

URODYNAMIC DIAGNOSIS OF BLADDER OUTFLOW OBSTRUCTION IN WOMEN.

Hypothesis / aims of study

In women, the common causes of bladder outflow obstruction are pelvic prolapse, continence surgery and distal urethral stenosis. Urodynamics study for bladder outflow obstruction in women does not correlate with male nomogram, bladder outflow obstruction index (BOOI). Results of the urodynamic studies performed in female patients are difficult to interpret. The Aim of this study is to derive a nomogram for women that would help in diagnosing BOO.

Study design, materials and methods

A retrospective analysis of 167 patients was performed. Bladder outflow obstruction traces were analysed. Obstructed women were classified based on a diagnosis of clinical obstruction. Control or unobstructed women was taken of normal pressure study of patients who had bothersome voiding LUTS and mixed urinary incontinence. Exclusion criteria were those with detrusor under activity. The urodynamic values of free flow voided volume, Qmax ml/sec, post void residual volume was compared with different age groups and also urodynamics pressure flow values maxpDet and pDetQmax. Bladder outflow obstruction index was calculated from the formula, $pDetQmax - 0.5(Qmax)$.

Results

Receiver Operating Characteristic (ROC) was drawn and obtained to decide the cut off value of index BOOI which differentiates normal and obstructed group. Cut off value of 19.7 which gives the sensitivity of 68% and specificity of 66% seems optimal. AUROC was 0.736, 95 % CI (0.657-0.814).

Interpretation of results

Statistically significant differences were found in all Urodynamic parameters (Qmax ml/sec, pDetQmax, pressure flow voided volume, Free Post void residual volume, maxpDet) between obstructed and non-obstructed women ($p < 0.05$). Receiver Operating Characteristic (ROC) was drawn to decide the cut off value of index BOOI which differentiates normal and obstructed group was obtained. We found a cut off value of 19.7 which gives the sensitivity of 68% and specificity of 66% which seems optimal. AUROC was 0.736, 95 % CI (0.657-0.814). There was significant difference observed in the maximum free flow rate (FQmax mL/s) between the different age groups. As the age progresses there was a declining trend in free flow which was statistically significant. There was a statistical difference in free flow between the age groups 20-40yrs and > 60 yrs which was significant ($p = 0.008$).

Concluding message

Value of BOOI which identifies normal and obstructed group was derived. We found a cut off value of 19.7 which gives the sensitivity of 68% and specificity of 66% which seems optimal.

References

1. Blaisvas et al. Bladder outflow obstruction Nomogram for women with lower urinary tract symptomatology. *NeurouroUrolyn* 2000;19:553-63
2. VW, Tu LM Gitlin J. Diagnosing bladder outflow obstruction in women. *J Urol* 1999;161:1535-40
3. Abrams P. Bladder outflow obstruction index, bladder contractility index and bladder voiding efficiency. Three simple indices to define bladder voiding function. *BJU Int* 1999; 84:14-5

Disclosures

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