

PUDENDAL SOMATOSENSORY EVOKED POTENTIAL IN ASSESSMENT OF WOMEN WITH PURE STRESS AND MIXED URINARY INCONTINENCE

Hypothesis / aims of study

Although Idiopathic detrusor overactivity is a frequent urodynamic finding associated to female stress urinary incontinence (SUI), its cause remains controversial. Some authors speculate the possible stimulus of urine passing through the urethra is the trigger mechanism for bladder overactivity (1). The pudendal somatosensory evoked potential latency (SSEP) has been used as a predictive test for evaluation of the central nervous system integrity. Herein, we intend to evaluate the SSEP in incontinent women by comparison of the findings on SUI and mixed urinary incontinence in order to check the possibility of concomitant neurological occult abnormalities.

Study design, materials and methods

Thirty-three female patients with clinical and urodynamic diagnosis of stress (22 patients) and mixed (11 patients) urinary incontinence and without known neurological dysfunction were enrolled in this study. Age, parity, vaginal delivery and height were respectively (mean \pm SD) 55.5 \pm 13.3 years, 3.2 \pm 2.5, 2.8 \pm 2.6 and 155 \pm 6 centimeters (cm). Patients with Mixed urinary incontinent (MUI) had respectively 56.7 \pm 14.8 years, 2.9 \pm 1.2 deliveries, 2.2 \pm 1.6 deliveries and 154 \pm 3 cm. Comparison of both groups were made with 38 age related normal female volunteers acting as a control group (38.9 \pm 12 years, 1.6 \pm 1.3 deliveries, 0.9 \pm 1.3 deliveries and 158 \pm 8 cm, respectively). There were significant difference with age ($p < 0.0001$), parity ($p = 0.002$) and vaginal delivery ($p = 0.0006$) between incontinent groups and control group. SSEP latency, in milliseconds (ms), was obtained by bilateral clitoral stimulation and recording on scalp (Cz' – Fz). Kruskal-Wallis test was used to test differences.

Results

Table below resumes the mean P₁ latency in different groups.

	Control Group	SUI	MUI	p Value
SSEP right stimuli (ms)	37.4 \pm 3.1 (29.6 – 42.2) n=35	37.8 \pm 4.8 (31.6 - 55.0) n=21	37.4 \pm 2.7 (31.4 - 41.2) n=11	0.98
SSEP left stimuli (ms)	37.7 \pm 2.6 929.4 – 42.2) n=36	36.3 \pm 3.5 (30.0 – 41.4) n =22	38.9 \pm 1.6 (35.2 – 40.8) n=11	0.08

Interpretation of results

There is no significant difference in the mean P₁ latency between incontinent patients (stress and mixed) and control groups after bilateral stimulation comparison.

Concluding message

Although a tendency to higher values was found in incontinent women with detrusor overactivity when the stimuli were accomplished on the left side, no significant difference between both groups was established through SSEP. Therefore these findings suggest a similar situation in the central nervous system of patients with stress and mixed urinary incontinence.

Reference

1. Urethral afferent nerve activity affects the micturition reflex: implication for the relationship between stress incontinence and detrusor instability. J. Urol. 162: 204-12, 1999.

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