

THE URODYNAMIC SCORE SEEMS TO BE SUPERIOR TO THE COMPARISON BETWEEN INDIVIDUAL PARAMETERS OF URODYNAMIC FINDINGS IN THE PREHENSION OF THE GLOBAL IMAGE OF PATIENTS WITH TETHERED CORD SYNDROME.

Hypothesis / aims of study

UP to now, several urosynamic parameters are separately used in the evaluation for lower urinary tract dysfunction in the patients with tethered cord syndrome (TCS). Although multiple parameter evaluation is more reliable, urodynamic score such as international prostate symptoms score allows the global dynamic assessment of the patient's evolution. An evaluation of the dysfunction by the score seems to be simpler than, and easier to understand than the evaluation of the dysfunction by the individual urodynamic parameter. Therefore, we investigate lower urinary tract management and urodynamic findings measured by urodynamic score before and after untethering (UT) in patients with tethered cord syndrome (TCS) in our institution.

Study design, materials and methods

We retrospectively reviewed clinical records in 13 patients who underwent UT for TCS (mean age at UT; 19 years old (range: 5~45), male: female; 9:4, prior meningocele closure; 6), in terms of lower urinary tract management and urodynamic findings before and after UT. To evaluate the changes in urodynamic findings, we used "UDS score" according to the reports by Meyrat (1) and MacNeily (2), which included bladder capacity, vesical compliance, bladder activity, and sphincter activity for Meyrat's score, and bladder capacity, bladder capacity at 20cmH₂O of intravesical pressure, detrusor activity, and filling sensation for MacNeily's score.

Results

Mean follow up periods and periods from UT to last urodynamic studies were 63 months and 41 months, respectively. While clean intermittent catheterization was performed in 9 patients preoperatively, all the patients needed clean intermittent catheterization as lower urinary tract management postoperatively. Maximum cystometric capacity was not changed after UT (244mL to 243mL). While detrusor overactivity was present in 70% preoperatively, and 70% postoperatively, detrusor overactivity resolved in 22%, unchanged in 78%, newly appeared in 50% of patients who did not have overactivity preoperatively. Volume at involuntary contraction increased from preoperative value of 85mL to postoperative value of 195mL (p=0.0127). While low compliance bladder was present in 70% preoperatively, and 62% postoperatively, low compliance bladder resolved in 22%, unchanged in 78%, newly appeared in 25% of patients who did not reveal low compliance preoperatively. External sphincter activity increased in 8%, decreased in 16%, and unchanged in 46%. Preoperative and postoperative "Meyrat's score" were 10.5 and 9.0, respectively, and preoperative and postoperative "MacNeily's score" were 8.6 and 9.6, respectively. These changes were not statistically significant.

Interpretation of results

The favorable effects of UT on lower urinary tract management and urodynamic findings could not be proved in these patients, because of relatively older age and inclusion of the patients with prior meningocele repair. According to UDS score, lower urinary tract dysfunction did not improve after UT. As for the change of the dysfunction, comparison between score was clear at a glance than the comparison between individual parameter.

Concluding message

UDS score is thought to be useful to evaluate global dynamic changes before and after UT in patients with TCS, and simpler than separate analysis of several parameters.

References

1. Meyrat BJ et al. Childs Nerv Syst 19: 716, 2003
2. MacNeily AL et al. J Urol 178: 1752, 2007

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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	we only retrospectively reviewed clinical charts.
Was the Declaration of Helsinki followed?	Yes
Was informed consent obtained from the patients?	No