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Title: A 15 YEAR FOLLOW-UP OF URINARY SYMPTOMS AND PELVIC FLOOR NEUROPHYSIOLOGY

Aims of Study:

A study of primiparous women between 1985-1987 demonstrated that vaginal delivery causes partial denervation of the striated muscle of the pelvic floor (1). Further changes in pelvic floor neurophysiology were reported when these women were restudied five years later (2). This study aims to reassess whether further changes are present in the same cohort of women fifteen years after the original study.

Methods:

Longitudinal study of 96 women recruited as primips in 1985-1987 and restudied five years later. Current symptoms recorded using self-administered: Bristol Urinary Symptom Questionnaire, Manchester and King's Health Quality of Life Questionnaires. Clinical and neurophysiological examination of the pelvic floor. Comparison with previous data by means of paired 't' tests and chi-square analysis.

Results:

Sixty women (62.5%) of the original cohort have been contacted and have agreed to participate. To date 40.4%(39/96) have responded either by completing questionnaires only (22/39) or attending for further clinical and neurophysiological examination (17/39). Mean age 42 years (35-50years). Mean BMI 26kg/m^2 (17-35).

Stress incontinence was reported by 64.1%(25/39) compared to 55% in 1993 (p=0.589). 20.5%(8/39) reported stress incontinence as a problem with 8.6%(3/39) reporting it as 'quite a problem'. 30.8%(12/39) reported urge incontinence.

Vaginal pressures were recorded using a perineometer and current values compared with those previously recorded:

Time/year	Mean Vaginal Pressure (cm H_20)	p value (compared to 2000)
Antenatal 1985-1987	11.9	0.022
Postnatal	8.9	0.005
1993	18.1	0.284
2000	20.1	

Concentric needle EMG of the pelvic floor recorded motor unit durations and these were compared with previous values:

Time/year	Mean motor unit duration (ms)	p value (compared to 2000)
Antenatal 1985-1987	3.22	0.005
Postnatal	5.23	0.008
1993	6.44	0.08
2000	8.89	

Terminal motor latencies of the urethral sphincter and pelvic floor were compared with previous results:

Time/year	Mean latency Pelvic floor (ms)	p value (compared to 2000)	Mean latency Urethral Sphincter (ms)	p value (compared to 2000)
Postnatal	2.02	0.176	2.23	0.18
1993	2.34	0.892	2.42	0.47
2000	2.26		3.0	

Conclusions:

Since 1993 there has been no significant increase in the prevalence of urinary incontinence in these women and there has been no further increase in pelvic floor muscle strength. Terminal latency measurements to the pelvic floor and urethral sphincter are essentially unchanged. However there would appear to be a trend towards increased pelvic floor mean motor unit duration which suggests continuing denervation with the passage of time.

References:

Pelvic floor damage and childbirth: a neurophysiological study. Br J Obstet Gynaecol 1990;97:770-779.

Pelvic floor damage and childbirth: a neurophysiologic follow up study. Neurourology and Urodynamics 1994; 13:357-358

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