NEUROUROLOGY & FEMALE UROLOGY

Displacement and Recovery of the Vesical Neck Position during Pregnancy and After Childbirth

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Aims: (i) To describe the displacement and recovery of the vesical neck position during pregnancy and after childbirth and (ii) to discriminate between compliance of the vesical neck supporting structures with and without pelvic floor contraction.
Methods: We focussed on the biomechanical properties of the vesical neck supporting structures during pregnancy and after childbirth by calculating the compliance and the hysteresis as a result from of abdominal pressure measurements and simultaneous perineal ultrasound.
Results: This study shows that compliance of the supporting structures remains relatively constant during pregnancy and returns to normal values 6 months after childbirth. Hysteresis, however, showed an increase after childbirth, persisting at least until 6 months post partum.
Conclusions: Vaginal delivery may stretch and or load beyond the physiological properties of the pelvic floor tissue and in this way may lead to irreversible changes in tissue properties which play an important role in the urethral support continence mechanism.

Editorial Comment

This manuscript reviews the effects of vaginal delivery on the biomechanical properties of the bladder neck and the pelvic tissues that support same. The authors found that the dynamic properties of the pelvic floor tissue only undergo a transient change and by six months, the dynamic component has returned to normal. In contrast, the effects of childbirth on hysteresis (failure of tissue to follow the same course during relaxation as during distention) are permanently altered with pregnancy. It is stated in the manuscript that the changes are potentially secondary to the delivery overwhelming the intrinsic properties of the pelvic floor tissues thus leading to permanent alteration. Along these same lines, the effectiveness of cesarean section in preventing the development of post-partum stress urinary incontinence has already been reported in the literature and reviewed in this journal (1).

Reference

1. Groutz A, Rimon E, Peled S, Gold R, Pauzner D, Lessing JB, et al.: Cesarean section: does it really prevent the development of postpartum stress urinary incontinence? A prospective study of 363 women one year after their first delivery. Neurourol Urodyn. 2004; 23: 2-6.

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Parameters of Bladder Function in Pre-, Peri-, and Postmenopausal Continent Women without Detrusor Overactivity

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Aims: To determine normative data for lower urinary tract function in asymptomatic continent women without detrusor overactivity (DO) across the age span.
Methods: Healthy female volunteers aged > or =20 years were recruited from the community. Comprehensive assessment included bladder diary, physical examination, uroflowmetry, and video-urodynamics. Continent women without history of frequent urgency and without DO were selected. Data on bladder storage, voiding and urethral sphincter function, urine output and frequency are presented for pre-, peri-, and postmenopausal women.
Results: Twenty-four asymptomatic women (mean age 50.2 years, range 22-80 years) met the inclusion criteria, including 7 pre- (29.2 years), 7 peri- (48.8 years), and 10 postmenopausal (66.0 years) women. For all subjects, maximum single voided volume in bladder diary was 500 ml and maximum cystometric capacity was 580 ml (median values). Strong desire to void (SDV) was reported at 287, 366, and 425 ml for pre-, peri-, and postmenopausal groups, respectively. The maximum flow rate was 25, 32, and 23 ml/sec in uroflowmetry and 23, 24, and 18 ml/sec in pressure-flow study, respectively. Median post-void residual volume (PVR) was below 20 ml in all groups. At maximum flow rate subjects voided with detrusor pressures of 29, 26, and 24 cm H(2)O, respectively. Maximum urethral closure pressure was 94, 74, and 42 cm H(2)O, respectively.
Conclusions: We provide normative data on bladder function in asymptomatic, continent, pre-, peri-, and postmenopausal women without DO.

Editorial Comment

As stated by the authors “this is the first comprehensive evaluation of voiding storage and urethral sphincter function in carefully selected asymptomatic continent, pre-, peri-, and post-menopausal women without DO”. A well-written manuscript that deserves to be included in one’s file of reference articles. Of note is that the rigid criteria used combined with the prevalence of detrusor overactivity and urodynamic/voiding abnormalities yielded a very small study population distilled from a much larger population of volunteers: of the 396 women that initially responded and were interviewed over the telephone only 24 patients met the selection criteria and in addition only 3 of these were over the age of 73 years of age. This finding solidly raises the question of what really is normal with regards to bladder function and voiding habits as opposed to what is physiologic perfection.

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