


Learning Objectives

- Discuss the clinical management of a patient with syndrome of inappropriate antidiuretic hormone (SIADH) secretion
- Review the management strategies for hyponatremia in a patient with advanced liver disease who may be a candidate for liver transplantation



Patient Case: SIADH

- 78-yo female, with a history of diabetes and early stage Alzheimer's is admitted through the Emergency Department.
- Physical exam: patient is disoriented to time, but not place or person. There are no focal neurological deficits and her cardiovascular exam is unremarkable.
- Blood pressure is 160/100 on calcium channel blocker therapy, HR is 92 bpm and computed tomography (CT) of the head and chest were negative.



Patient Case: SIADH

Labs:

Na = 116 meq/L, K = 5.1 meq/L, Cl = 83 mmol/L,
HCO₃ = 22 mg/dl, glucose = 110 mg/dl,
BUN = 18, Cr = 0.8 mg/dl, Hct = 34.1



**Based on these labs, is this patient
at increased risk for in hospital
mortality?**

- A. Yes**
B. No



In-hospital mortality risk according to the ADHERE risk stratification?

In-hospital mortality risk groups according to the ADHERE risk stratification

- Age > 78 years → 1.88 (1.74 – 2.04)
- BUN > 42 → 3.34 (3.08 – 3.62)
- SCr > 3.2 → 1.99 (1.78 – 2.24)
- SBP ≤ 115 → 3.09 (2.85 – 3.35)
- DBP ≤ 55 → 2.87 (2.62 – 3.14)
- Serum Na⁺ < 134 → 2.26 (2.08 – 2.47)
- HR > 84 → 1.20 (1.11 – 1.30)
- Dyspnea at Rest → 1.57 (1.45 – 1.70)

Abraham WT, et al. JACC 2005;46:57-64



Which of the following criteria is not suggestive of a diagnosis of SIADH?

- A. Urine osmolality >100 mOsm per kg (100 mmol per kg)
- B. Absence of extracellular volume depletion
- C. Abnormal thyroid and adrenal function
- D. Normal cardiac, hepatic and renal function



What would your next step be?



**Patient Case:
Chronic Liver Disease**

- 50-yo healthy male with a history of excessive alcohol consumption is brought in by EMS.
- Hospital records show that he was recently treated as an inpatient for an upper respiratory infection and was discharged with antibiotics, diuretics and recommendations for a fluid restricted diet.
- Physical exam: patient is anorexia, and has an unsteady gait. He has marked ascites with a prominent fluid wave and bulging flanks, and bilateral pitting edema above the knees.
- Blood pressure is 156/108, HR is 97 bpm, serum NA is 105 meq/L.



Common symptoms of chronic hyponatremia include fatigue, nausea, dizziness, lethargy, confusion, and gait disturbances ?

- A. True**
B. False



Which of the following medications is relatively contraindicated in the treatment of patients with cirrhosis because of a high incidence of nephrotoxicity?

- A. Conivaptan
B. Tolvaptan
C. Demeclocycline
D. Spironolactone



Conclusions

- Hyponatremia is a common disorder of electrolytes seen in the hospital setting.
- Acute severe hyponatremia can cause substantial morbidity and mortality, particularly in patients with co morbidities.
- Overly rapid correction of chronic hyponatremia can cause severe neurologic deficits and death.
- SIADH is the most common cause of euvolemic hyponatremia in clinical medicine.
- Hypervolemic Hyponatremia is a common occurrence in patients with cirrhosis, particularly those with advanced chronic disease.
- Early diagnosis and intervention can improve outcomes in these patients SIADH and cirrhosis .