

LONG-TERM RESULTS AND RELAPSE RATES IN CHILDREN SUFFERING FROM MONOSYMPTOMATIC NOCTURNAL ENURESIS AND OVERACTIVE BLADDER

Hypothesis / aims of study

Management of children with primary nocturnal enuresis (PNE) or OAB is usually evaluated only regarding short-term clinical outcome. There are only a few studies reporting on long-term outcome and relapse rates. The aim of our study was to determine long-term outcome and relapse rates under special consideration of the recently proposed algorithms for both clinical diagnoses (1,2).

Study design, materials and methods

All children were assessed clinically according to the criteria of the ICI (3) by history, bladder diaries over a period of two weeks, urinalysis, ultrasound and at least two EMG-uroflows. Nocturnal diuretic volume was calculated by diaper weight plus the first morning micturition. Dysfunctional voiders were excluded. Urotherapy was applied in all patients for two weeks encompassing timed drinking and modification of micturition habits.

Non-responders to urotherapy with nocturnal enuresis were then assigned to desmopressin monotherapy applying a structured withdrawal program. After this first treatment period, partial responders entered an individualized treatment (anticholinergics, biofeedback, alpha-blocker, enuresis alarm or psychotherapy), combined with desmopressin (1). Outcome was evaluated as relief of bedwetting.

In cases of urinary incontinence another treatment algorithm (2) was used. It consisted of a four week first treatment period with propiverine hydrochloride (0.4 mg bid/kg b.w.) monotherapy with gradual reduction of dose, which was combined in partial responders during the second treatment period with individualized adjuvant therapy (alpha-blocker, desmopressin, or biofeedback). Outcome was evaluated as achievement of continence.

Non-responders of both clinical entities were referred to specialized management.

Results

The enrolled 259 PNE children comprised 92 girls and 167 boys, age range 5 – 18 years (arithmetic mean 8.11 years). The long-term results after termination of treatment refer to a minimum follow-up of 3 months up to 79 months (arithmetic mean 35.13 months). In these long-term results 18 patients were lost to follow-up. Nocturia occurred in 12% of the 241 patients (3% urotherapy, 6% desmopressin, 3% partial responders) after termination of treatment. Thirteen children relapsed (1/42 urotherapy, 4/136 desmopressin, 6/61 combination treatment, 2/17 partial responders without continued treatment). Thus, the overall relapse rate was 5.4% (2.4% urotherapy, 2.9% desmopressin, 9.8% combination treatment, and 11.8% partial responders who did not receive combination treatment).

The enrolled 96 OAB children comprised 36 girls and 60 boys, age range 5 – 14 years (arithmetic mean 6.9 years). The long-term results after termination of treatment are based on a minimum follow-up of 3 months up to 86 months (arithmetic mean 24.7 months). 9 patients were lost to follow-up. 18 children relapsed during the period with dose reduction. Therefore this subgroup required extended treatment periods of up to 26 months, during which all OAB symptoms resolved. In 2 cases incontinence improved, therefore treatment was terminated. In OAB children no relapse occurred. Another 5 patients are still under treatment.

Interpretation of results

Decreased self-esteem in children suffering from PNE has been reported. However, our data reflect that OAB children might be even more affected regarding self-esteem and perceived quality of life.

The low relapse rate documented in our study is promising and should probably be attributed to the structured withdrawal program. Individualized adjuvant treatments in partial responders improve success rates further and should therefore be incorporated into daily practice. In nocturia two subgroups could be discerned: nocturia as relapse (n=28) and as maturation (n=3) in partial responders.

In children with OAB, no relapses were recorded in contrast to the situation in PNE. Twenty-six percent of the children with OAB required an extended treatment period for achieving continence, and in 5 children antimuscarinic treatment is still ongoing.

Concluding message

The long-term treatment outcome in PNE and OAB children, based on the proposed treatment algorithms, is promising. A structured withdrawal program in PNE children results in less relapses than after abrupt termination of treatment. In OAB children extended treatment periods improve success rates further, resulting in continence in most of the cases.

References

- (1) A suggested treatment algorithm in nocturnal enuresis with emphasis on partial responders. *Neurourol Urodyn* 2003; 22: 441-442
- (2) An empirical treatment algorithm for incontinent children. *J Urol* accepted
- (3) *Incontinence 2nd Edition*, Health Publication Ltd, Plymouth, 2002; 1086-1089