

Peri-surgical inpatient management of patients with arginine vasopressin deficiency (AVP-D)

(central or cranial diabetes insipidus) [for patients with intact thirst perception]:

lack of the posterior pituitary hormone arginine vasopressin (AVP) results in uncontrolled diuresis and polyuria.

Patient name _____

DOB _____

IMPORTANT POINTS

- 1.) all patients should be managed in consultation with an **endocrine specialist**
- 2.) prescribing an alert system for treatment with **desmopressin** is recommended with **24-h availability** during hospitalisation
- 3.) patients should have access to **fluids and desmopressin**

DESMOPRESSIN (AVP RECEPTOR AGONIST) LIFE-PRESERVING REPLACEMENT THERAPY

- Reduces uncontrolled urine excretion
- Dosage and timing is symptom specific and might show daily variation

PRE-SURGERY

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ONLY IF NORMONATREMIC

DURING SURGERY

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POST-SURGERY

Initial assessment of
volume/hydration status

- 1.) Patient orientated and able/allowed to drink:
 - provide access to fluids
 - should receive desmopressin as needed *
- 2.) If patient is able to self-administer desmopressin:
 - **allowed to manage their own desmopressin as needed ***
- 3.) If patient needs to fast (nil by mouth, no fluids):
 - allow to take **desmopressin as needed ***
 - **consider i.v. fluid replacement** (measure serum/plasma sodium **at least every 4-6 h** to avoid hyponatraemia).

- fluid input & output monitoring
- **measurement of sodium in venous blood gas (VBG)**

- 1.) Regular assessment of volume/hydration status:
 - fluid input & output monitoring
 - measure VBG sodium until desmopressin & oral fluid intake is allowed **at least every 4-6 h**
- 2.) If oral fluid & desmopressin is allowed:
 - change to oral fluid replacement of choice as quickly as is clinically safe
 - ensure oral fluids are within easy reach of patient at all times
 - **allowed to manage their own desmopressin as needed ***

Hyponatremia
sodium <135 mmol/l

Normonatremia
sodium 135-145 mmol/l

Hypernatremia
sodium >145 mmol/l

- carefully restrict/pause i.v. fluid
- measure VBG sodium **at least every 1-2 h**
- low urine output indicates desmopressin over-dose => **delay desmopressin**
- **avoid overcorrection:**
max. 8-12 mmol/L per 24 h

- fluid input & output monitoring
- measure VBG sodium depending on the duration of surgery **at least every 2-3 h**

- treatment with hypotonic i.v. fluids (5% glucose)
- measure VBG sodium **at least every 1-2 h**
- high urine output (>300ml/h) indicates desmopressin requirement (starting dose 0.5 mcg i.v.)
- **avoid overcorrection:**
max. 10 mmol/L per 24 h

Total body water deficit (in liter) = 0.6 x premorbid weight x [1 - (140 / [Na⁺])]

* Desmopressin not needed:

- High urine osmolality
- Low urine output
- No thirst

* Desmopressin needed:

- Low urine osmolality
- High urine output
- Strong thirst