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THE DISTRIBUTION OF DETRUSOR CONTRACTILITY AND OUTFLOW RESISTANCE IN WOMEN WITH LOWER URINARY TRACT SYMPTOMS

Hypothesis / aims of study

Infravesical obstruction in women is far from rare and is potentially increasing in the sub-urethral slings era.
For the same reason detrusor contractility assessment is needed before potentially obstructive procedures.
It has been difficult to adopt a nomogram convenient to women. This study pretends evaluate the distribution of both parameters with the widely used male nomogram of Schaefer.

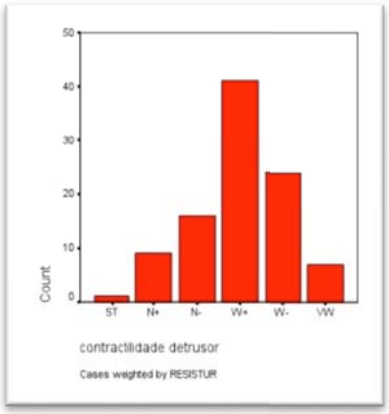
Study design, materials and methods

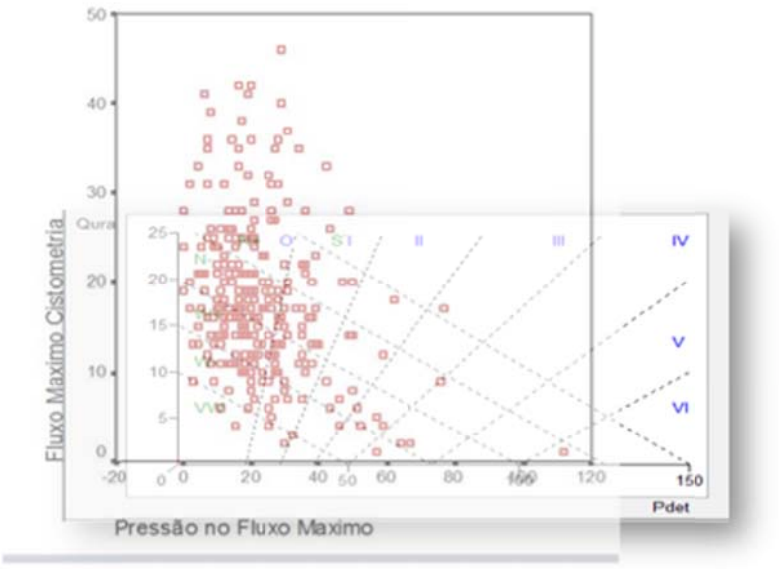
We reviewed 315 urodynamic studies of adult women with lower urinary tract symptoms.
Since abdominal contribution to micturition can contribute for the final flow, we discarded examinations showing more than a 10 cm/H2O of abdominal pressure measured during the voiding phase and those unable to void for whatever reason.
Detrusor pressures at maximal flow were plotted against maximum flow. The distribution of degrees of contractility was evaluated with SPSS. Schaefer's male nomogram was superimposed to the pressure/flow plot. ICS recommendations for urodynamic studies were followed. The local ethics committee was informed of the study and no authorization was found needed

Results

Only 198 cystometries were returned.
The distribution of the degrees of contractility is slightly different from what is expected in men. figure 1.
The distribution is gaussian and by far the most found value is the W+ (weak plus) degree of Schaefer., followed by Weak minus and Normal minus. Only a few show the extremes Very Weak or Normal plus.
The pressure/flow plot showed a relatively concentrated cloud. Superimposed to the Schaefer male nomogram it showed that most of cases fell in the 0 obstruction zone of males, some in zone 1 and only a few in more obstructive regions as shown in figure 2.

Figure 1 : distribution of contractility degrees





Interpretation of results

The pressure/flow obtained shows that women's detrusor contraction falls in a slightly weaker area than men.
The outflow resistance is similar to unobstructed men and a few fall in equivocal areas of malle obstruction, suggesting that these few cases should be considered probably obstructed. In this group of patients it was exceptional to fall in areas greater than III of urethral resistance.

Concluding message

With minor changes, a pressure/flow nomogram can be of clinical usage in women and can help us in diagnosing obstruction and detrusor hypocontractility in women. Unfortunately, these curves using flow and detrusor pressure can not be interpreted in one third of women since they use abdominal contraction to void.
Similar plots using vesical pressure instead must be studied in the future.

References
1. Pressure-flow studies of micturition. Griffiths DJ Urol Clin North Am. 1996 May;23(2):279-97.

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