

Tea and Toast Syndrome as Cause of Hyponatremia

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Learning Objectives

- Recognize the challenge of identifying the cause of hyponatremia in older adults.
- Consider “Tea and Toast” syndrome in the differential diagnosis.

Case Presentation

An 81-year-old woman was sent from her primary care physician's office for altered mentation and a serum sodium level of 122 mEq/L.

HPI: She complained of lethargy, dizziness and abdominal discomfort. She reported drinking large volumes of water which she stated helped alleviate the discomfort. She also reported poor appetite over the prior 2-3 weeks and had been consuming mostly rice water and soup.

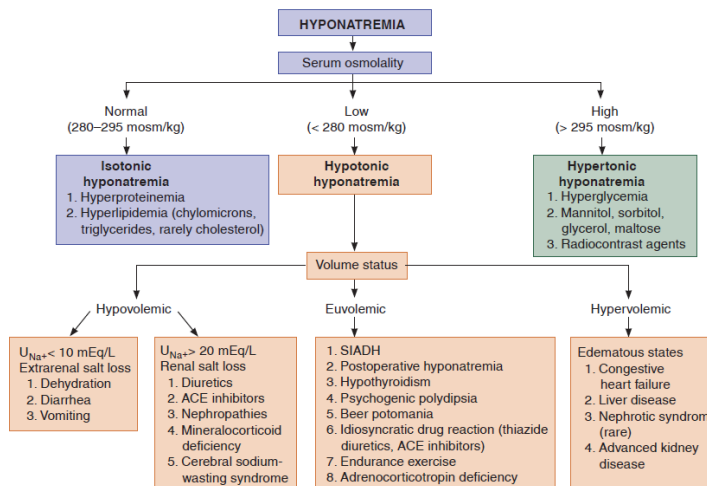
PMH: hypertension, hyperlipidemia, HFPEF, atrial fibrillation and osteoporosis. Multiple prior admissions for hyponatremia.

Physical Examination: on admission she had normal vital signs and appeared euvolemic.

Laboratory Data:

- Serum Na: 117 mEq/L
- Serum chloride: 82 mEq/L
- Serum osmolarity: 250 mOsm/L
- Urine sodium: 99 mEq/L
- Urine osmolarity: 304 mOsm/L
- Serum creatinine was normal
- Serum aldosterone: 5.2 ng/dL
- Renin activity: 2.2 ng/mL/hr.

Hyponatremia Workup



Tea and Toast Syndrome

- This type of hyponatremia may occur in older individuals with a low GFR who follow a diet poor in salt and protein but with liberal water intake.
- In these cases, there is a low distal delivery of filtrate (due to low GFR and possibly chronic sodium deficit) and increased water reabsorption due to the low rate of osmoles excretion.
- When water consumption exceeds the renal water excretion capacity, hyponatremia occurs.

Hospital Course

- The patient was treated with fluid restriction and oral urea.
- Serum ADH level at the time she was receiving treatment and was 7.8 pg/mL.
- Sodium levels improved at a rate of 6-8 mEq/L/24hrs.
- Her mental status returned to baseline by discharge.

Conclusions

- The diagnosis of “Tea and Toast” syndrome can be challenging as the presentation can mimic other etiologies of euvolemic hyponatremia.
- In addition to the physical examination findings, the diagnosis is based on a very detailed history, further confirmed by proper laboratory workup.
- Establishing the correct cause of hyponatremia can be challenging, especially when there are several factors present in a patient which can cause or worsen hyponatremia.
- Confirming the diagnosis of “Tea and Toast” syndrome is essential to help ensure that appropriate therapy is implemented.

References

Filippatos TD et al: Hyponatremia in the elderly: challenges and solutions. *Clin Interv Aging*. 2017;12:1957-1965.