

Urethral suspension during open retropubic radical prostatectomy: a novel method to improve early postoperative recovery of urinary continence.

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Background/Aim:

Postoperative urinary incontinence after radical prostatectomy (RP) may greatly affect patients' quality of life and may require a long time and further treatments to be addressed (1)

We show our results with a novel technique for urethral suspension during RP, which is a modification of the technique originally described by JW Thuroff et al. in 1992 (2); this latter considered the use of a single sling, harvested from the rectus muscle fascia, while we created one fascial limb on each side of the linea alba, then suturing both limbs to the vesico-urethral anastomosis, in order to suspend it and to avoid its downward dislocation (Fascial Anastomosis Suspension Technique: FAST).

Materials and methods.

A prospective, randomized study among 40 consecutive patients with localized prostate cancer (cT1-2 N0 M0) undergoing to open RP at our institution, with nerve-, bladder neck sparing technique, from June 2017 to October 2017: our standard technique for the anastomosis includes an interrupted suture with 3 stitches on both sides (towards 11, 9, 7 on the left, and toward 1, 3, 5 on the right), and a running suture on the posterior urethral plate (GROUP 1).

For the modified technique (FAST), once the anastomosis is sutured, 2 limbs of rectus muscle fascia on both sides of the linea alba are prepared, each 8 cm long and 1 cm wide, with a distal attachment; the free extremity is brought to the anastomosis and sutured to the stitch towards 7 on the left and to the stitch towards 5 on the right, under a mild perineal pressure to enhance the urethral suspension (group 2). All RP were performed by the same expert urologist (BM).

In 20 patients (GROUP 1) the standard vesico-urethral anastomosis was performed without additional procedures, while in 20 patients (GROUP 2) a suspension of the anastomosis was added to the standard vesico-urethral anastomosis.

We compared demographic data and preoperative and postoperative functional and oncological results in the two GROUPS. The primary endpoint was early continence; the secondary endpoints were perioperative and postoperative complications.

Continence results were evaluated in terms of number of pads per day and according to the International Consultation on Incontinence Questionnaire (ICIQ) score at 24 and 48 hours and at 4 weeks postoperatively. Continence was defined as the need of 0-1 pad per day.

Results

Continence rate (CR) for GROUP 1 and GROUP 2 was 15% Vs. 40% at 24 hrs; 20% Vs. 50% at 48 hrs, and 30% Vs. 70% at 4 weeks respectively ($p < 0.05$).

No urinary obstructive complications were recorded in patients who received a modified anastomosis suspension technique.

Conclusions:

Although on a small series of patients, our results show better early continence results for the patients who received a urethral suspension according to our technique, compared to patients who underwent RP according to a standard anastomosis technique without vesico-urethral anastomosis suspension. The mechanism on which early recovery of urinary continence following urethral suspension may be related, is basically unknown. Our hypothesis is that vesico-urethral anastomosis suspension created with 2 limbs of rectus muscle fascia may provide an additional support to the urethral striated sphincter, and a further stabilisation of posterior urethra within the pelvic diaphragm, while avoiding the potential obstructive complications on urinary flow related to sling compression.

We showed that postprostatectomy incontinence can be improved using a new technique for vesicourethral anastomosis during RP. FAST is simple and feasible procedure in open RP and can improve the early return to continence and improve the quality of life of patients after RP.

References

1. Nelson JB: The ongoing challenge of urinary incontinence after radical prostatectomy. *J Urol* 198: 1223-1225, 2017.
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