

CHANGES IN URODYNAMIC PARAMETERS OF THE FILLING PHASE AFTER TRANSURETHRAL MICROWAVE THERMOTHERAPY (TUMT): A RANDOMISED STUDY COMPARING PROSTASOFT 2.5 VERSUS 30-MINUTE

Aims of Study

Transurethral resection of the prostate (TURP) is the gold standard treatment for symptomatic benign prostatic hyperplasia (BPH) (1). It has been shown that a reduction of bladder outlet obstruction (BOO) following TURP can produce a modification of bladder behaviour in the filling phase; in particular, a reduction of percentage of patients with detrusor overactivity has been observed (2). There are no published data on changes in the bladder filling phase after transurethral microwave thermotherapy (TUMT). Aim of this study was to evaluate urodynamic parameters of the filling phase in BPH patients before and after TUMT treatment and to compare two different TUMT treatment protocols (Prostasoft 2.5 and Prostasoft 30-minute) with regard to this aspect.

Methods

Urodynamic data of 33 patients successfully treated with TUMT using the Prostatron® were retrospectively evaluated. Patients had been randomized to receive TUMT with Prostasoft v. 2.5 (Group A: 16 pts.) or v. 30-minutes (Group B: 17 pts). The following urodynamic parameters of the filling phase were evaluated: involuntary detrusor contractions (IDC) threshold and amplitude, bladder capacity and compliance, first desire to void, presence of urge incontinence during the examination. Results of the pre- and post- treatment urodynamic evaluation were compared for all patients and for groups A and B separately.

Results

All patient showed a significant reduction of BOO; mean Schafer grade was reduced from 3.8 ± 1.37 to 1.56 ± 0.81 with TUMT 2.5 ($p < 0.001$) and from 3.11 ± 1.11 to 1.88 ± 1.11 with 30-min ($p = 0.001$). A significant change in Qmax, Pdet@Qmax and URA (Group-specific Urethral Resistance Algorithm) was evident from baseline to 6 months in all patients. No urodynamic parameter of the filling phase was significantly changed after TUMT considering all subjects (see table).

	Baseline		
	Total (mean ± SD)	Group A (mean ± SD)	Group B (mean ± SD)
N. patients	33	16	17
Patient with detrusor overactivity (n)	27	15	12
First desire (ml)	125 ± 43.76	134 ± 52.21	119 ± 40.23
IDC threshold (ml)	212.24 ± 160.73	187.33 ± 118.41	238.93 ± 143.46
IDC amplitude (cmH2O)	69.33 ± 32.44	78.33 ± 48.91	58.08 ± 32.34
Bladder capacity (ml)	355.45 ± 106.08	334.38 ± 90.83	367.53 ± 104.14
Bladder compliance (ml/cmH2O)	54 ± 12	53 ± 11	55 ± 12
Urge incontinence (n)	3	2	1
	6 months		
N. patients	33	16	17

Patient with detrusor overactivity (n)	24	13	11
First desire (ml)	128 ± 44.46	136 ± 53.23	122 ± 42.33
IDC threshold (ml)	246.48 ± 117.08	236.67 ± 108.47	257 ± 128.94
IDC amplitude (cmH2O)	55.25 ± 29.58	59.38 ± 26.12	50.37 ± 33.84
Bladder capacity (ml)	362.58 ± 103.31	351.13 ± 99.56	389.12 ± 81.92
Bladder compliance (ml/cmH2O)	55 ± 16	54 ± 17	56 ± 15
Urge incontinence (n)	3	2	1

In group A a significant increase of the IDC threshold (236.67 ± 108.47 vs. 187.33 ± 118.41 , $p=0.047$) and a significant decrease of the IDC amplitude (59.38 ± 26.12 vs. 78.33 ± 48.91 , $p=0.027$) were observed at six month urodynamic follow-up.

Conclusions

TUMT can obtain a reduction of pre-treatment detrusor overactivity; this reduction is lower than that previously reported after TURP and seems to be related to the protocol of treatment chosen. Prostatsoft v. 2.5 seems to guarantee the better results on these parameters, while Prostatsoft v. 30-minutes does not show any clear effect on bladder filling phase.

References

1. Walsh P.C.: Benign prostatic hyperplasia. Walsh P, Retik A et al: Campbell's Urology (6th edition), Verduci Editore, Roma, 1999; pag. 1041-1061.
2. Van Venrooij GE, Van Melick HH, Eckhardt MD, Boon TA.: Correlations of urodynamic changes with changes in symptoms and well-being after transurethral resection of the prostate. J Urol 2002 Aug;168(2):605-9