

VOIDING URGENCY AND PELVIC FLOOR MUSCLE CONTRACTION STRENGTH IN WOMEN WITH MIXED URINARY INCONTINENCE

Aims of study

In women with mixed (stress + urge) urinary incontinence, we tried to ascertain whether the strength of pelvic floor (PF) muscle contractions would be affected by voiding urgency,. This latter was defined as a sense of imminent leakage accompanying a strong desire to void and being usually associated with detrusor overactivity (DO).

Methods

We studied 100 consecutive women referred during the period 1995-1998 for urodynamic assessment of urinary incontinence. Other conditions (including drug treatments) that might affect detrusor and/or urethral function were excluded. No patient had bladder outflow obstruction or impaired detrusor contractility. None had an open bladder neck at rest cystograms on standing. No urgency was shown by Group 1 (n=50), aged 53+/-13 (median 53) years, who had a urodynamic stress incontinence (USI), i.e., urine losses due to abdominal pressure rises, in the absence of detrusor contractions at cystometry (CMG). Group 2 (n=50), aged 50+/-12 (median 50) years, had a mixed incontinence (=their urine losses were amenable partly to USI and partly to DO incontinence, i.e., to involuntary detrusor contractions immediately preceded by urgency). We urodynamically quantified urgency by the delay time of urgent void (t_{urg}), i.e., the time interval (in minutes) elapsed at CMG from the moment when urgency was first felt to the moment when involuntary voiding began. Group 2 patients were split into Groups 2A (n=25), aged 49+/-13 (median 45) years, and 2B (n=25), aged 51+/-11 (median 52) years. The former group had a t_{urg} of at least 2 minutes, which we held as a reasonable index of moderate urgency, whilst the latter had a t_{urg} of <2 minutes, held by us as an index of severe urgency. Each woman had a rest and 'holding' urethral pressure profile (UPP) performed in the supine position by a 7F microtransducer catheter. No patient had a maximum urethral closure pressure of <30 cm H₂O. A holding UPP was obtained with the patient trying 'to hold urine' by contracting the PF muscles (without straining) at regular time intervals. The maximum urethral pressure thus determined (hMUP) was assumed to indicate the contraction strength of the PF muscles. Dunn's multiple comparison procedure following a Kruskal-Wallis test checked for significant differences among the 4 groups.

Results

Patients' ages did not differ significantly in the 4 groups. History taking showed that Group 2B felt urgency more than half (and Group 2A less than half) of the times they voided. Group 2B had at least 1 urge incontinence episode (whilst Group 2A had none) during the 2 weeks preceding urodynamics. The parameter hMUP was relatively higher in Group 2 than in Group 1, but did not differ significantly between Groups 1 and 2B.

Conclusions

A close link could be found in the present female patient population between voiding urgency and PF muscle strength. This latter was actually greater in the women with mixed (USI + DO) incontinence (who had urgency) than in those with USI (who had no urgency at all). Such increased strength proved more closely related to the mere presence of the urge symptom (=to the PF muscle exercise in response to urgency) than to urge severity (which may have ultimately caused PF muscle fatigue due to the same exercise becoming more and more frequent).

TABLE - Means +/- standard deviation (medians in brackets) of the parameter hMUP in the 4 groups.

	Group 2A	Group 2	Group 2B	Group 1
hMUP	84+/-11 (84)	75+/-16 (74)	65+/-11 (64)	64+/-12 (62)