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INTEROITAL ULTRASONOGRAPHY FOR DIAGNOSIS OF STRESS INCONTINENCE

Aims of the Study

The diagnosis of stress incontinence is still confusing due to overlapping with other pathology exists. Symptoms and clinical findings are the most important tools for diagnosis. Urodynamic evaluation is still controversial but together with clinical picture may increase the accuracy of diagnosis. Interoital ultrasonography has been used lately for evaluation of the lower urinary tract. Its value for cases of stress incontinence still needs to be evaluated. The aim of this study was to evaluate the value of Interoital Ultrasonography in the diagnosis of stress incontinence.

Methods

Case control study was conducted where Sixty women were included in this study, they were divided into two groups: a *Study group* consisting of 30 women with stress incontinence demonstrated clinically as well as by urodynamic study and a *Control group* composed of 30 women attending the gynecologic clinic for causes other than urinary problems. The two groups were matched for age parity and weight. Interoital Ultrasonography was done using a Pie-Medical scanner 250 plus machine with a curvilinear probe with 5MHz frequency. The probe was placed so as to get in a sagital plane of the bladder, urethra, bladder neck and the symphesis pubis simultaneously. The probe was withdrawn outwards as much as possible so as to be just touching the introits without loosing the image. Two images were stored one at rest and another at maximum strain. From both images the following was measured: the bladder symphesis distances at rest (BS1 & BS2) and on straining (BS1s & BS2s), The distance of the bladder neck from the Y axis at rest DX and on stress DXs, the distance of the bladder neck from the X axis at rest DY and on stress DYs. From those measures the following was calculated: the first bladder neck mobility (Mu), the second bladder neck mobility (Mc), the bladder neck decent (BND) and the rotational angle (RA).

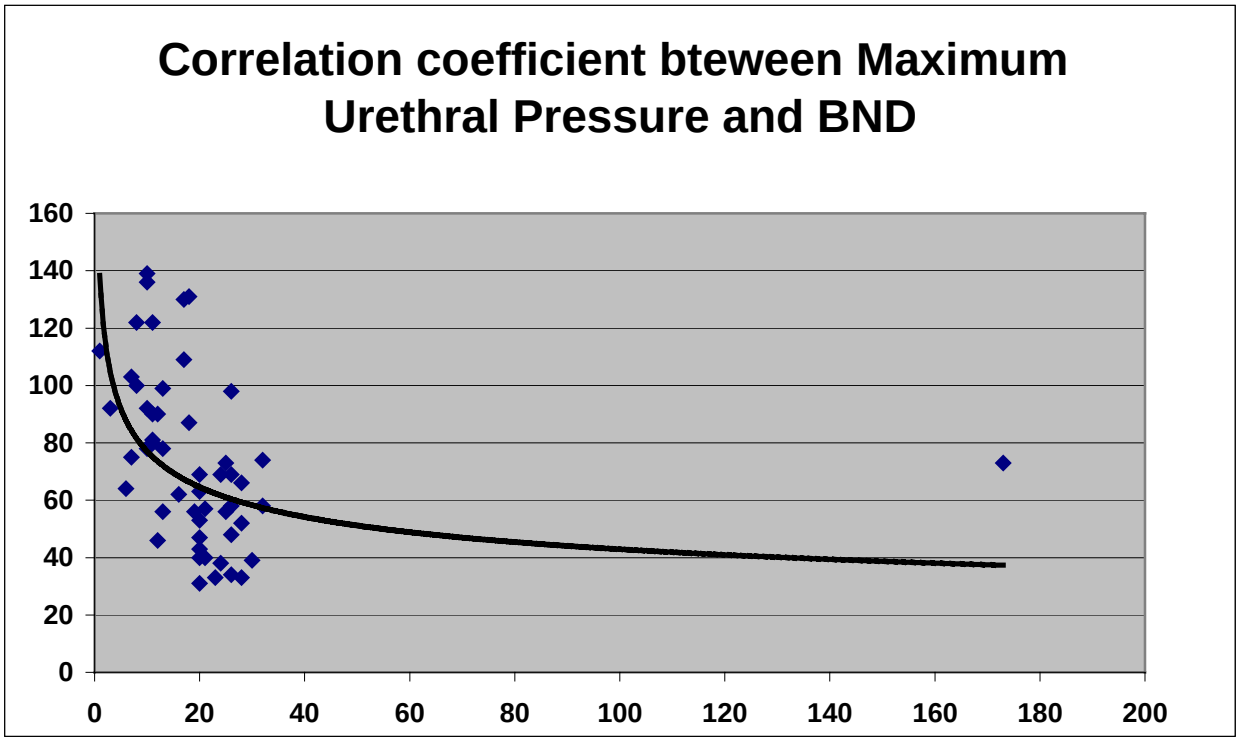
Results

The two groups showed significant difference in the Mu (5.1±3.6 versus 6.2±3.5), Mc (6.5±1.8 versus 5.1±2.7), BND (9.2±1.6 versus 1.9±0.9) and RA (25.4±5.3 versus 8.1±3.5).

Group	**BS1**	**BS1s**	**BS2**	**BS2s**	**MC**	**MU**	**RA**	**BND**
	Mean± SD	**Mean± SD**	**Mean± SD**	**Mean± SD**	**Mean± SD**	**Mean± SD**	**Mean± SD**	**Mean± SD**
Controls	1.59±.5269	1.88±.4850	1.82±.5139	2.12±.5972	0.66±0.38	0.57±0.23	22.1±45.5	0.17±.08
Cases	1.47±.2163	1.57±.2712	2.47**±**1.1888	2.37±0.5686	1.35±0.68	0.65±0.97	23.3±4.8	0.72±0.41
T-test	0.96	2.548	1.863	1.242	3.5	0.27	0.15	4.702
Sig.(P)	>0.05	<0.001	<0.05	>0.05	<0.001	>0.05	>0.05	<0.001

Mean and standard deviation of ultra-sound measurements of the studied groups

A significant correlation existed between maximum urethral pressure and BND (N = 53, P<0.01) and between it and the second bladder neck mobility N = 53, P < 0.01)


Correlation coefficient bteween Maximum Urethral Pressure and BND
160
140
120
100
80
60
40
20
0
0
20
40
60
80
100
120
140
160
180
200