

EFFICACY OF WEEKLONG VOIDING CHART IN CHILDREN WITH LOWER URINARY TRACT SYMPTOMS

Aims of Study

Children with lower urinary tract symptoms (LUTS) are widely represented in a school age population (15-20%). About 10% of them could be affected by urological abnormalities. We propose to screen children with LUTS using a weeklong frequency-volume chart (FVC) as a preliminary step.

This approach offers diagnostic results that have been confirmed by the subsequent urodynamic studies, therefore providing a useful screening method for children with LUTS.

Moreover, the application of the FVC itself is an important tool in the treatment of wetting disorders in children.

Methods

This study included 111 patients aged from 4 to 17 years (mean age 10.1 years), with LUTS referred by Paediatricians to our Clinic between September 2000 and March 2003. In our institution a psychologist and a paediatric urologist evaluated all children. Sessions typically lasted 45 minutes. A complete history with specific emphasis on voiding patterns and physical examination (abdominal, pelvic, perineal and neurological) were done and urinalysis was performed in all cases. All patients were trained to use a FVC applied for a week and evaluated again after 15, 30 and 45 days for the assessment of voiding behaviour of the child.

Thus the FVC was utilized as well for evaluation as a positive behavioural reinforcement tool.

In this study 2 consecutive abnormal FVC represent an indication for urodynamic studies.

Non invasive urodynamic testing comprises a free urinary flowmetry associated with an EMG recording of the pelvic floor. Invasive urodynamic testing consists of a pressure-flow study or a video-XR-urodynamic test.

Results

Among the 111 children considered in this study, 101 (91%) had an improvement of symptoms during the application of the FVC. These children have been evaluated monthly for 6 months and will be evaluated monthly for at least other 6 months.

The remaining 10 (9%) children underwent urodynamic studies and eventually MR of the spine.

This procedure revealed in 7 of them (5 females and 2 males) serious urological abnormalities, which included occult dysrafism (N.1), lazy bladder (N.3) and vesico ureteral reflux (N.3).

Conclusions

We propose the use of a weeklong FVC as a screening tool to select those children with LUTS that could require urodynamic studies. Since LUTS are very common in the school age population (15-20%), this step-wise approach results in considerable savings and avoids more demanding diagnostic procedure in a large proportion of children.

Moreover, the application of the FVC is itself an important tool in the treatment of wetting disorders in children.

This approach offers also a cheap and sensitive method to follow all these children, reducing the medical and emotional morbidity seen in patients with LUTS.

References

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