

SIGNIFICANT DISCREPANCIES BETWEEN UROFLOWMETRIES PERFORMED IN CLINIC AND AT HOME IN BOYS WITH URINARY INCONTINENCE

Aims of Study

Uroflowmetry, the least invasive of all urodynamic methods, is usually used to uncover urinary bladder dysfunction in children. But interpretation of uroflowmetry is interfered by the many factors such as small voided volume, poor agitation and anxiety of children. In adults, recording uroflowmetry at home can improve accuracy in outflow assessment and provide the physician with multiple consecutive voiding episodes for interpretation of bladder function.¹ In boys, home uroflowmetry has been well correlated to a videourodynamic study with urinary incontinence.² Therefore, it is important to determine whether the data of uroflowmetry collected in clinic can replace those at home. Herein, we compare and discuss the results of uroflowmetry recorded both in clinic and at home in boys with urinary incontinence.

Methods

Twenty-seven boys (8.5 ± 2.0 years) with urinary incontinence and two abnormal uroflowmetries (obstructive uroflow or small bladder capacity) performed in clinic underwent uroflowmetry at home for one weekend. The largest voided volumes in clinic and at home are regarded as maximum voided volume in clinic and functional bladder capacity (FBC) at home, respectively. Small FBC is arbitrarily defined as maximal voided volume or FBC <50% of expected bladder capacity, regardless of uroflow pattern. In clinic, 12 boys with obstructive uroflow pattern at a maximal voided volume >50% expected bladder capacity were grouped as Obstructive and the other 15 with small FBC as Small Capacity. Wilcoxon signed rank test was used for statistical analysis.

Results

The difference between Qmax in clinic and at home was not statistically different. In the Obstructive group, mean maximal voided volume in clinic was significantly larger than mean FBC at home (247 ± 82 vs. 174 ± 96 ml, p=0.022). While in the Small Capacity group, the mean maximal voided volume in clinic was a little smaller than, but not statistically different from, the mean FBC at home (112 ± 36 vs. 136 ± 42 ml, p=0.157). Changes of uroflow patterns, from obstructive pattern in clinic to bell-shaped pattern at home or vice versa were identified in 8 (29.6%) boys, 7 in the Obstructive group and 1 in the Small Capacity group.

Conclusions

Interpretation of uroflowmetry in clinic should be scrutinized because significant discrepancies between uroflowmetry in clinic and at home existed in boys with urinary incontinence.

References

1. Home uroflowmetry: improved accuracy in outflow assessment. *Neurourol Urodyn*, **18**: 25, 1999.
2. Home uroflowmetry in the evaluation of boys with urinary incontinence. *J Urol*, **169**: 1505-1507, 2003.