

LETTER TO THE EDITOR

ANTIDEPRESSANT-INDUCED HYPONATREMIA

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Hyponatremia is the electrolytic disorder most commonly observed among general hospitalized populations, being found in 2% of hospitalized patients.¹⁻³ A form of hyponatremia is the syndrome of inappropriate antidiuretic hormone secretion (SIADH). This syndrome consists of faulty urine dilution in the presence of plasma hyposmolality. It is an osmoregulatory disorder that has many causes, including medications.⁴

Selective Serotonin Reuptake Inhibitors (SSRIs) can cause hyponatremia due to SIADH, particularly among the elderly.

CASE REPORT

The present case is a 77-year-old male patient with clinical history of systemic blood hypertension, diabetes mellitus, vascular dementia syndrome and depression. He was an outpatient on 67.5 mg/day Captopril®, 35 U/day NPH insulin and 50 mg/day sertraline hydrochloride (prescribed six months prior to hospitalization).

The patient was admitted to the hospital with lack of appetite, somnolence and fever. He was diagnosed with infection of the urinary tract and therapy with antibiotics was instituted.

Basal evaluations showed the following values: 146 mEq/l serum sodium, 5.4 mEq/l serum potassium, 1.5 mg/dl creatinine and 58 mg/dl urea.

Twenty days later, concomitantly with the progressive increase of sertraline to 100 mg/day the serum sodium level had decreased to 125 mEq/l, while the potassium level increased to 5.8 mEq/l. One possibility was the onset of adrenal insufficiency and corticoid treatment was started, while measures were taken against hyperpotassemia. Although the potassium level returned to normal, hyponatremia persisted.

The cortisol level was normal (12.5 µg/dl), as well as the thyroid function (TSH 2.8 and FT4 1.17).

The fact that the patient still had hyponatremia in the

presence of low serum osmolality (270 mosm/kg) pointed to SIADH.

A treatment was instituted that included hydric restriction, 3% NaCl infusion and Furosemide®.

After 48 hours the sodium level had already increased and four days later the sodium level had reached 130 mEq/l, although it started decreasing again even though maintenance treatment was kept.

The exclusion diagnosis was drug-related SIADH secondary to the use of SSRIs.

Many non-pharmacological causes of SIADH were excluded based on normal thoracic radiograph and cranial tomography. The patient was also subjected to abdominal CT, rectosigmoidoscopy and high digestive endoscopy, none of which showed any changes, tumor markers were negative.

Sertraline was suspended and serum sodium level increased progressively until its normal value. At the time of hospital discharge, it had reached 136 mEq/l; 15 and 30 days after the hospital discharge the serum sodium level still was within the limits of the normal range (135 and 138 mEq/l, respectively).

DISCUSSION

In spite of being the most usual etiologic factor for hyponatremia in hospitalized elderly patients², as well as the most common cause of normovolemic hyponatremia (accounting for 14-40% of cases of hyponatremia), SIADH is normally diagnosed by exclusion.⁵

Criteria for a SIADH diagnosis include serum sodium below 135 mEq/l, osmolality below 280 mosm/l, volume expansion (without clinical hypervolemia or edema), hypertonicity of urine as compared to blood, and absence of dehydration. It is worth noticing that a correct diagnosis requires thyroid, adrenal and renal functions to be normal.^{2,5}

Many are the causes of SIADH and they may be divided into four categories: neoplastic, central nervous system disorders, lung diseases and use of medications.⁵

The incidence of hyponatremia among elderly patients treated with antidepressants of the SSRI class has been reported with increasing frequency.⁶⁻¹²

The prevalence of hyponatremia in the elderly due to

the use of SSRIs varies between 0.5 and 25%, with an incidence of 4.7/1000 treated patients per year.^{11,12}

Although half of the patients are asymptomatic, the mortality rate among elderly patients with hyponatremia may reach 25%.¹³

Hyponatremia generally develops during the first month of therapy (3 to 120 days) and is reversible between 2 and 28 days after the suspension of the SSRI.¹⁰

In our patient, hyponatremia occurred 20 days after the dose of sertraline was increased, and the serum sodium levels returned to the normal range 21 days after drug withdrawal.

Risk factors include old age, low body mass index, concomitant use of diuretics, and female sex.^{10,11,12,14} This patient, is male, but exhibited all the other risk factors for

developing SIADH.

Euvolemic hyponatremia combined with reduced serum osmolality and the absence of hypothyroidism and adrenal insufficiency pointed to SIADH.

Extensive investigation for malignancy, and lung, liver, heart and kidney disease was performed, and no other non-pharmacological cause of SIADH was evidenced.

The diagnosis was confirmed by the response to drug withdrawal.

Since hyponatremia is a not-so-rare side effect among elderly patients treated with antidepressants of the SSRI class and is associated to mortality increase, monitoring the serum sodium level is recommended while this class of drugs is being used.

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