

**SYNDROME OF INAPPROPRIATE SECRETION OF
ANTIDIURETIC HORMONE (SIADH) SECONDARY TO
OLANZAPINE USE** Deerajath Lingutla, Mahesh Krishnamurthy,
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Introduction: Hyponatremia secondary to the SIADH is an uncommon complication of treatment with antipsychotic medications. SIADH is not reported as a side effect of the Olanzapine. We report a case who developed SIADH after treatment with Olanzapine.

Case: A 70 year old female with history of chronic schizophrenia was admitted to the hospital with nausea, vomiting, lethargy and a seizure activity with serum Na of 121 mmol/L. Four days prior to admission her Na was 139 mmol/L when Olanzapine 5mg per day was started for worsening psychotic symptoms. During her hospitalization laboratory investigations revealed hyponatremia with sodium value of 121mmol/l, serum osmolality 247 mos/kg, Urinary sodium 45 mmol/l, urinary osmolality 267 mos/kg and serum uric acid level 1.7 mg/dl. Thyroid hormone levels, as well as renal and adrenal functions, all were within normal range. Patient was euvolemic and had no evidence of CHF or dehydration. Chest x-ray and CT scan of her head did not reveal any acute abnormality. Hence diagnosis of hyponatremia secondary to SIADH was considered and treated accordingly. With discontinuation of her olanzapine, her serum sodium levels normalized within 48 hrs. Patient was considered to have SIADH secondary to olanzapine use, by assessing the probability of adverse drug reaction using Naranjo algorithm with score of six.

Discussion: Olanzapine is an atypical antipsychotics used to treat schizophrenia and bipolar disorder. The mechanism of olanzapine causing hyponatremia/SIADH is not entirely clear. Animal studies proved that the inhibitory effect of dopamine on ADH release was blocked by dopamine (D₂) receptor antagonists. It was also proved that the ADH response to a hypertonic stimulus was potentiated by D₂ antagonists. Olanzapine has also affinity for D₂ receptors, and it is possible that by its antagonism of D₂ receptors, it causes inappropriate secretion of ADH.

Conclusion: Serum sodium should be closely monitored in patients treated with atypical antipsychotic medications.