

Syndrome of inappropriate antidiuretic hormone secretion etiology

The [Syndrome of inappropriate antidiuretic hormone secretion](#) is caused by inappropriate secretion of the [antidiuretic hormone \(ADH\)](#), which activates the vasopressin type 2 receptor ([AVPR2](#)) in the principal cells of the collecting duct of the kidney and leads to increased reabsorption of water through [aquaporin 2](#) channels.

CNS disorders

1. [infection](#):
 - a) [encephalitis](#)
 - b) [meningitis](#): especially in peds
 - c) [Tuberculous meningitis](#)
 - d) [AIDS](#)
 - e) [brain abscess](#)
2. [head trauma](#): 4.6% prevalence
3. increased ICP: [hydrocephalus](#), [Subdural hematoma](#)...
4. [SAH](#)
5. [brain tumors](#)

Malignant tumors

1. especially bronchogenic small-cell Ca
2. tumors of GI or GU tract
3. [lymphomas](#)
4. Ewing's sarcoma
6. [cavernous sinus thrombosis](#)
7. ★ post craniotomy, especially following surgery for [pituitary tumors](#), [craniopharyngiomas](#), [hypothalamic tumors](#)
8. MS
9. Guillain-Barré

10. Shy-Drager

11. delirium tremens (DTs)

Head trauma: 4.6% prevalence

Chen et al., report the clinical features of **brain trauma** associated syndrome of inappropriate **antidiuretic hormone** secretion. A retrospective analysis was performed for the **electrolytes** and **plasma osmolality** and urine samples of **brain injury** patients, which have been collected in the department since last 20 years. Four cases of brain injury patients met the criteria of SIADH, and three of them were cured but one patient died.

The pathogenesis and treatment of SIADH associated with brain injury are different from **hyponatremia**. Early diagnosis and treatment can reduce the morbidity and mortality of patients with **traumatic brain injury** ¹⁾.

May be associated with numerous intracranial abnormalities and following transsphenoidal surgery.

see **Hyponatremia after transsphenoidal surgery**.

Common causes of SIADH in children include trauma, asphyxia, pain, stress, certain drugs and recent neurosurgery ²⁾.

¹⁾

Chen L, Xu M, Zou Y, Xu L. Clinical Analysis of Brain Trauma-Associated SIADH. Cell Biochem Biophys. 2014 Mar 13. [Epub ahead of print] PubMed PMID: 24622939.

²⁾

Dufek S, Booth C, Carroll A, Van't Hoff W, Kleta R, Bockenbauer D. Urea is successful in treating inappropriate antidiuretic hormone secretion in an infant. Acta Paediatr. 2016 Dec 9. doi: 10.1111/apa.13697. [Epub ahead of print] PubMed PMID: 27935121.

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