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EFFICACY OF ULTRASOUND-GUIDED PELVIC MUSCLE TRAINING

Hypothesis / aims of study

Stress incontinence markedly impairs the quality of life of the affected men, who regard the need to wear incontinence pads. As a result of the desire of early social continence many different therapeutic innovations have been designed: pelvic floor training, biofeedback, electrostimulation, magnetic field stimulation and finally surgery. In this setting we wanted to find a new and easier way to train patients to restore an effective pelvic floor muscle contraction using transrectal ultrasonography as a visual aid to control the correct closure of membranous urethra. The aim of this study is to assess if ultrasound guided pelvic floor training is an effective tool to obtain early continence comparing it with a control group

Study design, materials and methods

Between December 2008 and December 2009 we performed a total of 73 trans-rectal ultrasonographies using a Hitachi H21 with a biplane probe 7.5 MHz to assess vescico-urethral anastomosis eight days after retropubic radical prostatectomy. We introduced 120 ml of physiologic solution trans catheter and trough sagittal ultrasound sections we controlled if there was any liquid leakage at the anastomosis level. If no leakage was found we proceeded to remove urinary catheter. At this point we asked to 35 patients to contract external urethral sphincter under continuing ultrasonographic view and checked if the contraction was effective or not using both transverse and longitudinal sections. We then trained Patients to repeat that movement every day at least 30 times a day. The remaining 38 patients have been trained with verbal instructions and digital assessment of the efficacy of the contraction. Patients continence assessment took then place at 1, 4, 6 months post-operatively using bladder diary, ICIQ short form questionnaire, daily pads count (dry with 1 safety pad a day), 24 hour pad test.

Results

1 month	Ultrasound	Verbal	p
% dry (Pads count)	34%	30%	Ns
# of leakage ep a day (Bladder diary)	15	12Ns	
24 hour pad test	55	197	< 0.01
Change in ICIQ short form quest	25%	10%	< 0.01
4 months	Ultrasound	Verbal	p
% dry (Pads count)	65%	40%	< 0.01
# of leakage ep a day (Bladder diary)	13	11 Ns	
24 hour pad test	30	80 < 0.01	
Change in ICIQ short form quest	55%	22%	< 0.01
6 months	Ultrasound	Verbal	p
% dry (Pads count)	92%	66%	< 0.01
# of leakage ep a day (Bladder diary)	10	10 Ns	
24 hour pad test	5	27.8	< 0.01
Change in ICIQ short form quest	75%	40%	< 0.01

Interpretation of results

Transrectal ultrasonographic view of correct membranous urthra closure after radical retropubic prostatectomy allows operators to control the efficacy of patients pelvic floor contraction.

Concluding message

We demonstrated that percentage of continent patients 6 months after surgery is higher than the control group. Other randomized trials comparing different technique are required.

Disclosures

Funding: None **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** Ethics Committee of Azienda Ospedaliero Universitaria di Udine **Helsinki:** Yes **Informed Consent:** Yes