

VAGINAL WEIGHT CONES IN THE MANAGEMENT OF OVERACTIVE BLADDER SYNDROME: THE EFFECT ON QUALITATIVE AND URODYNAMIC MEASURES

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Hypothesis / aims of study

Vaginal weight cones have been shown to be effective in the management of stress incontinence¹ and pelvic floor muscle (PFM) exercises have been shown to reduce urge incontinence². However, the use of vaginal weight cones on overactive bladder syndrome has not been studied previously.

The aim of this study was to evaluate the effectiveness of vaginal weight cones in the management of overactive bladder syndrome in terms of symptom bother, clinical and urodynamic measures.

Study design, materials and methods

Sixteen patients with idiopathic overactive bladder syndrome were enrolled in this prospective study. At the initial visit, all patients were evaluated by recording a 3-day voiding diary and 24hr pad-weight test. In addition, UDI-6, IIQ-7, Wagner and Overactive Bladder-Validated 8 Question Awareness Tool (OAB-V8) Questionnaires were used for the evaluation of symptom bother and quality of life measures. Urogynecologic examination included pelvic floor muscle strength assessment by digital palpation and pelvic organ prolapse (POP) assessment by the POP quantification system. Women with stage ≥ 2 POP were excluded. Then, all women underwent conventional urodynamic studies evaluating filling cystometry studies, conformed to International Continence Society (ICS) recommended good urodynamic practice guidelines.

Treatment was planned for 8 weeks and the patients received 4 cones of equal shape and size, increasing in weight from 20 to 68g. Treatment was started with the lightest weighted cone (20g) 10 minutes twice a day, while standing. Weight of the cones were increased at each visit every week if they were able to retain the cones in place for 10 minutes. At the end of 4 weeks, all patients had been able to use the heaviest cone and completed the treatment.

After treatment for 8 weeks, all clinical examinations and urodynamic investigations were repeated and compared with the initial evaluation.

Results

The study comprised 16 patients with a mean age of 49,63 years (range, 29 – 67 years). After treatment for 8 weeks with vaginal weight cones, mean frequency decreased from 8.31 to 6.86 ($p=0.006$), mean nocturia decreased from 1.88 to 1.44 ($p=0.034$) and mean daily incontinence episodes decreased from 3.38 to 1.11 ($p=0.008$) (Table 1). The mean pelvic floor muscle strength assessed by digital palpation increased from 2.68 to 3.38 ($p=0.003$) and the mean 24 hour pad weight decreased from 25.75 g to 8.75 g ($p=0.003$). Statistically significant decrease was observed in the mean total scores on UDI-6, IIQ-7, WAGNER ve OAB-V8 ($p=0,019$, $p<0,001$, $p=0,002$ and $p=0,003$, respectively) (Table 2). On urodynamic investigation, maximum bladder capacity tended to increase from 368 ml to 430 ml, but did not reach statistical significance ($p=0,070$). First sensation increased from 110 ml to 160 ml ($p=0,035$) (Table 3).

Interpretation of results

We found that treatment with vaginal weight cones resulted in a significant decrease in OAB symptoms. The improvement in OAB symptoms was confirmed on urodynamic investigation. This may be explained by the "voluntary urinary inhibition reflex"; PFM contractions are believed to suppress involuntary voiding in patients with overactive bladder through this theory. Puborectalis muscle and external urethral sphincter contractions supposedly prevent internal sphincter relaxation induced by the micturition reflex, with a resulting detrusor relaxation and suppression of involuntary voiding³.

Concluding message

Pelvic floor muscle exercise using vaginal weight cones may be used as an effective and safe method in the management of OAB.

Table1.

Bladder diary parameters	Before treatment	After treatment	P
Frequency (SD)	8,31±2,8	6,86±1,9	0,006
Nocturia, Median (Min-Max)	1,88(0-4)	1,44(0-3)	0,034
Urge incontinence episode (SD)	3.381±3,1	1,110±1,79	0,008
Questionnaires	Before treatment	After treatment	P

Table 2.

UDI-6 (SD)	8,56±2,27	6,56±3,3	0,019
IIQ-7 (SD)	12,06±4,9	4,38±3,5	<0,001
WAGNER (SD)	40,50±23	27,63±21,9	0,002
AAM -V8 (SD)	27,75±7,1	18,75±11,5	0,003

Table 3.

Urodynamic parameters	Before treatment	After treatment	P
Maximum bladder capacity (ml)	368,19±122	430±136	0,070
Mean volume at first sensation(ml)	110,69±62	160,11±55	0,035
Normal desire to void (ml)	183±69,6	224±48,9	0,104
Strong desire to void (ml)	279±119	344±49	0,483

References

1. Herbison P, Mantle J, Dean N: Weighted vaginal cones for urinary incontinence. Cochrane Database of Systematic Reviews 2002;(1):CD002114. Review.
2. Flynn L, Cell P, and Luisi E: Effectiveness of pelvic muscle exercises in reducing urge incontinence among community residing elders. J Gerontol Nurs. 1994; 20(5):23-7.
3. Ahmed Shafik, Ali A Shafik Overactive bladder inhibition in response to pelvic floor muscle exercises World J Urol 2003; 20: 370–377.

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Is this a clinical trial?	Yes
Is this study registered in a public clinical trials registry?	No
Is this a Randomised Controlled Trial (RCT)?	No
What were the subjects in the study?	HUMAN
Was this study approved by an ethics committee?	Yes
Specify Name of Ethics Committee	Institutional Review Board
Was the Declaration of Helsinki followed?	Yes
Was informed consent obtained from the patients?	Yes