

POSTOPERATIVE STATUS OF BLADDER OUTFLOW AND EARLY CATHETER REMOVAL AFTER RETROPUBIC RADICAL PROSTATECTOMY.

Hypotesis/Aim of study

Patients underwent radical retropubic prostatectomy are usually discharged with indwelling catheter and return for catheter removal from two to three weeks after surgery, when the vesico-urethral anastomosis is checked for extravasation by means of cystography. The protracted catheterization is source of the following morbidities such as discomfort, urinary infection, bladder irritability symptoms, and urethral strictures directly associated with the duration of the catheterization after surgery ⁽¹⁾. Considering the standardization of radical prostatectomy, and the improved techniques for vesico-urethral anastomosis, many Authors are now advocating to remove the catheter on post operative day 7 or even earlier ⁽²⁾, if the anastomosis is intraoperatively watertight, in order to achieve a catheter free status at hospital discharge with an extremely positive impact for the patient suffering from prostate cancer. A cystogram is mandatory before early catheter removal to exclude urinary extravasation and evaluate the integrity of the anastomosis, and eventually postpone catheter removal in case of leakage. Aim of the present study is to determine the feasibility and the safety of routinely removing the urinary catheter on postoperative day 7 after radical retropubic prostatectomy.

Study design, materials and methods

180 patients age ranging from 50 to 73 suffering from localized prostatic cancer underwent radical retropubic prostatectomy and vesico-urethral anastomosis using the Capiro RP, a suturing device with a 45° curvature of the distal end to be introduced in the urethral stump, which can rotate clockwise from 12 o'clock to 4 o'clock and counterclockwise from 12 o'clock to 6 o'clock, increasing of 30° for each rotating movements, allowing to put easily the sutures inside the urethral wall, in the number and in the position exactly where the surgeon decide to put them, according to the personal experience. After the prostate gland and seminal vesicles had been removed, bladder neck was tailored, everting the mucosal, using 2/0 rapid vycril sutures, to obtain a caliber compatible with urethral size, as well as a diameter of a least 22F-24F, for a better and safe Capiro RP assisted anastomosis by means of six "inside-outside" stitches with a 2/0 absorbable polyglycolic acid coated suture, on a taperpoint needle for the urethral stump and a ½ circle needle for the bladder neck at 2, 4, 6, 8, 10, 12 o'clock position over a 20F Foley catheter, in order to obtain a watertight anastomosis. The anastomosis was then checked for water tightness by direct visual observation of the anastomosis suture line after instillation of 250 mL of normal saline in the bladder. Two pre-vacuumed drains were left in place at the end of the procedure. The patency of vesico-urethral anastomosis was assessed 7 days after surgery by cystography and patients who did not show a vesico-urethral extravasation had the catheter removed, and were discharged from the hospital the same day after two consecutive micturitions. If a significant contrast extravasation was observed, the catheter was maintained in place and a second cystogram for deciding catheter removal was obtained 5/7 days later. Urinary continence was evaluated on the basis of the daily count of pads used, urinary flow evaluation was performed after catheter removal, one month after surgery, and every month thereafter for six months. Quality of life outcome of patients who had the catheter removed was evaluated using a telephone questionnaire.

Results

The Foley catheter was removed on post operative day 7, during cystography which demonstrated a perfect anastomosis, in all patients except 5 (2,7%), who showed a contrast leakage and the catheter was kept in place for another week. 15 patients (8,3%) developed acute urinary retention after catheter removal requiring reinsertion of a Foley catheter for 2/3 days. 48 patients (26,6%) showed obstruction on Qmax nomogram immediately after early catheter removal, but the number of patients with urinary obstruction decreased to 22 (12,2%) at the urinary flow evaluation performed subsequently. 10 patients (5,5%) developed a clinically significant anastomotic stricture occurred within 8 to 10 weeks from catheter removal and successfully treated with one single endoscopic cold-knife incision. 15 patients (8,3%) had previous prostatic surgery (transurethral resection) and only 1 of them showed a stricture after radical prostatectomy. 157 patients (87,2%) showed an immediate complete urinary continence after the catheter removal, 21 patients (11,6%) had a mild urinary dribbling (2/3 pads/day), which disappeared within 4 to 6 weeks from surgery, 1 patient is completely incontinent, 1 patient has a stress incontinence. Concerning the pathological findings 168/180 patients were pT2 and 12/180 patients were pT3 and no significant correlation was found between bladder outflow status, continence, and tumor stage or positive surgical margins.

Interpretation of results

The results obtained in the present study demonstrated how early catheter removal after radical retropubic prostatectomy can be safely accomplished when the vesico-urethral anastomosis provides a watertight closure, with appropriate mucosal to mucosal coaptation, nevertheless some patients may have difficulty with urination or develop acute urinary retention. In our experience acute urinary retention occurred in all cases within 24-48 hours after catheter removal and re-insertion of catheter was always easy. The mechanism for obstruction or urinary retention is mostly due to edema of the anastomosis, or to an increased tone of bladder neck smooth muscle, and according to recent reports ⁽²⁾ suggesting that Tamsulosin significantly reduces the risk for acute urinary retention after early catheter removal, we start the therapy with α-blocker and non steroidal anti-inflammatory agents on post operative day 5.

Concluding message

The present study demonstrates how most patients undergone radical retropubic prostatectomy will have no extravasation on cystogram performed on postoperative day 7 and removing the catheter at this time does not increase the risk of complications or compromise overall urinary continence or anastomotic strictures rate. The urinary catheter is source of significant bother and limits physical activity during the postoperative period and early removal produces a positive psychological impact on patients suffering from prostate cancer.

References

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<i>What were the subjects in the study?</i>	HUMAN
<i>Was this study approved by an ethics committee?</i>	No
<i>This study did not require ethics committee approval because</i>	Is the result of a surgical technique.
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	Yes