

PERINEAL LENGTH MEASUREMENTS AND URODYNAMIC STRESS INCONTINENCE. IS THERE ANY CORRELATION ?

Aims of Study

The purpose of this study was to assess the relationship between some perineal measurements (length of perineal body, anal position index, total fourchette-coccyx distance, anal-coccyx length) and urodynamically proven stress urinary incontinence. The important role of the perineum length in diagnosis and the classification of pelvic organ prolapse has been recently appreciated and included, by the International Continence Society, in the new standardized terminology of pelvic organ prolapse and pelvic floor dysfunction (1).

Methods

Among 102 consecutive women who underwent urodynamic study, 57 showed to have urodynamic urinary incontinence (group A) and the remaining 45 any irrelevant to stress incontinence urodynamic diagnosis (group B). In all these patients we measured the length of perineal body and calculated the position of anus. Two distances were measured in each woman before the urodynamic study. The first was the distance between the Fourchette and the center of Anal orifice, which was the length of perineal body (PB). The second distance was between the Fourchette and the inferior margin of Coccyx (FC). Dividing the distance PB by the FC we calculated the anal position index. The distance between the Anal orifice and Coccyx (AC) was calculated subtracting the distance PB from the distance FC. The group B served as control group to estimate the normal results for women without stress incontinence.

Results

The student-t test showed no significant difference between the measured lengths of the two groups. A borderline statistical difference between the two groups was observed only in FC length ($p= 0,062$). The p referred to this distance was significantly inferior in comparison to the others p referred to the rest evaluated measurements (Table 1).

Table 1 - Measured lengths of two groups and statistical evaluation

Length	Group A	Group B	P value
PB (cm)	1,90	1,49	0,101
CL	(1,50-2,29)	(1,25-1,72)	
FC (cm)	10,30	9,60	0,062
CL	(9,79-10,81)	(9,08-10,12)	
PB/FC	0,19	0,16	0,221
CL	(0,15-0,22)	(0,13-0,18)	
AC (cm)	8,40	8,11	0,514
CL	(3,68-13,12)	(4,47-11,75)	

Conclusions

Probably the longer length of FC distance reflects a laxity of levator plate, which according to the Petros and Ulmsten integral theory has a significant role to the urinary continence ensurement (2). Longer series probably could give more favorable results, as this simple measurement could also help to the selection of the patients to whom the pelvic floor exercises could be of their benefit (3). Moreover the relationship between the FC length and the anatomical structures could be further investigated with MRI (4), elucidating their role to the presence of SUI. In conclusion the lengths of PB and AC distance and the anal position index do not seem to influence urinary continence. The FC probably may predispose to SUI. This simple, costless and non-invasive examination needs further investigation.

References

1. Bump RC, Mattiasson A, Bo K, Brubaker LP, DeLancey JO, Klarskov P, Shull BL, Smith AR: The standardization of terminology of female pelvic organ prolapse and pelvic floor dysfunction . Am J Obstet Gynecol 1996; 175:10-17.
2. Petros PEP, Ulmsten U : Role of the pelvic floor in bladder neck opening and closure I : muscle forces . Int Urogynecol J 1997;8 : 74-80.
3. Bo K, Talseth T : Change in urethral pressure during voluntary pelvic floor muscle contraction and vaginal electrical stimulation . Int Urogynecol J 1997; 8: 3-7.
4. Bo K, Lilleas F Talseth T, Hedland H : Dynamic MRI of the pelvic floor muscles in an upright sitting position . Neurourol Urodynam 2001;20:167-174.