

TWO-DIMENSIONAL PERINEAL ULTRASONOGRAPHY IN MEN BEFORE AND AFTER RADICAL PROSTATECTOMY

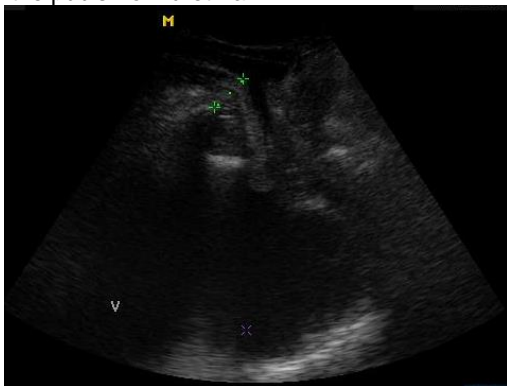
Hypothesis / aims of study

Perineal ultrasound is a well accepted method for women with stress urinary incontinence ⁽¹⁾. We evaluated feasibility of this method for men before and after radical prostatectomy with and without stress urinary incontinence ⁽²⁾. This study investigated whether there are differences in a dynamic evaluation of the urethra and pelvic floor contraction using perineal ultrasonography.

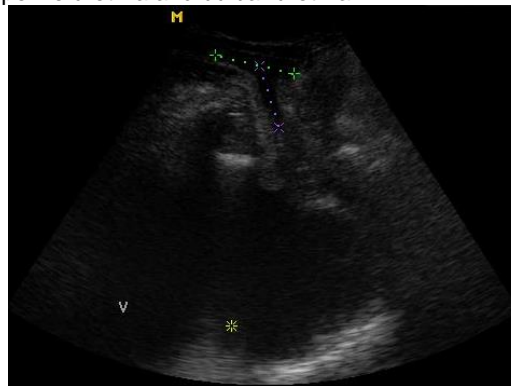
Study design, materials and methods

This clinical study involved 92 male patients, with a mean age of 66.4 years (range from 47 to 75), which 70% of them underwent radical prostatectomy (RP) more than one year. Thirty one men with clinically and urodynamic post prostatectomy incontinence were compared to 34 patients without post prostatectomy incontinence and to 27 men without surgery. A 3.5-5 MHz ultrasound transducer, a two-dimensional (2D) imaging, was placed in mean line between scrotum and anus. All underwent perineal ultrasound examination following standardized criteria under the three conditions of rest, contraction and a Valsalva maneuver. Ultrasound images were taken under each condition by two independent examiners for evaluation. For all conditions it was recorded the pubis distance from urethra and the urethral angle in all 92 patients.

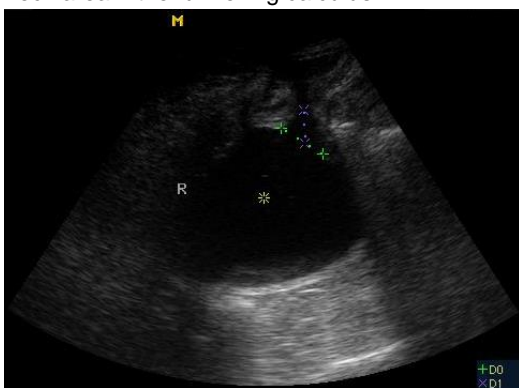
This picture shows the distance between the pubis from urethra



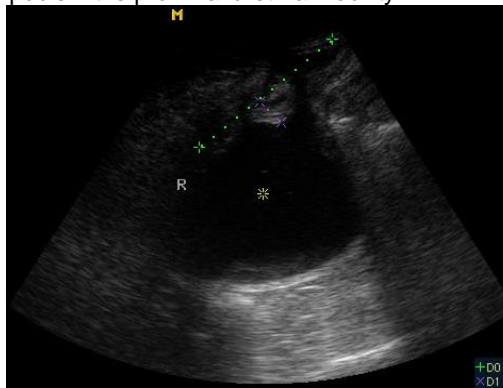
This picture shows the angle between the penile urethra and bulbar urethra.



This picture below shows the bladder neck area – the funnelling calculus



Distance between the bladder neck from pubis – the proximal urethra mobility



Results

The perineal ultrasonography enables to visualize hypermobility of the proximal urethra, funnelling of the bladder neck, voluntary pelvic floor contraction, urethral and bladder neck angles. The most important differences were observed in the group with severe post prostatectomy urinary incontinence, mainly in the degree of hypermobility of the proximal urethra, lower the voluntary muscle contraction and opening of the bladder neck.

Interpretation of results

Two-dimensional perineal ultrasonography provides more insight into the diagnosis of men with post prostatectomy incontinence. Perineal ultrasonography can be used further as a visual aid for biofeedback to teach correct muscle contraction of men with stress incontinence after radical prostatectomy.

Concluding message

Perineal ultrasound is a cheap, non-invasive and reproducible diagnostic procedure which can be recommended for the evaluation of post prostatectomy incontinence and may help in the selection of a suitable surgical procedure.

References

1. TROEGER C et al. Correlation of perineal ultrasound and lateral chain urethrocytography in the anatomical evaluation of the bladder neck. International Urogynecology Journal. 2003, 14; 380-4.
2. Two and three/four dimensional perineal ultrasonography in men with urinary incontinence after radical prostatectomy. British Journal of Urology, 2011, doi: 10.1111/j.1464-410X.2011.10191.x

Disclosures

Funding: None **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** Comitê de ética em pesquisa - Faculdade de Ciências Médicas - UNICAMP Comitê de ética em pesquisa - Hospital Universitário Pedro Ernesto - UERJ **Helsinki:** Yes
Informed Consent: Yes