

PELVIC FLOOR DYSFUNCTION AND CHILBIRTH

Aims of Study

Childbirth may predispose some women to pelvic floor dysfunction. Vaginal delivery may induce myogenic or neurogenic damage [1, 2], which may be associated with the development of urinary incontinence (U.I.). The aim of this study was to evaluate the effect of childbirth on the pelvic floor function, assessing pelvic floor muscle strength and pudendal nerve function during pregnancy and after delivery.

Methods

Primigravidae women attending for antenatal care, were prospectively studied, at third trimester of pregnancy and again at six weeks and six months after childbirth. All were singleton pregnancies without diabetes mellitus, neurologic disorders or UI before pregnancy. Pelvic muscle strength was evaluated by vaginal EMG, vaginal pressure (Kontinence Clinical 2000) and palpation of the pelvic floor muscles (Oxford Score 0-5). Pudendal nerve function was assessed by pudendal nerve terminal motor latency (PNTML) that was measured transvaginally using the St Mark's disposable pudendal electrode (Dantec machine). All evaluations as well the filling of questionnaires regarding urinary symptoms were carried out during pregnancy and after childbirth. Maternal and obstetric data were collected. Statistical analysis of the data were performed using Kruskal-Wallis and U-Mann-Whitney tests (SPSS 10.0)

Results

Data from all questionnaires and vaginal EMG, vaginal pressure and palpation of the pelvic floor muscles were completed on 66 women at 3rd trimester, 49 at 6 weeks and 44 at 6 months after delivery. From those women, PNTML and amplitude were recorded on 54 women at 3rd trimester, 46 at 6 weeks and 35 at 6 months after postpartum. Of the 66 women 42.4% had normal vaginal delivery and 25.8% assisted vaginal delivery (vacuum extraction) and 31.8% cesarean section. Women who delivered vaginally had significantly decreased values of pelvic floor strength (PFS) compared with those who delivered by cesarean section (p: 0.049). There is no decrease of PFS after cesarean section. No significant increase of PNTML was found in women after childbirth, however, higher values were found after vaginal delivery and the highest values after vacuum extraction. We found an unchanged PNTML after cesarean section.

Conclusions

There is a significant decrease of pelvic floor strength after vaginal delivery and a no significant increase of pudendal latency. These findings suggest that in this study, pelvic floor damage may be due more to direct obstetric rather than neurological causes. Functional disturbance in the pelvic floor occurs during vaginal delivery. Cesarean section appears to protect the pelvic floor.

References

1. Neurourol Urodyn 1998;17:197-205
2. Int Urogynecol J 2001;12:81-82