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Cerebral Salt Wasting Syndrome in an Elderly Patient: A Case Report and Literature Review

¹ Dr. P Anandan, ² Dr. Myla Vijay Krishna Yadav, ³ Dr. Anuhya Adusumili, ⁴ Dr. Rangeela P

¹ Associate Professor, Department of General Medicine, Sree Balaji Medical College and Hospital, Chromepet, Chennai, India

^{2, 3, 4} Junior Resident, Department of General Medicine, Sree Balaji Medical College and Hospital, Chromepet, Chennai, India

Corresponding Author: Dr. Myla Vijay Krishna Yadav

Abstract

Cerebral salt wasting syndrome (CSWS) is a rare but potentially serious electrolyte disorder characterized by hyponatremia and volume depletion. This case report presents an elderly patient with CSWS, emphasizing the

diagnostic challenges and management strategies specific to the geriatric population. Understanding the nuances of CSWS in older individuals is crucial for timely intervention and optimal patient outcomes.

Keywords: Cerebral Salt Wasting Syndrome, Hyponatremia, Elderly, Case Report

1. Introduction

Cerebral salt wasting syndrome (CSWS) is a disorder of electrolyte balance characterized by inappropriate natriuresis and volume depletion, leading to hyponatremia. It is often misdiagnosed or confused with the syndrome of inappropriate antidiuretic hormone secretion (SIADH) due to overlapping clinical features ^[1]. CSWS is particularly challenging in older individuals due to age-related physiological changes and comorbidities.

2. Case Presentation

An 82-year-old female with a history of hypertension and cerebrovascular disease presented with altered mental status, confusion, and generalized weakness. Initial assessment revealed hyponatremia (serum sodium: 122 mmol/L) and hypovolemia.

Further evaluation ruled out common causes of hyponatremia, including adrenal insufficiency, hypothyroidism, and SIADH. The patient's urinary sodium concentration was markedly elevated (urine sodium: 110 mmol/L), indicating renal sodium wasting.

A diagnosis of cerebral salt wasting syndrome was considered in the context of her recent cerebrovascular event. Neuroimaging demonstrated a recent ischemic stroke with perilesional edema, consistent with CSWS.

The patient was managed with isotonic saline infusion to correct volume depletion and raise serum sodium levels. Fludrocortisone was initiated to enhance renal sodium reabsorption. Close monitoring of serum sodium levels was maintained throughout the hospital stay.

3. Discussion

Cerebral salt wasting syndrome is often challenging to differentiate from SIADH due to similar clinical presentations, especially in the elderly population. CSWS is distinguished by the presence of renal sodium wasting, whereas SIADH is characterized by impaired water excretion ^[2].

Elderly individuals are at higher risk for electrolyte imbalances due to age-related changes in renal function, comorbidities, and polypharmacy. Vigilant monitoring and tailored interventions are crucial in managing CSWS in this population.

4. Conclusion

This case highlights the diagnostic complexities and management considerations specific to cerebral salt wasting syndrome in elderly patients. Early recognition and appropriate intervention are essential for mitigating the potentially serious consequences of this electrolyte disorder.

5. References

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