

INCONTINENCE

TUI is effective in only a subset of boys with congenital urethral obstruction

Research from Japan has not only confirmed that refractory bedwetting can be caused by two different types of congenital posterior urethral obstruction, but also demonstrated that transurethral incision (TUI) leads to symptomatic improvement in only one of them. “We have clarified that there exist two kinds of obstruction: simple mechanical obstruction and combined mechanical and functional obstruction,” claims author Hideo Nakai. “The latter seems to have contributed to the previously reported low response to incision.”

“Two flow patterns were recognized in patients before they underwent incision...”

Nakai and colleagues identified 43 boys (aged 7–11 years) who experienced daily nocturnal enuresis episodes and were unresponsive to treatment (including urotherapy and anticholinergic agents) for at least 1 year. Of these, 20 were diagnosed with congenital urethral obstruction on endoscopy and underwent TUI. Researchers classified the membranous lesions as congenital obstructive posterior urethral membranes in 18 patients and Cobb’s collar in 10 patients. Incisions were made in the 12 o’clock direction in all

individuals, with an additional cut in the 5 or 7 o’clock direction in five cases. If no morphological improvement was noted on voiding cystourethrography (VCUG) after 3–4 months, a second incision was made.

On VCUG 3–4 months after the final TUI, morphological improvement was noted in 100% of patients. However, symptomatic improvement assessed using the International Children’s Continence Society criteria was only observed in a fraction of cases (35% at 3–4 months; 50% at 6 months).

Urodynamic analyses performed before and after TUI provided an explanation for this discrepancy. Two preoperative flow patterns were recognized: a synergic pattern (SP) was observed between urinary flow rate and detrusor pressure in 13 boys, and a dyssynergic pattern (DP), with detrusor pressure being higher immediately before voiding than at maximum urinary flow rate, was noted in the rest. Stratifying patients accordingly revealed that TUI had a positive impact on boys in the SP cohort only. Maximum bladder capacity and detrusor pressure at maximum flow rate were significantly higher after TUI in boys with SP (P values: 0.0004 and 0.036, respectively). By contrast, TUI had no effect on any urodynamic parameter in the DP group.

Given that anatomical improvement was



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noted in all patients, the authors suggest that a SP might correspond to mechanical obstruction only, whereas a DP might result from additional functional obstruction. “We are trying to establish more-simple methods of detecting mild mechanical and functional obstruction using multiple sets of uroflowmetry, which are expected to provide more information than conventional single uroflowmetry,” concludes Nakai.

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Original article Nakamura, S. *et al.* Transurethral incision of congenital obstructive lesions in the posterior urethra in boys and its effect on urinary incontinence and urodynamic study. *BJU Int.* doi:10.1111/j.1464-410X.2010.09578.x.