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Desmopressin
A Viewpoint by Gunnar Lose

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Nocturia is a common condition occurring with similar frequency in both men and women. It can have serious consequences on the well-being of the patient. The origin of nocturia is multifactorial and includes polyuria, nocturnal polyuria, bladder storage problems, sleep disorders and behavioural factors. One of the main causes of nocturia is overproduction of urine at night as a result of decreased secretion of antidiuretic hormone, arginine vasopressin (AVP). This constitutes the rationale for the use of desmopressin, a synthetic AVP analogue, for the treatment of nocturia associated with nocturnal polyuria. The efficacy of desmopressin in this indication has been well documented in two phase III clinical trials. The drug was generally well tolerated, although a small subset of patients (≈5%) developed clinically significant hyponatraemia (i.e. serum sodium levels <130 mmol/L) during the initial dose-titration phase in both trials.

The risk of hyponatraemia with desmopressin relates to its relatively long duration of action (e.g. 6–8 hours after oral administration) and possibly its slow elimination in the elderly. Patients at risk of developing hyponatraemia are those with:

- a history of hyponatraemia while receiving thiazide diuretics;
- a history of renal or congestive heart failure or cirrhosis;
- signs or symptoms suggestive of polyuria and polydypsia, particularly if verified using a frequency/volume chart; or
- below-normal baseline serum sodium levels.

These patients should be excluded from desmopressin therapy to minimise this risk. In addition, patients >65 years of age who are prescribed desmopressin should be advised to avoid repeated dosing and excessive fluid intake. They should also be warned about symptoms of hyponatraemia (e.g. headache, nausea, vomiting, fatigue, dizziness, ataxia or weight gain) and advised to report them promptly. Finally, serum sodium levels should be monitored for the first 3 days after initiating desmopressin therapy and again after increasing the dose of desmopressin. Once the optimum dose of desmopressin has been established, monitoring is no longer necessary, as indicated by long-term treatment results. ▲