

AN EMPIRICAL TREATMENT ALGORITHM FOR INCONTINENT CHILDREN

Aims of Study

Response rates of major monotherapeutic strategies (anticholinergics, biofeedback) of incontinent children evidence limited success only. Therefore the aim of this retrospective analysis was to evaluate response rates of different complementary therapies.

Methods

Patient records of 320 enuretic and / or incontinent children were scrutinized during the period of 1998 – 2000. Patients were investigated by the following diagnostic procedures: history, frequency-volume-charts (two weeks), urinalysis, pelvic floor ultrasound, repeated EMG-uroflow. The primary endpoint for the study was the achievement of continence, the secondary the improvement of functional bladder capacity (FBC). Fifty-nine patients were classified as suffering from incontinence according to recent terminology (1). All children were treated initially with propiverine hydrochloride (0.4 mg b.i.d. / kg), supplied as a coated tablet for children (Mictonetten[®]), and re-evaluated after four weeks of treatment. In non-responders and partial responders (continence in daytime, but still bed-wetting) an additional therapy according to individual symptomatology was initiated over another 12 weeks. This therapy was chosen on an empirical basis and comprised selective alpha-blocker in functional bladder neck obstruction, DDAVP in excessive nocturnal urine production and biofeedback (BFB) for increased pelvic floor activity during micturition.

Results

1. Demographic data : age range 5 – 14 years; gender : 21 female, 38 male; weight : 26 kg on average.

2. Efficacy : Continence was achieved in 22 patients in the monotherapeutic period, a further 33 demonstrated a partial response, 4 were non-responders (tab.1), however their incontinence severity improved. Consequently, 37 patients received complementary therapy according to their individual symptoms. The improvement of FBC was grouped as less than 50 %, 50 – 100 % and over 100 %. The results for the different therapy periods are depicted in tab. 1.

Tab.1 :

	Period 1: Propiverine Monotherapy (N=59)	Period 2: Propiverine + Alpha-blocker (N=6)	Period 2: Propiverine + DDAVP (N=19)	Period 2: Propiverine + BFB (N=8)
Response rate:				
Complete	22	4	10	4
Partial	33	2	1	3
Non	4	0	8	1
FBC (ml):	x			
< 50 %	2	0	2	0
≥ 50%	4	4	12	6
≥ 100 %	16	2	5	2

x Only the FBC of the 22 continent patients is reported in this column, the other 37 patients are reported in the different complementary therapy groups.

3. Tolerability & Safety : No adverse events were spontaneously reported by the patients and its families. Prompted questioning evidenced dry mouth in one case, mild accommodation disorders in another, which was reversible without discontinuation of the anticholinergic medication.

Conclusions

1. Evaluation of continence condition, functional bladder capacity and clinical symptoms evidenced that anticholinergic monotherapy with propiverine in incontinent children is effective in a high percentage. This corroborates Persson-Jünemann et al.'s results (2), who reported that most cases of persistent nocturnal enuresis can be treated successfully by anticholinergics, if storage function was inadequate.

2. However, in partial and non-responders a tailored complementary therapy resulted in further improvements. This is e.g. in accordance with study results in patients suffering from diurnal voiding

disturbances and concomitant enuresis evidencing the highest success rates for a combination of anticholinergics and DDAVP (3).

3. A combination therapy for non-responders on propiverine monotherapy appears promising. A protocol-based prospective study in a larger patient population seems appropriate.

References

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(2) Persson-Jünemann Ch., Seemann O., Köhrmann K.U., Jünemann K.P. Alken P. Comparison of Urodynamic Findings and Response to Oxybutynin in Nocturnal Enuresis. *European Urology*, 1993, 24, 92 – 96.

(3) Czione P. et al. Nocturnal Enuresis and Daytime Wetting : A Multicentric Trial with Oxybutynin and Desmopressin. *European Urology*. 1997, 31, 459 – 463.