

VESICO-URETHRAL ANASTOMOSIS AFTER RADICAL RETROPUBIC PROSTATECTOMY USING THE CAPIO RP SUTURING DEVICE. ADVANTAGES ON URINARY CONTINENCE AND POST SURGICAL STENOSIS RATES.

Hypothesis / aims of study

Vesico-urethral anastomosis after radical retropubic prostatectomy is an easy procedure, that sometimes can result difficult to perform, and time consuming at the same time, because a deep bony pelvis, or a short urethral stump, can lead to difficult suture placement. Regardless of the technique used, a well performed vesico-urethral anastomosis should provide watertight closure, with appropriate mucosal to mucosal coaptation, and a proper tension free urethral realignment, in order to avoid early or late complications such as urinary extravasation, incontinence, and stenosis of the anastomotic tract. Many questions are still open concerning the outcome of vesico-urethral anastomosis; the number of sutures used seems not to influence the perioperative and postoperative parameters, and to date, no published clinical studies have specifically addressed this issue, with most clinicians using six stitches as originally described by Walsh, but the number of stitches can decrease to four or increase to eight, as described by other experienced investigators, with good functional results as well. To improve the functional results of vesico-urethral anastomosis producing a good long-term continence, and acceptable strictures rates, alternative anastomotic techniques were described. An important issue seems to be the caliber of the bladder neck, some Authors reported a decrease in the incidence of bladder neck contracture, after increasing the bladder neck caliber from 18F. to 22F to 24F. A well performed anastomosis also allows an early removal of urethral catheter which is source of the following morbidities such as discomfort, urinary infection, bladder irritability symptoms, and urethral strictures directly associated with the duration of catheterization after surgery. The Capiro RP suturing device allows a perfect anastomosis with respect of all the above mentioned principles. The aim of the study is to evaluate the urinary continence and post surgical stenosis rate in patients undergone radical retropubic prostatectomy and Capiro RP assisted vesico-urethral anastomosis.

Study design, materials and methods

150 patients age ranged from 51 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 in a clockwise direction from 12 o'clock to 4 o'clock and in a counter-clock direction from 12 o'clock to 6 o'clock, increasing of 30° for each rotating movement, 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, for a better and safe Capiro RP assisted anastomosis by means of six "in-out" 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. The 20F. Foley catheter was removed on postoperative day 7, during cystography, which showed a perfect anastomosis in all cases with a small leakage in 4 patients. Urinary continence was evaluated on the basis of the daily count of pads used, as reported by the patient. All patients had urinary flow evaluation one month after surgery and every month thereafter for six months and medium Qmax was 20 ml./sec.

Results

130 patients (86.6%), showed an immediate complete urinary continence, when the catheter has been removed. 18 patients (12%) had a mild urinary dribbling (2 to 3 pads /day), which disappeared within 4 to 6 weeks from surgery. 1 patient is completely incontinent, 1 patient has a stress incontinence. 7 patients (4.6%) showed a stenosis of the anastomotic tract occurred in all cases within 8 weeks from catheter removal and successfully treated with one single endoscopic procedure.

Interpretation of results

Incontinence following radical prostatectomy ranges from 6% to 20% even in the hands of skilled surgeons, and the variability of these results is due to multiple factors such as patients selection, surgeon experience, different surgical techniques, but also to the exact definition of "continence" and "incontinence". Complete urinary continence after radical retropubic prostatectomy depends mostly on a well-healed vesico-urethral anastomosis, and excess urinary extravasation has been often associated with contractures and subsequent incontinence. The results obtained with our surgical techniques on continence rate as above reported, are very encouraging when compared with those showed in Literature.

Concluding message

In our experience, the use of Capiro RP made every vesico-urethral anastomosis extremely easy and safe, reducing at the same time the risk of early or late complications. This surgical technique allows the needle to rotate perfectly deep inside the urethral stump, so that the suture can pass through the mucosal, the smooth fibers of the urethra, and the peri-urethral muscular aponeurotic fibers, thus preserving in most cases an immediate complete urinary continence. Capiro RP allows also a uniform depth of the sutures inside the urethra respecting the proper urethral realignment, without urinary extravasation, consenting to remove the catheter on post operative day 7, with positive psychological impact on patients, and reducing the incidence of stenosis of the anastomotic tract.

References

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<i>Is this a clinical trial?</i>	No
<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>	The study and the results obtained are based on a surgical technique.
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	Yes