



# POSTOPERATIVE WATER AND ELECTROLYTE DISORDERS AND AFFECTING FACTORS IN CHILDREN WITH INTRACRANIAL TUMORS

Akbas E D, Doger E, Kilinc Ugurlu A, Bideci A, Camurdan O, Cinaz P  
Gazi University, Faculty of Medicine, Pediatric Endocrinology, Ankara, Turkey

## INTRODUCTION:

Water and electrolyte disorders due to anterior and posterior pituitary deficiencies are common in children which are referred with intracranial tumors, especially arising from suprasellar and pituitary regions. But the prevalence and affecting factors of these disorders are not clear.

We aimed that to determine the prevalence of postoperative water and electrolyte disorders and affecting factors in pediatric patients with intracranial tumors.

## METHOD

We analyzed data from the medical records of patients with intracranial tumors diagnosed before the age of 18 years, and were consulted to pediatric endocrinology department postoperatively. Clinical data included serum sodium, pre- and postoperative pituitary hormones, cranial MRI results of patients, complications and treatment modalities.

**Results:** This study included 29 patients (male: 15). 15 patients (51,7 %) had craniopharyngeoma. In postoperative first 4 days, diabetes insipidus (DI) developed in 17 patients. 6 of these patients had DI before the operation. Postoperative

syndrome of inappropriate antidiuretic hormone secretion (SIADHS) occurred in 9 (31%) patients. Only 1 patient had SIADH syndrome without DI. SIADHS occurred during 2-11 days postoperatively. Of the 29 patients, 14 (48,3 %) had permanent DI. 69% (n=20) of the patients had adrenal insufficiency, 75,9 % (n= 22) had central hypothyroidism. All patients who had permanent DI also had central hypothyroidism. Triphasic response was seen only in 6 patients. These patients were younger than others, and had lower weight, BMI, height, free T4 value, and higher sodium value.

## DISCUSSION

Water and electrolyte disorders are common in children and adolescence with intracranial tumors. Lower free T4 levels in patients who experienced triphasic phase and central hypothyroidism presence in all patients with permanent DI were interesting. Limitation of this study is the small sample size, this can explain why there is no relation between tumor size and location and the water- electrolyte disorders.

\*There is no conflict of interest