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**Authors:** Mitsuru Kajiwara, Katsumi Inoue, Makoto Kurihara, Hideaki Ikemoto, Akihiro Usui, Tsuguru Usui

**Institution:** Department of Urology, The University of Hiroshima

**Title:** DIURNAL URINARY INCONTINENCE OF CHILDREN AND URETHRAL OBSTRUCTION: VIDEOURODYNAMIC ASSESSMENT AND RESULT OF SURGICAL CORRECTIONS

**Aims of study:**

To assess the relationship between diurnal urinary incontinence and urethral obstruction, we evaluated videourodynamic findings and the results of surgical treatment in children with diurnal urinary incontinence attributed to urethral obstructions.

**Methods:**

Between 1995 and 2001, 22 children (15 boys and 7 girls between 5 and 12 years old, mean, 7.8 years old) with diurnal urinary incontinence were identified to have urethral obstruction and underwent surgical correction of the obstruction. Children with neurological abnormalities such as meningomyelocele and nocturnal enuresis were not included in this study. In all patients, urethral obstruction was suspected on a preoperative videourodynamics and confirmed by an urethrocystoscopy in male subjects and by a bougie á boule in female subjects. Questionnaires of urinary symptoms, frequency/volume charts and videourodynamics were evaluated before and 3 months after surgery.

**Results:**

- 1) Diagnosis and treatment of urethral obstruction; An urethrocystoscopy revealed ring stricture of the bulbar urethra in 9 of 15 boys, posterior urethral valves in 4, and anterior urethral valves in the remaining 2. These urethral obstructions were treated by an endoscopic incision. In 7 girls, distal urethral stenosis was confirmed by a bougie á boule and treated with an external meatotomy.
- 2) Clinical outcome; After surgery, diurnal urinary incontinence disappeared in 8 children (36.4%) and improved in 8 children (36.4%) less than once a week.
- 3) Videourodynamic findings; Uninhibited detrusor contraction more than 15 cm H<sub>2</sub>O during the filling phase was detected in 17 (77.3%) of 22 children preoperatively, and in 6 (27.3%) of 22 children postoperatively. The mean maximum flow rate and voided volume after surgery were not changed significantly compared to that before one, while the mean detrusor pressure at maximum flow rate after surgery (40.1 cm H<sub>2</sub>O) was significantly improved than that before one (75.8 cm H<sub>2</sub>O).

**Conclusions:**

Urethral obstruction is frequently detected in the child with diurnal urinary incontinence. However, uroflowmetry mere was not a sufficient method to assess urethral obstruction. Videourodynamic findings including uninhibited detrusor contraction or high detrusor pressure at voiding phase were helpful to diagnose urethral obstruction, and likely to be improved after surgery. These results suggest that urethral obstruction induce diurnal incontinence following uninhibited detrusor contraction. Surgical correction might be improved diurnal urinary incontinence with urethral obstruction.