

## DESMOPRESSIN IMPROVES SLEEP AND PSYCHOLOGICAL FUNCTIONING IN PATIENTS WITH MONOSYMPTOMATIC NOCTURNAL ENURESIS.

### Hypothesis / aims of study

A comorbidity and a possible causality between nocturnal enuresis, sleep disorders and attention deficit-hyperactivity disorder (ADHD) has been suggested (Yeung, Baeyens, Dhondt). This prospective study in children with monosymptomatic nocturnal enuresis (MNE) aims to evaluate the influence of desmopressin melt on sleep and psychological functioning of the child.

### Study design, materials and methods

Thirty patients (23 boys) aged 6-16 years (mean 10.43y, SD (+/-3.08)) with MNE based on nocturnal polyuria (NP), in this study defined as nocturnal diuresis >100% bladder volume for age, are included. Patients are tested before the start of desmopressin melt and 6 months later. It is a multi-informant multi-method study, using overnight standardized video-polysomnographic study (PSG), questionnaires, clinical interviews and neuropsychological testing.

### Results

According to the ICCS definition, 10 patients were full responders, 2 patients were responders, 11 patients were partial responders and 6 patients were non-responders to desmopressin melt. The response status was unknown in 2 patients due to missing values. 87% (26 of 30) patients have a disrupted sleep at the first PSG. They experienced greater than 5 periodic limb movements per sleep hour (PLMS-index). 60% (18 of 30) patients have a disrupted sleep at the second PSG. All except 3 patients had a decrease in PLMS-index. The amelioration of the nocturnal enuresis coincides with a significant reduction of the PLMS index ( $p < 0.0001$ ) and cortical arousals ( $p = 0.0071$ ) 6 months later. Moreover, psychological functioning was improved. After 6 months of desmopressin, children experienced significantly less attention problems, less internalizing and externalizing problems, a higher quality of life, higher executive functioning and a higher auditory memory.

### Interpretation of results

Children experienced less PLMS, less cortical arousals and an improved psychological functioning after 6 months of desmopressin therapy in children with MNE based on NP.

### Concluding message

Desmopressin melt not only improves enuresis but also sleep and psychological functioning in children with MNE based on NP.

### References

1. Yeung, C. K., Diao, M., Sreedhar, B.: Cortical arousal in children with severe enuresis. *N Engl J Med*, 358: 2414, 2008
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3. Dhondt, K., Raes, A., Hoebeke, P. et al.: Abnormal sleep architecture and refractory nocturnal enuresis. *J Urol*, 182: 1961, 2009

### Disclosures

**Funding:** Desmopressin melt from Ferring Pharmaceuticals **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** Ethical Institutional Board of the Ghent University Hospital **Helsinki:** Yes **Informed Consent:** Yes