

Predictive value of urinary osmolality in the early morning for desmopressin response

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Introduction

Desmopressin (dDAVP), a synthetic vasopressin analogue, is a level 1, grade A treatment of monosymptomatic enuresis nocturna (MNE).

Although evidence based results show superiority of dDAVP above placebo, **only 30 %** of patients reach **complete continence**.

Surrogate parameters predicting the dDAVP response would be useful in individualizing therapy in children with nocturnal enuresis. They have been an issue for debate and research in the past decades.

Urinary osmolality in the morning was proposed by several authors, but without convincing results.

Aim

The aim of this study was to explore the potential value of urinary osmolality in an early morning sample as a **surrogate parameter for dDAVP response**.

Method

Study population

45 children (> 5 years old) with MNE. ♂ 33/♀ 12. Severe enuresis = wet at least 5/7 nights.

Retrospective study

- 14 days diary for nocturnal enuresis episodes and diuresis-volume
- Morning sample collection at time of waking up
- Subsequent treatment with dDAVP 2x200µg tablets in the evening for minimum 6 weeks

Results

- 13/45 patients were **full responder**
- 15/45 patients **partial responder**
- Urinary osmolality did **not** correlate with dDAVP response-rate (**Fig.1**)
- **Nocturnal diuresis volume < 100%** of expected bladder capacity for age correlated strongly with **dDAVP resistance** (**Fig.2**)
- Urinary osmolality-range was **675 to 1023 mosmol/l** (**Fig.3**)

dDAVP response

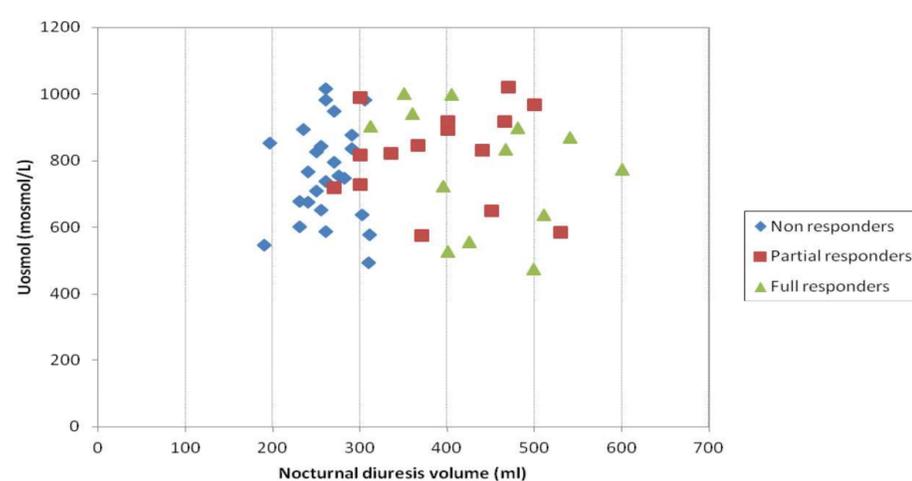


Fig.1: Urinary osmolality in the early morning did not correlate with dDAVP response rate.

Full response: Reduction of at least 90% in the number of wet nights
Non response: Reduction less than 50% in the number of wet nights

Nocturnal diuresis volume

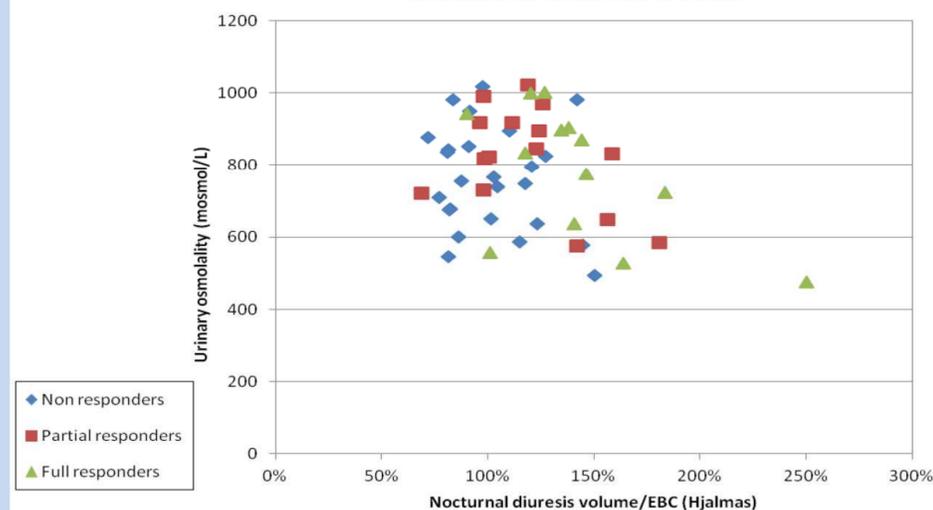


Fig.2: Nocturnal diuresis volume < 100% of expected bladder capacity for age (EBC*) correlated strongly with desmopressin resistance.

Urinary osmolality range

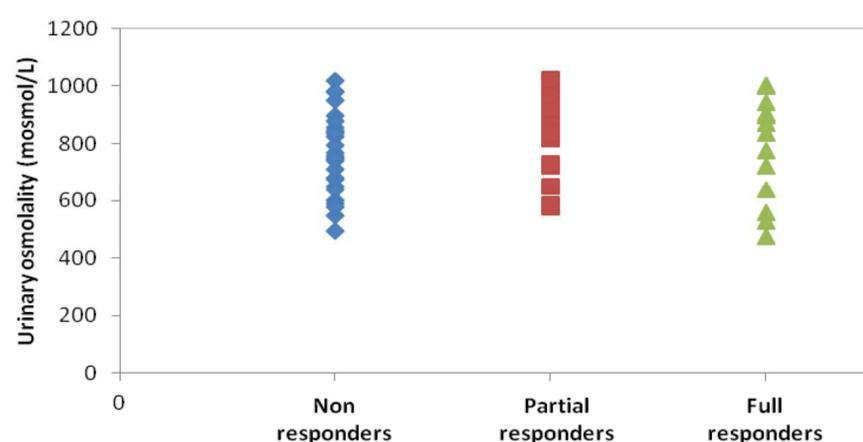


Fig.3: Urinary osmolality-range was 675 to 1023 mosmol/l. There is no difference in osmolality-range between the 3 different groups.

Conclusion: Urinary osmolality in the morning has no predicting value in dDAVP - response