940

Najjari L[1], Blum R[1], Kemp B[1], Maass N[1], Kirschner-Hermanns R[1]
1. *RWTH Aachen University*

THE RETROVESICAL ANGLE BETA AS DESCRIBED BY GREEN AND THE BLADDER NECK MOBILITY: LIMITS OF DISPLAY IN A COLLECTIVE OF WOMEN WITH SUI AND ADDITIONAL DISORDERS

Hypothesis / aims of study
Perineal ultrasound is a well established method in the examination of female urinary incontinence.
Numerous publications discuss the retrovesical angle beta as described by Green and the bladder neck mobility. In this paper we compare the bladder neck mobility and the measurement of the angle beta of women with SUI to women with descensus genitalis and SUI.

Study design, materials and methods
We examined 46 women, age 40 to 75, who visited our clinic for consultation. SUI was verified by urodynamics. Some women were also diagnosed with descensus genitalis. The cystoceles were classified according to ICS by clinical examination. After that the collective was divided into three groups:
The first group contained patients with SUI, no decensus genitalis (n = 30). The second group contained women with SUI and cystocele of first to third degree (n = 10). The third group contained women with SUI and decensus uteri or rectocele (n = 6).
All images were obtained using a Voluson Expert GE and a transducer designed for abdominal use (3,5-5 MHz).
Procedures of examination: Imaging was done in the supine position. The bladder contained about 300 ml while the rectal ampulla was as preferably empty. We acquired volumes using 3D/4D perineal ultrasound. Measurements are performed at rest and during valsalva maneuver. The images were then processed, measuring the retrovesical angle and the height H of the urethra. The height H was defined as distance between the neck of the urinary bladder and the symphysis. The difference between height H at rest and during valsalva described the mobility of the bladder neck.

Results

In patients with SUI all parameters could be measured at rest and under valsalva. The mean urethral mobility in this group was 0.70 ± 0.41 cm.
In patients with SUI and cystocele the retrovesical angle beta was not measurable in 4 of 10 patients at rest and in none under valsalva. The mean urethral mobility in this group was 2.24 ± 0.85 cm.
In patients with SUI and descensus uteri or rectocele the retrovesical angle beta was measurable in none of the cases neither at rest nor under valsalva. The mean urethral mobility in this group was 0.13 ± 0.02 cm.
The differences of the mean urethral mobility of the simple SUI group and the cystocele group and the decensus uteri/rectocele group were significant ($p<0.0001$ and $p<0.05$, respectively).

Interpretation of results

The neck of the urinary bladder was always visible during imaging of all patients . The determination of the retrovesical angle beta is possible in all patients with SUI without additional disorders.
Our results show that in cases of SUI and cystocele it is not always assessable in rest and never during valsalva. It is also not possible to determine the angle both in rest and during valsalva when there are additional disorders such as rectocele and descensus uteri. Whereas in patients with cystocele the urethral mobility was significantly higher than in simple SUI, in patients with decensus uteri or rectocele it was significantly lower.

Concluding message
We conclude that the retrovesical angle beta is not a suitable device for diagnostics in a collective with combined disorders.
The correlation between bladder neck mobility and the display of the retrovesical angle is worth further investigation with a larger number of patients.

Specify source of funding or grant	**none**
Is this a clinical trial?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**No**
This study did not require ethics committee approval because	**The study is a retrospective analysis of clinical examination data that was obtained with a medical indication and not for research purposes**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**