Urethral pressure profile for the perioperative assessment of the patients undergoing Radical Prostatectomy

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Introduction
The urethral pressure profile (UPP) is used for the assessment of male patients with post-operative incontinence, is routine in many urodynamic units. Its value in the prediction of outcome of anti-incontinence surgery. UPP showed that both maximum urethral closure pressure (MUCP) and functional profile length (FPL) decrease significantly after RRP. Low preoperative MUCP and FPL are associated with an increased risk of Post Radical Prostatectomy Incontinence (PRPI). We assessed its value between using a pressure bag and by gravity of the outcome of the measurement.

Objectives
To investigate if urethral pressure profile (UPP) should be performed under gravity (UPPG) or under pressure of 150mmHg (UPPP) and the association of UPP findings with urinary continence at 3rd month after radical prostatectomy.

Methodology
We prospectively assessed the patients who were scheduled for radical prostatectomy from January to December 2013 in urology nurse clinic pre-operatively, 1st and 3rd month after radical prostatectomy. Pre-operative patient counselling, 1-hour pad test, CMG and urethral pressure profile (UPP) were performed.

Result
There were 33 patients fulfilled the inclusion criteria. Fifty percent (16/32) patients achieved urinary continence by having <=1gram urine leak in 1-hour pad test. At 3 months after prostatectomy, the functional profile length decreased from 6.1cm pre-operatively to 2.4cm by UPPG and decreased from 6.1cm to 3.1 cm by UPPP. Similarly, the maximal urethral closure pressure (MUCP) decreased from 67 to 43cmH2O by UPPG and decreased from 86 to 53 cmH2O by UPPP. However only the MUCP from UPPG correlated with the urinary continence at 3rd month (p=0.014).
The preoperative UPPP masked the pressure peak pattern from internal sphincter and the prostate which predicted the continence outcome at 3rd months after prostatectomy (p=0.028). Conclusion: UPP performed by gravity correlated better that performed with pressure bag with the clinical urinary continence at 3rd months after radical prostatectomy. The pattern of pre-operative UPP predicted the early continence outcome which facilitated patient counseling.