

526 Abstracts

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Author(s): H.P. Dietz, B. Clarke

Institution, city, country: Royal Hospital for Women, Sydney, and Royal Women's Hospital, Brisbane, Australia

Title (type in CAPITAL LETTERS, leave one blank line before the text):

IS THERE AN ASSOCIATION BETWEEN ANTERIOR VAGINAL WALL RELAXATION AND DETRUSOR INSTABILITY?

Aims of Study

About a decade ago, Ulf Ulmsten and Peter Papa Petros first proposed their "Integral Theory of Pelvic Floor Dysfunction" (1) which has subsequently been put forward and developed further in a large number of publications. It has also resulted in the development of surgical procedures designed to cure stress and urge incontinence (2,3,4), prolapse, voiding dysfunction (5), symptoms of bowel dysfunction and chronic pelvic pain (6). One of the main tenets of the Integral Theory is that urgency, frequency, nocturia and urge incontinence are caused by anterior vaginal wall relaxation.

So far there has been no systematic attempt to prove or disprove this hypothesis which, if true, would allow us to surgically cure a condition that, so far, has been regarded as virtually incurable (7). This study attempts to correlate symptoms and urodynamic signs of bladder irritability (frequency, urge incontinence, nocturia, sensory urgency and detrusor instability) with ultrasonic evidence of anterior vaginal wall relaxation.

Methods

275 consecutive patients with symptoms of lower urinary tract dysfunction underwent urodynamic evaluation. After completing a detailed history, multichannel urodynamics using microtransducer catheters were performed. Multiple challenge manoeuvres such as fast fill at 50ml/min., tilting to the upright position, coughing and handwashing in cold water, were undertaken to optimise detection of detrusor instability. Imaging was performed both with fluoroscopy and with translabial ultrasound, the latter after bladder emptying and in the supine position. A variety of ultrasound scanners were used with 3.5- 7 MHz curved array transducers. Findings were documented on videotape and/or printers and evaluated subsequently by the first author who was blinded regarding the urodynamic data. 272 datasets were complete and used for the analysis. Translabial imaging data was collected as previously described (8) with the addition of quantification of maximal cystocele descent on Valsalva manoeuvre. Descriptive statistics were obtained with Microsoft Excel on a PC system. Comparative statistics were performed using minitab™ (v 12).

Results

Table 1 shows correlations between indices of anterior vaginal wall descent and lower urinary tract symptoms. There were the expected positive relationships with stress incontinence but none of the other symptoms correlated positively. Opening of the retrovesical angle was negatively associated with nocturia and urge incontinence. The former was also negatively associated with bladder neck descent and descent of a cystocele.

| Symptoms | Stress Incontinence | Frequency | Nocturia | Urge Incontinence |
|----------------------|---------------------|-----------|-----------|-------------------|
| US parameters | | | | |
| RVA-S | p=0.0002* | p=0.091 | p=0.005# | p=0.0036# |
| Rotation | p=0.0088* | p=0.96 | p=0.077 | p=0.46 |
| BND | p<0.0001* | p=0.41 | p=0.002# | p=0.17 |
| Cystocele | p=0.0063* | p=0.61 | p=0.0043# | p=0.26 |

Table 1: Correlations between indices of anterior vaginal wall descent and symptoms of lower urinary tract dysfunction (* positive, # negative relationship).

| Urodynamics | First Sensation | Max. Capacity | Sens Urgency | DI |
|----------------------|------------------------|----------------------|---------------------|-----------|
| US parameters | | | | |
| RVA-S | p= 0.370 | p= 0.160 | p=0.11 | p=0.042 |
| Rotation | p= 0.550 | p= 0.533 | p=0.15 | p=0.10 |
| BND | p= 0.858 | p= 0.628 | p=0.23 | p=0.014 |
| Cystocele | p= 0.511 | p= 0.909 | p=0.048 | p=0.0026 |

Table 2: Correlations between indices of vaginal relaxation and urodynamic findings. Pearson's correlation coefficient or t- test. All significant relationships are negative.

Table 2 demonstrates correlations between descent parameters and urodynamic signs of bladder irritability. There were no positive correlations. Sensory urgency was negatively associated with descent of cystocele, and detrusor instability was negatively associated with opening of the retrovesical angle, bladder neck descent and descent of a cystocele.

Conclusion

This retrospective study evaluated imaging data and urodynamic reports from 272 women suffering from symptoms of lower urinary tract dysfunction. Opening of the retrovesical angle, bladder neck descent, urethral rotation and descent of a cystocele during Valsalva were used to quantify anterior vaginal wall laxity. None of those parameters were associated with symptoms and signs of detrusor overactivity. On the contrary, patients with higher grades of urethral and bladder descent were less likely to suffer from nocturia and urge incontinence and were less likely to have sensory urgency and detrusor instability diagnosed on urodynamic testing.

Literature

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Author(s):

LV Swithinbank¹, C Rogers², J Ellis Jones¹, P Abrams¹

Institution, city, country:

Bristol Urological Institute¹, R & D Support Unit², Southmead Hospital, Bristol, United Kingdom.

Title (type in CAPITAL LETTERS, leave one blank line before the text):

THE EFFECT OF ALTERING URINARY pH ON URINARY SYMPTOMS IN WOMEN

Aims of study:

Detrusor instability is a common complaint among women. Anecdotal reports suggest that alkalinising urine may improve symptoms of frequency and urgency, and intravesical administration of sodium bicarbonate has been shown to increase bladder capacity in patients with detrusor instability¹. There is some evidence that women with detrusor instability may have a lower urinary pH than those with stable bladders². This study was designed to determine whether alkalinising urine would improve symptoms in women with detrusor instability.

Methods:

A randomised double-blind controlled study of the effect of placebo versus sodium bicarbonate was conducted among women with urodynamically proven detrusor instability. The dose of sodium bicarbonate used in the study was determined from a pilot study among volunteers, and was the dose that increased the mean daily pH by 1. The study lasted four weeks and consisted of a baseline week, a week of either 5.4 gms sodium bicarbonate or placebo, a washout week and a final week of either 5.4 gms sodium bicarbonate or placebo. All women took both placebo and sodium bicarbonate, but they were randomised to the order in which they took these. Urinary diaries including information concerning episodes of urgency and leakage were kept during all weeks apart from the washout week. Women tested their urinary pH with labsticks three times a day during the study. A 24 hour pad test was completed at the end of each week as well as a short symptom questionnaire. General linear models were fitted to the data after