

CHANGES IN PELVIC FLOOR FUNCTION AFTER CHILDBIRTH

Aims of Study

Urinary and fecal incontinence in women are problems that occur frequently after childbirth. Elective caesarian section to prevent these symptoms is a matter of ongoing debate. Myogenic as well as neurogenic damage to the pelvic floor are thought to be responsible for the development of incontinence symptoms after delivery. Aim of our study was to compare the function of the pelvic floor in primigravid women during pregnancy and post partum.

Methods

112 primiparae with uneventful pregnancy were included into the ongoing study. Women were recruited between the 32nd and 37th week of pregnancy, the follow up visit was performed 6 months after childbirth. Up to now 73 women returned for follow-up visit. Before and after childbirth women filled out a detailed questionnaire concerning the symptoms of urinary and anal incontinence. A urogynecological examination including a digital palpation of the levator ani muscle contraction, measurement of the width of the genital hiatus and the perineum, perineal ultrasound to evaluate bladder neck mobility, endoanal ultrasound and anal manometry were performed.

Results

45 of the 73 women (61.6%) had a spontaneous vaginal delivery, 16 (21.9%) were delivered by vacuum extraction and 12 (16.4%) had a caesarean section. The average weight of the baby was 3316g (2260–4480g). Eight women (11%) had a median and 16 (21.9%) had a mediolateral episiotomy. Two third degree perineal tears (2.7%) were reported.

The results of the questionnaire concerning urinary and anal incontinence are presented in Table 1:

n=73	before pregnancy	6 months post partum	p-value
SUI	1 (1.4%)	15 (20.5%)	.001
Urgency/Urge incontinence	1 (1.4%)	2 (2.7%)	n.s.
Wind incontinence	6 (8.2%)	16 (21.9%)	.013
Fecal Urgency	-	2 (2.7%)	n.s.
Fecal incontinence	-	3 (4.1%)	n.s.

Table 1 n.s.=not significant, p>.05, McNemar-test

Three of the patients after caesarean section had persistent wind incontinence after delivery but no de novo wind incontinence occurred after caesarean section.

The results of pelvic floor testing are presented in Table 2:

n=73	During pregnancy	6 months post partum	p-value
Levator ani muscle contraction (Oxford score 0-5)	2.80 (1.05)	2.58 (1.11)	n.s.
Length of introitus (in cm)	2.75 (0.50)	2.84 (0.63)	n.s.
Length of perineum (in cm)	3.85 (0.86)	3.00 (0.59)	n.s.
Thickness M. sphincter ani externus (in cm)	0.83 (0.17)	1.14 (0.45)	n.s.
Thickness M. sphincter ani internus (in cm)	0.20 (0.06)	0.18 (0.05)	n.s.

Table 2 Mean value (standard deviation); n.s.= not significant with p>.05, t-test

Endoanal ultrasound showed seven occult sphincter defects in addition to the two known sphincter ruptures. There was no correlation between sphincter lesions and the presence of symptoms of anal incontinence after childbirth.

Perineal ultrasound showed no significant difference between the position of the bladder neck before and after delivery. The mobility of the bladder neck was higher after vaginal delivery by vacuum compared to spontaneous delivery or C-section.

Conclusions

This study shows that there is a significant increase of urinary and wind incontinence after vaginal delivery. No women after caesarean section had de novo symptoms of incontinence after delivery. The parameters of the pelvic floor testing showed no difference before and after childbirth. The number of occult sphincter defects was high, but did not correlate with symptoms of anal incontinence.