

URODYNAMIC EVALUATION OF BLADDER COMPLIANCE AND DETRUSOR ACTIVITY FOLLOWING RADIOTHERAPY FOR PROSTATE CANCER

Nada Kyal, Hasnaa Boutalja, Ryme El Beloui, Khaoula Rsaissi, Fatima Lmidmani, Abdellatif El Fatimi

CHU Ibn Rochd - Department of Physical Medicine and Rehabilitation, Morocco

e-mail: nadakyal@gmail.com

Background and Aims

Local treatment of prostate cancer (PC) involves radical prostatectomy and radiotherapy (RT). Despite significant advancements in RT techniques, these modalities can adversely affect the genitourinary system. Lower urinary tract symptoms (LUTS) are among the most commonly reported side effects of RT, primarily resulting from radiation-induced genitourinary toxicity. This study aimed to evaluate bladder compliance and detrusor activity following radiotherapy for prostatic cancer using urodynamic study (UDS)

Methods

This is a single-center prospective study, including 41 patients who underwent radiotherapy for prostate cancer. All patients had completed radiotherapy at least 12 months before UDS to assess bladder compliance and detrusor activity during filling cystometry. We evaluated LUTS using Urinary Symptom Profile (USP), 3-day frequency-volume charts (FVC) and post-void residual (PVR) measurement.

Results

Medical records of 41 patients were analysed. The mean age was 65.23 years. The evaluation of LUTS was done after an average of 20 months after finishing radiotherapy. 73.2% had radical prostatectomy prior to radiotherapy. 46.34% had hormone therapy and 36.6% had chemotherapy. About LUTS, 68.3% had urgency urinary incontinence, 63.4% stress urinary incontinence and 61% dysuria. Using USP, stress urinary incontinence subscore was 7/9, overactive bladder subscore 16/21 and dysuria subscore was 6/9. FVC showed increased urinary frequency and an average voided volume of 150 ml. All patients had filling cystometry that revealed a poor bladder compliance in 24.4% and detrusor overactivity (DO) in 19.6%.

Conclusion

Radiotherapy for prostate cancer induces a low bladder compliance and capacity. DO may occur following radiotherapy. The small sample size (41 patients) highlights the need for further prospective studies to clarify and confirm the effects of radiotherapy on bladder and urethral function.

Keywords: Prostate cancer, radiotherapy, urodynamic, compliance