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Secondary Adrenal Insufficiency as a Reversible Cause of Euvolemic Hyponatremia in an Elderly Patient

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Background: Hyponatremia is the most frequent and consequential electrolyte disorder in emergency departments. A structured approach-assessing tonicity, volume status and excluding comorbidities-directs clinicians to accurate diagnosis and therapy.

Case History: An 88-year-old woman presented to the emergency department with acute confusion. Laboratory tests revealed serum sodium of 123 mEq/L and imaging demonstrated bilateral pleural effusions without radiographic signs of active inflammation. Her medical history was significant for hypertension managed with an angiotensin receptor blocker, thiazide diuretic all of which were discontinued on admission. After ruling out severe renal impairment, cirrhosis and acute decompensated heart failure, hypotonic euvolemic hyponatremia was diagnosed. Further work-up showed elevated urine osmolality and high urinary sodium excretion, with normal serum uric acid. Endocrine evaluation disclosed low morning cortisol levels, adrenocorticotropic hormone in the upper normal range and normal thyroid-stimulating hormone. A diagnosis of secondary adrenal insufficiency was established and glucocorticoid replacement therapy promptly initiated, resulting in normalization of sodium values and clinical improvement [1, 2].

Discussion: This case underscores the importance of including adrenal insufficiency in the differential diagnosis of euvolemic hyponatremia. Early recognition and hormone assays are pivotal. Prompt steroid replacement not only corrects the sodium imbalance but also mitigates potential life-threatening complications associated with cortisol deficiency.

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