

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Acid-Base Balance-Electrolyte Quiz – Case 22

A 72-year-old woman with a history of increased water intake and increased blood pressure (155/95 mmHg) is presented. The physician started the patient on hydrochlorothiazide 25 mg/day. Three weeks later the patient developed gait instability. Laboratory investigation showed hyponatremia (serum sodium 128 mEq/L, urea 15 mg/dL, creatinine 0.9 mg/dL).

Which of the following statements are correct?

- a. Diuretic-induced hyponatremia is the cause of the patient's symptoms
- b. Serum uric acid levels can help in the diagnosis of the pathogenetic mechanisms of hyponatremia (diuretic-induced hypovolemia versus SIADH)
- c. Increased water intake may play a central role in the pathogenesis of hyponatremia
- d. The co-administration of SSRIs can substantially increase the risk of hyponatremia in patients on thiazides.

Comment

It should be emphasized that even mild hyponatremia may be associated with gait instability and attention impairment

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observed in clinically asymptomatic patients. Furthermore, the co-administration of thiazide diuretics with SSRIs significantly increased the risk of developing hyponatremia.

It should be mentioned that increased water intake is necessary for the development of hyponatremia, which merely states that there is more water than sodium in the extracellular fluid.

Finally, even though thiazides commonly lead to hypovolemic hyponatremia associated with increased serum urea and uric acid levels (>5 mg/dL), in some patients with thiazide-induced hyponatremia a syndrome mimicking SIADH (with low serum urea and uric acid levels) is noticed.

Thus, a serum uric acid level <4 mg/dL associated with low serum urea levels –as it is the case in our patient– suggests the presence of SIADH-like syndrome. In these cases, cessation of the thiazide diuretic and water restriction can correct the hyponatremia.

All the above statements are correct (a, b, c, d).

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Diagnosis: Diuretic-induced hyponatremia