence was 51.28%, on day seven 66.6%, on day thirty 79.48% and on day ninety 94.87%.

RESUMEN

Objetivo: Determinar si la suspensión y pexia del cuello vesical, posterior a la prostatectomía radical neuropreservadora, resulta en mejoría de la continencia urinaria a corto y mediano plazo.

Material y métodos: Se llevó a cabo un estudio prospectivo, cuasiexperimental, comparativo, longitudinal con una muestra determinada por conveniencia. Los pacientes se asignaron en forma no aleatoria a dos grupos. Se incluyeron en el estudio 79 pacientes consecutivos con adenocarcinoma de próstata localizado, los cuales fueron sometidos a prostatectomía laparoscópica con neuropreservación bilateral. El grupo I incluyó 40 pacientes sometidos a prostatectomía laparoscópica con anastomosis uretrovesical con sutura continua. En el grupo II se incluyeron 39 pacientes a los cuales posterior a la realización de la anastomosis uretrovesical se practicó pexia/suspensión del cuello vesical.

Resultados: Se evaluó la continencia urinaria a los días 1, 7, 30, y 90 de retiro de sonda Foley. En el grupo I la continencia al primer día posretiro de sonda fue de 27.5% a los 7 días 62.5%, 75% a los 30 días y 80% a los 90 días. En el grupo II la continencia fue de 51.28% al día 1, 66.6% al día 7, 79.48% al día 30 y 94.87% a los 90 días.
CONCLUSIONS: In our series of patients, bladder neck suspension and pexis after nerve-sparing radical prostatectomy with running suture urethrovesical anastomosis resulted in a notable time reduction for recuperating early urinary continence. This difference was most significantly noticed on day one of catheter removal. The difference between groups became less from day seven to day thirty. However, better results were seen for all measurements in the group treated with bladder neck suspension and pexis.

Key Words: Urinary continence, nerve-sparing radical prostatectomy

BACKGROUND
Urinary incontinence after radical prostatectomy is a problem that significantly affects patient quality of life. Its incidence varies from 5 to 30% (1). This condition is principally due to intrinsic sphincter deficiency and rarely to detrusor instability or simple sphincter deficiency (2-4).

In some mild cases improvement has been observed with pelvic floor exercises, pharmacological therapy or electrotherapy. However, in other cases, surgical intervention is required, whether for an artificial sphincter implant, periurethral coaptant agents or male sling (5-8).

In the majority of cases the time necessary for achieving continence may be as long as 12 months (9-11). In different studies low patient tolerance of urinary continence and its consequent negative effect on quality of life levels has been observed (12).

OBJECTIVE
The objective of the present study was to determine whether bladder neck suspension and pexis after nerve-sparing radical prostatectomy resulted in short- and mid-term urinary continence improvement.

MATERIALS AND METHODS
An observational study utilizing a convenience sample was carried out. Patients were nonrandomly assigned to two groups. All patients signed letters of informed consent.

A total of 79 consecutive patients presenting with prostate adenocarcinoma who had undergone bilateral nerve-sparing radical prostatectomy were included in the study. Group I was made up of 40 patients who had undergone laparoscopic prostatectomy with running suture urethrovesical anastomosis (13). Group II was made up of 39 patients who had undergone bladder neck suspension/pexis after urethrovesical anastomosis.

In this procedure urethrovesical anastomosis was carried out with running suture and the two suture extremes were tied together to both sides of the puboprostatic ligament (Images 1 and 2). A bladder neck stitch was then placed at approximately the 2 o’clock position (Image 3) and the 10 o’clock position...
URINARY INCONTINENCE MEASUREMENT
Urinary incontinence is defined as the use of 0-1 protectors per day (whose weight is ≤30 grams).

Urinary incontinence was reported by the patient and corroborated through clinical evaluation on days 1, 7, 30 and 90 of Foley catheter removal. Foley catheter was removed 8 days after removal of the surgical drain (usually a Blake 19 drain).

STATISTICAL ANALYSIS
Chi square test for independent groups was used to carry out the statistical analyses.
RESULTS
Urinary continence was evaluated on days 1, 7, 30 and 90 of Foley catheter removal.

In Group I continence was 27.5% on day 1, 62.5% on day 7, 75% on day 30 and 80% on day 90. In Group II continence was 51.28% on day 1, 66.6% on day 7, 79.48% on day 30 and 94.87% on day 90 (Table 1).

DISCUSSION
Many studies have been published about surgical technique modifications to shorten the length of time it takes the patient to recover urinary continence after urethral catheter removal. The best results have been obtained by procedures that preserve or reinforce the bladder neck or that maintain the pubo-prostatic ligaments and incorporate them into the urethrovesical anastomosis and in this way obtain an anterior suspension of the urethrosphincteral complex.

Besides bladder neck suspension and pexis, the conservative principles of rhabdosphincter and restitution of the urethral position in relation to the pubo-prostatic ligaments were carried out in the present study.

Bladder suspension and pexis can influence the restitution of urethral support lost during prostate dissection. Although urethral hyper-motility is not the only component of urinary continence, its prevention was shown to be beneficial in Group II patients.

CONCLUSIONS
Bladder neck suspension has been an important part of surgical management of stress urinary incontinence for many years. In our patient series, bladder neck suspension and pexis after nerve-sparing laparoscopic radical prostatectomy with running suture urethrovesical anastomosis resulted in a significant time reduction for early urinary continence recuperation. This reduction was most noticeable on day 1 of catheter removal. There was less difference between groups from day 7 to day 30. Even so, all measurement results were better in the patients who underwent bladder neck suspension and pexis.

BIBLIOGRAPHY

Table 1. URINARY CONTINENCE

<table>
<thead>
<tr>
<th>Time</th>
<th>Without pexia</th>
<th>With pexia</th>
<th>p*</th>
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</thead>
<tbody>
<tr>
<td>Day 1</td>
<td>11/40(27.5%)</td>
<td>20/39(51.28%)</td>
<td>0.03</td>
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<tr>
<td>Day 7</td>
<td>25/40(62.5%)</td>
<td>26/39(66.66%)</td>
<td>Ns</td>
</tr>
<tr>
<td>Day 30</td>
<td>30/40(75%)</td>
<td>31/39(79.48%)</td>
<td>Ns</td>
</tr>
<tr>
<td>Day 90</td>
<td>32/40(80%)</td>
<td>37/39(94.87%)</td>
<td>Ns</td>
</tr>
</tbody>
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*X2 test
NS (No statistical significance)