

Hyponatremia treatment after transsphenoidal surgery

Modern skull base surgeons suggest that improved visualization and identification provided by the endoscope can lead to greater visualization and reduced trauma to the posterior pituitary gland ^{1) 2) 3)}.

Mild fluid restriction (to 1.5 liters daily), in addition to a single post-operative [serum sodium](#) level, is an effective approach to preventing [readmission](#) for [hyponatremia treatment](#) after [transsphenoidal surgery](#) for [pituitary neuroendocrine tumors](#) ⁴⁾.

Sane et al., published that postoperative hyponatremia after transsphenoidal surgery is common and may put the patients at increased risk of severe hyponatremic symptoms. Therefore, all patients should be screened for serum electrolytes for 1 week after transsphenoidal surgery ⁵⁾.

Bohl et al., thought that close symptom monitoring may be a reasonable alternative to routine screening ⁶⁾.

Age, gender, tumor size, rate of decline of blood sodium, and Cushing disease are potential predictors of Delayed Symptomatic Hyponatremia (DSH) (defined as serum sodium level <135 mEq/L with associated symptoms) after postoperative day 3. By identifying patients at high risk for DSH, preventative efforts can be implemented in the perioperative setting to reduce the incidence of potentially catastrophic hyponatremia following transsphenoidal surgery ⁷⁾.

Sane et al., studied the incidence of postoperative hyponatremia in 91 consecutive patients (44 males and 47 females; age, 45 yr; range, 12-76) operated on transsphenoidally for pituitary tumors. A postoperative serum sodium concentration less than 135 mmol/L (the lowest, 109 mmol/L) was observed in 32 (35%) patients. Hyponatremia occurred most commonly in patients operated on for Cushing's disease (11 of 18 patients; 61%). Hyponatremia was symptomatic in 18 (56%) of the patients. Neither the size nor the operability of the tumor or transient postoperative polyuria predicted the development of hyponatremia. Hyponatremia was first observed on the sixth or seventh postoperative day. The patients were treated with water restriction and by increasing the hydrocortisone replacement dose in the case of ACTH deficiency, and recovery took place, on the average, within 5 days. High urinary osmolality and plasma arginine vasopressin concentration during hyponatremia in a subgroup of study patients with these measurements indicated that inappropriate vasopressin secretion was involved in the pathogenesis of hyponatremia. In conclusion, postoperative hyponatremia after transsphenoidal surgery is common and may put the patients at increased risk of severe hyponatremic symptoms. Therefore, all patients should be screened for serum electrolytes for 1 week after transsphenoidal surgery ⁸⁾.

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