

# Diabetes insipidus centralis

**Diabetes insipidus centralis** is a disease caused by a deficiency of ADH (vasopressin).

Lack of hormone in the body manifests itself polyurii and large fluid loss leads to polydipsii.

**The cause** of the disease may be the involvement of the hypothalamic nuclei producing ADH, a disorder neurohypophysis and the transport of ADH into the bloodstream.

## Etiology

**Insufficient ADH production can be caused by various mechanisms**

- **Congenital** disorders and genetic defects in hormone production.
- Hypothalamic-pituitary **tumors**, most commonly craniopharyngeal, pituitary adenoma, meningioma.
- **Autoimmune** affects the hypothalamus and destroys the nuclei that produce the hormone.
- **Trauma** or other mechanical involvement of the hypothalamus or pituitary gland.
- **Inflammation**.
- Vascular lesions, **hemorrhage**.
- **Iatrogenic** disability.
- Diabetes insipidus centralis is up to 45% **idiopathic**.

## Clinical symptoms

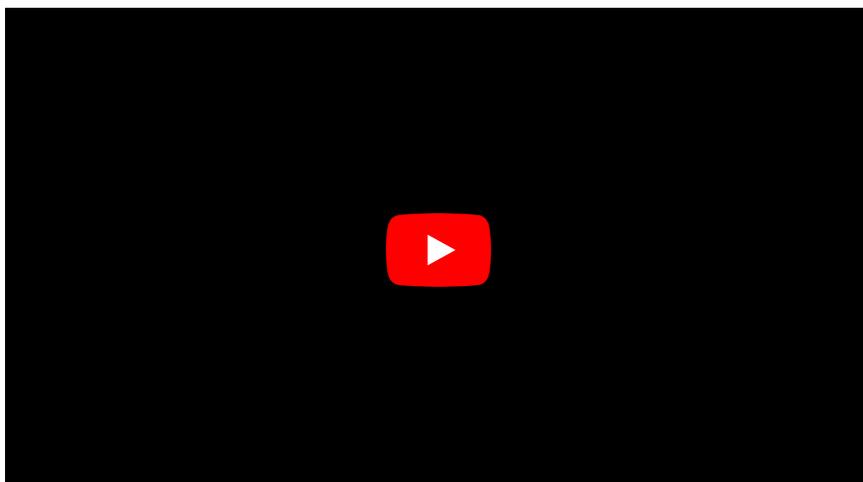
- Hypotonic urinary **polyuria** can vary widely, from slightly elevated (3 l / day) to marked (15 l / day).
- Also, **polydipsia** is individual in patients. The feeling of thirst may or may not be maintained.
- When thirst is broken, the patient does not compensate for fluid loss by adequate intake and Dehydration occurs, which can be fatal.

## Diagnostics

A patient with diuresis greater than 2.5 liters, with a finding of hypotonic urine, hypernatremia and serum hyperosmolality should be examined. . However, if the patient compensates for the loss with higher intakes, serum osmolality and sodium levels may be normal. Then we proceed to the **concentration test**. The patient thirsts for 36 hours and diuresis, serum and urine osmolality are monitored every hour. The patient must be closely monitored and when the weight is reduced by more than 3%, the test is stopped to avoid dehydration. If the patient is unable to concentrate the urine, serum osmolality increases and polyuria persists, the test is positive. To distinguish the central form of diabetes insipidus from renal, we give at the end of the test [[desmopressin] (synthetic analogue of ADH). Renal diabetes insipidus does not respond to desmopressin administration and the condition does not improve. As an additional examination, MRI of the hypothalamic-pituitary region is performed to clarify the etiology.

## Treatment

We use **desmopressin** as a substitute for ADH. Doses should be carefully titrated due to serum osmolality and sodium.



# Links

## Related articles

- Diabetes insipidus
- Diseases of the hypothalamic-pituitary system
- Urine examination

## References

-