LETTER

Cause of syndrome of inappropriate antidiuretic hormone secretion: Pantoprazole

Dear Editor,

Syndrome of inappropriate antidiuretic hormone secretion (SIADH) was identified as the cause of hyponatremia in 13.7-17.4 % of hospitalized patients[1]. Once a case of SIADH is confirmed, clinicians should be aware of nervous system disturbances, malignancies, infections, hormonal deficiencies, and drugs that cause SIADH[2].

An 85-year-old female presented with headache and weakness. She had hypertension for 25 years and Parkinson's disease for two years. She had been treated with diltiazem, doxazosin, losartan, pantoprazole, and simethicone. Obesity (body mass index: 31.6 kg/m^2), bradykinesia, pill-rolling resting tremor, and rigidity of the right hand were noted. Her blood pressure was 180/90 mmHg, with hypertensive retinopathy grade 2, and she was euvolemic. Biochemical test results were as follows: serum creatinine level: 0.74 mg/dL, serum sodium (Na) level: 120 mEq/L, spot urine Na level: 59.7 mEq/L, serum osmolality: 248 mOsm/kg (normal range: 280-295 mOsm/kg), urine osmolality: 377.52 mOsm/kg, plasma antidiuretic hormone (ADH) level: 2.15 pmol/L (0.9-4.5 pmol/L), serum cortisol level: 14.69 mg/dL (6.7-22.6 mg/dL), thyroid-stimulating hormone: 2.65 mIU/L (0.27-4.2 mIU/L), and free T4: 1.06 ng/dL (0.93 -1.7 ng/dL). The patient was administered intravenous saline solutions, but no response was noted in serum sodium levels. Low serum osmolality (<275 mOsm/kg), inappropriately high urine osmolality (>100 mOsm/kg), and measurable plasma ADH level despite the extremely low serum osmolality and euvolemic hyponatremia with normal cortisol level, thyroid hormone level, and renal function tests suggested the diagnosis of SIADH.[2] Fluid restriction was performed; however, no change was noted. Her thoracic and abdominal computed tomography and cerebral magnetic resonance imaging results were normal. Her previous serum Na levels were abnormally low (127-132 mEq/L), and she had been using pantoprazole for three years despite normal gastroscopic features. Pantoprazole was stopped, and nine days after discontinuation, her serum Na level increased from 126 mEq/L to 133 mEq/L. The Naranjo Adverse Drug Reaction Scale score for pantoprazole was 8. Six months later, her control serum Na level was 136 mEq/L.

Hyponatremia has important and poor clinical outcomes, particularly in older patients due to maladaptations to organ dysfunction. The duration of hyponatremia in our case was chronic and symptomatic. SIADH was caused by inappropriate pantoprazole use. An association between hyponatremia due to SIADH and the use of proton pump inhibitors, except lansoprazole, within 90 days was reported in a previous study that included 14,359 inpatients for a 9-year study period[3]. In our case, the patient had been using pantoprazole for three years without indication, even though biochemical test results had revealed mild to moderate degree of hyponatremia during the visits. This underestimation of hyponatremia, especially in older patients, among clinicians is common despite the high mortality rate. Pantoprazole use without indication had led to SIADH-related hyponatremia in our patient. We aim to emphasize the importance of obtaining extensive drug history for patients with SIADH. The association of pantoprazole with SIADH may be an underdiagnosed and underrecognized entity among clinicians.

Keywords: Syndrome of inappropriate antidiuretic hormone secretion, SIADH, pantoprazole, chronic hyponatremia.

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Conflict of interest
Authors declare no conflict of interest.

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