

Nocturnal enuresis in paediatric patients. A single institute experience with focus on antimuscarinic treatment

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Disclosures Funding: Astellas unrestricted educational grant

Hypothesis / aims of study

The prevalence of OAB amongst enuretic children has little been studied and published data on the use of antimuscarinics for treating nocturnal enuresis are sparse

In a single centre Functional urology outpatient clinic we investigated retrospectively the characteristics of nocturnal enuresis among paediatric patients, with a focus on OAB and treatment effect of antimuscarinics.

Study design, materials and methods

Study population:

Paediatric patients with primary symptom of nocturnal enuresis

Retrospective analysis:

Primary vs. secondary enuresis

Monosymptomatic enuresis vs. OAB symptoms together with enuresis

The recommended first line treatment

Uroflow parameters were compared prior and after treatment with antimuscarinics (AM).

Results

We analyzed data from 100 children (57 boys and 43 girls) with mean age 8.8 (sd:2.6) years.

Primary enuresis was found in **71%**

Monosymptomatic enuresis was reported in only **22%** of patients.

Concomitant OAB symptoms were reported in **88%** and confirmed by bladder diary in 61%.

OAB-wet daily symptoms were reported in **40%** and confirmed by bladder diary in 36%.

N=57 patients (57%) were treatment naive, while 23% had a prior history of desmopressin treatment.

First line treatment given was:

antimuscarinics :72%

desmopressin : 10%

behavioural treatment : 18%.

Uroflow parameters (Table 1)

Mean voided volume increased by 23.4% after treatment with antimuscarinics, although not statistically significantly

Maximum urinary flow (Qmax) and post void residual (PVR) were also found to be statistically unchanged after antimuscarinic treatment.

Table 1.	Mean Qmax ml/sec	Mean Voided Volume	Mean PVR
Pre Treatment	19.98	159.53 ml	12.6 ml
Post Treatment	23.02	196.89 ml	13.10 ml
P value	0.231	0.137 ml	0,987 ml

Changes in mean values of uroflow parameters after treatment with antimuscarinics

Clinical symptoms change after AMs:

Nocturnal enuresis from those patients under antimuscarinics was:

☐cured in 25%

☐significantly improved in 65%

☐No improvement was noticed in 8%

☐worsening in 2%

☐ Significant (45.48%, $p < 0.0001$) overall reduction of the mean number of episodes of enuresis per week was found after treatment

☐ Mean reduction was 58.32% ($p < 0.0001$) in the treatment naive population

☐Crossover from desmopressin to AMs resulted in a 50.93% ($p = 0.006$) reduction of the mean episodes of enuresis per week while crossover to behavioural treatment in only 19% reduction ($p = 0.38$).

Interpretation of results

➤Enuresis as part of the OAB syndrome seems to be a common observation during initial evaluation of children with enuresis.

➤ First line treatment with antimuscarinics improves the vast majority of those children and should be considered in all patients without monosymptomatic enuresis.

Conclusions

- ✓ Children with nocturnal enuresis should always be evaluated and screened for Overactive bladder
- ✓ Antimuscarinics can be offered as first line treatment whenever there are symptoms suggestive of OAB and confirmed based on bladder diary.
- ✓ Desmopressin, although widely used, should be preserved only in monosymptomatic enuresis with confirmed nocturnal polyuria on bladder diary as monosymptomatic enuresis seems to be present in a minority of enuretic children