

A COMPARATIVE STUDY OF NON INVASIVE AND INVASIVE URODYNAMIC ASSESSMENT OF BLADDER DYSFUNCTION IN CHILDREN

Hypothesis / aims of study

It is well known that invasive urodynamic Study (IUDS) is the gold standard for evaluation of bladder dysfunction. However, its side effects are pain, hematuria and discomfort, occasional difficult to perform, especially in children, although sometimes the reason is fear and uncooperation. Non invasive urodynamic Study (NIUDS) is more and more used to evaluation bladder dysfunction in children. The aim of present study is to evaluate the NIUDS in assessment of bladder dysfunction in Children.

Study design, materials and methods

This study included 155 cases (boys 106, girls 49, aged from 5 to 18 y, averaged 10.46 ± 3.55 y) with bladder dysfunction. NIUDS and IUDS were performed in all cases according to the recommendations from International Children's Continence Society (ICCS). The detrusor function was graded into 3 groups, overactivity, normal and underactivity according to NIUDS which compared to those from IUDS by using Chi-square test.

Results

NIUDS showed 54 cases with detrusor overactivity, 74 normal and 27 under activity, while in IUDS, 26 overactivity, 98 normal and 31 under activity. There was a significant difference between the both methods ($p < 0.05$). It had a statistical difference when detrusor was overactivity ($p < 0.05$), while there was no difference when detrusor was underactivity ($p > 0.05$). The sensitivity, specificity and accuracy of NIUDS were 77%, 74% and 65% in detrusor overactivity, 62%, 77% and 68% in normal, and 81%, 98%, 67% in underactivity, respectively.

Concluding message

The sensitivity and specificity of NIUDS is good in children with detrusor underactivity, but it cannot take the place of IUDS in evaluating bladder dysfunction in children. However, for screening the bladder dysfunction, the IUDS will show its advantage especially doubting the children with bladder under activity.

Disclosures

Funding: none **Clinical Trial:** Yes **Public Registry:** No **RCT:** Yes **Subjects:** HUMAN **Ethics Committee:** The Ethics Committee of the First Affiliated Hospital of Zhengzhou University **Helsinki:** Yes **Informed Consent:** Yes