

TEAM : A NATIONAL, MULTICENTRIC, RETROSPECTIVE ANALYSIS OF OUTCOMES IN NOCTURNAL ENURETIC CHILDREN TREATED WITH AN ANTIDIURETIC IN TWO DIFFERENT MODES

Hypothesis / aims of study

Antidiuretic treatment with desmopressin is, along with alarm therapy, the mainstay when treating nocturnal enuretic (NE) children (1). Several authors have described an improvement in outcome when treatment was not terminated abruptly but instead preceded by a structured withdrawal program although unfortunately these results were only monocentric. Therefore this national multicentric retrospective survey was designed to test whether a structured withdrawal of desmopressin has higher efficacy and/or improves outcome when compared to regular treatment with desmopressin with abrupt termination after 3 months.

Study design, materials and methods

Four hundred and eighty seven NE patients from one hundred and eighty one centres were enrolled. The study was conducted on an outpatient basis by 71% paediatricians, 25% urologists, 3% general practitioners and 1% paediatric surgeons. 267 patients had treatment failures on alarm (52%), antimuscarinics (19%), a combination of both (8%) and others (21%). 58% of the children were <7 years old, 29% 8-10 years, 9% 11-13 years, 3% 14-16 years and 1% adults with the typical gender distribution of 35% girls and 65% boys for this disease. 41% of the children showed enuretic events during 7 nights per week, 45% during 3-6 nights/week and 14% during less than 3 nights/week. All patients were treated with desmopressin given each evening. Response to therapy was subdivided into full response (reduction of wet nights >90%), partial response (reduction of wet nights 50-90%) and minor reduction (reduction of wet nights <50%). After a treatment period of 4-26 weeks treatment was either terminated or a structured withdrawal carried out leaving the dosage constant and stretching the daily treatment intervals to every second evening, twice weekly and once weekly. If the child remained dry treatment was terminated. If the child relapsed treatment stepped back to the last interval with continence. Patients who remained dry (≤ 2 wet nights/month) after one month treatment-free period were considered to be relieved of bedwetting. Relapse was defined as >2 wet nights/month.

Results

Overall 66% showed full response, 25% partial response and 10% showed minor reduction of wet episodes, reflecting values in the literature (2). 173 children had regular desmopressin treatment with abrupt termination, 314 patients were included in the structured withdrawal program at the end of treatment. The group with abrupt termination had a 51% full response, 27% a partial response and 22% minor reduction. The withdrawal group had 72% full response, 24% partial response and only 4% minor reduction ($p < 0.0001$). Considering enuresis frequency, patients with abrupt termination had 20.53 wet nights per month before treatment and 5.8 nights per month after treatment. The structured withdrawal group had 21 wet nights per months before treatment and 1.86 wet nights after withdrawal ($p < 0.0001$). Follow-up one month after treatment showed up to 2 wet nights per month in 57% of the termination group and in 80% of the withdrawal group. This difference in outcome is highly significant ($p < 0.0001$).

Pre-treated patients had the same outcome as naive patients. Side effects occurred in 1% of children but no child withdrew from treatment due to side effects.

Interpretation of results

This national multicentric retrospective analysis proves that antidiuretic treatment followed by a structured withdrawal program is superior to regular treatment in enuretic children. With this strategy, desmopressin treatment is also superior to alarm treatment that has shown less impressive cure rates in recent studies (3). It is possible that the structured withdrawal of desmopressin stimulates the maturation of the innate production of antidiuretic hormones.

Concluding message

Structured withdrawal of desmopressin is superior to regular (abrupt termination) treatment and should therefore be the mainstay in treating enuretic children.

References

1. Incontinence, vol.2; Plymoth, Health Publication Ltd, 2005 (965-1058)
2. Scand J Urol Nephrol (2000) Suppl 206:1.
3. Scand J Urol Nephro (2001); 35; 357-363.

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Is this a clinical trial?	No
What were the subjects in the study?	HUMAN
Was this study approved by an ethics committee?	No
This study did not require ethics committee approval because	approved medication
Was the Declaration of Helsinki followed?	Yes
Was informed consent obtained from the patients?	No