was similar when 20 μg of DDAVP, double the dose we used, was administered by others. The significantly higher response rate among older children, despite a fairly low dose of DDAVP per kg, also argues against a dose-related response. As in previous reports, most of our patients reverted to bed wetting once DDAVP was stopped.

It has recently been suggested that EN is associated with reduction in the nocturnal urinary concentrating ability of the subject; and that the effect of DDAVP on EN is due to its antidiuretic properties. However, none of the data presented so far showed an improvement in this respect after the administration of DDAVP and no evidence of a reduced urine concentration ability was shown in the children we studied.

If the good effect of DDAVP were entirely due to its antidiuretic properties, and since the degree of antidiuresis due to vasopressin is dose-dependent, better results should have been obtained in our lower age group rather than worse ones. However, since no overnight urine collections were taken it may be argued that DDAVP induces a state of antidiuresis in the first hours of the night which contributes to the cessation of bedwetting.

Our data show that DDAVP when administered daily for one month was effective in controlling EN during that period. Additional studies during longer periods of treatment need to be done in order to assess any permanent effects that DDAVP may have in controlling EN. Bed-wetting generally occurs during non-rapid eye movement sleep, a state associated with mental confusion, lack of response to a wide range of stimuli, retrograde amnesia, automatic behaviour, and poor response to efforts to provide behaviour wakefulness. It has been suggested that DDAVP effects the process of memory consolidation, improves attention, concentration, recognition, and recall and that it reverses amnesia. It is tempting to relate, at least in part, the cessation of bedwetting to DDAVP induced improvement in these processes.

We conclude that DDAVP is a safe and useful tool in the treatment of EN, particularly in older children. We suggest that the effect of DDAVP on EN may not be solely due to its antidiuretic activity.

References


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Received 9 February 1981

Commentary

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The medical literature is littered with papers reporting the use of different drugs in the treatment of enuresis. There are few drugs that have not been tried! Unfortunately most of the drug trials have been conducted poorly. The authors of this paper have completed a carefully controlled trial. They found that DDAVP enabled a proportion of children to become dry while they were taking the drug. Previously the only clear evidence of successful drug therapy had come from the tricyclic antidepressant drugs—such as imipramine and amitriptyline. DDAVP can now be added to that list. However, as with the tricyclic drugs so with DDAVP, the beneficial effect appears to be temporary and once the drug is stopped the children start wetting again. No drug has yet been found to be effective in producing long-term cure for nocturnal enuresis. This limits the use of such drugs and many will feel that the drug should be used only for short periods—such as during an important visit or holiday.

It is interesting that the authors are unsure how the DDAVP is acting and in particular do not think it is related to its antidiuretic effect. Similarly with the tricyclic drugs it is not known why such drugs should be effective. It does not seem specifically to be related to any of their known properties—that is, why antidepressants don’t work, other anticholinergics
don't work, other agents that are local anaesthetics for the bladder don't work.

The authors list DDAVP as being in the same order of therapeutic efficiency as a buzzer alarm. Many of us would quarrel with that and I certainly would consider myself a pretty poor sort of doctor unless I achieved a cure rate of at least 50% on children over age 8 with the buzzer alarm. The enuresis alarm cures; drugs do not. The main limiting factors on the effective use of the buzzer alarm are the circumstances and effort that are required in using it. One's heart sinks when one finds out that the bed wetting child shares that bed with two or three others.

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**British Paediatric Association**

Annual meetings

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