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.

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)


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-yr 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 comorbidities.
- 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.
- Hypovolemic 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.