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Incidental Severe Hyponatremia with Use of Isabgol: A Rare Case

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Hyponatremia is one of the most prevalent and significant electrolyte imbalances, which can be detected alone or with other electrolyte abnormalities. Multiple factors, such as comorbid conditions, medications, low intake of sodium, and elderly age, act alone or in combination to lead to hyponatremia.[1,2] Drugs are one of the important causes of hyponatremia. Here, we report a rare case of hyponatremia in a 54-year-old male who presented to the emergency department with a complaint of drowsiness. The biochemical investigations were normal except for significantly low levels of sodium (110.1 mEq/L) and elevated total creatine phosphokinase levels (3958.0 U/L). His hematological parameters (hemoglobin: 13 g/dL, red cell count: 3.95/microL, hematocrit: 32%, platelet count: 161 000 cells/mL), kidney function (serum creatinine: 0.94 mg/dL, estimated glomerular filtration rate (eGFR): 91.5ml/min/1.73 m^2), and potassium (4.52 mmol/L) were within the normal range. Besides these, the liver function test, biochemical analysis, lipid profile, and serum proteins (albumin and globulin) all were within the normal ranges. Magnetic resonance imaging revealed no discernible cause such as pituitary adenoma or any other structural abnormality. The patient was on a low-sodium diet and was receiving telmisartan (40 mg/d) and chlorthalidone (6.25 mg/d) as part of anti-hypertensive therapy. On this treatment, there were no episodes of hyponatremia in the past. Recently, he had a history of constipation for around 10 days, for which he had started isabgol (2 tsf 3-4 times a day). His serum osmolality was 230 mOsm/kg H_2O, urine osmolality was 400 mOsm/kg H_2O, and urine sodium was 130.9 mEq/L. A high urine sodium was reflected because of initiation of 3% hypertonic saline at a local hospital before being investigated. During a hospital stay of 5 days, his symptoms improved, and he was discharged in a stable condition. At the 4-week follow-up, the patient was stable with no hyponatremia-related symptoms.

Hyponatremia is a common electrolyte abnormality. Severe hyponatremia is often reported because of drugs. Diuretics are the most common culprits, but sometimes, drugs such as proton pump inhibitors, antibiotics, angiotensin-converting enzyme inhibitors, hypoglycemic agents, and amiodarone are involved in the causation of hyponatremia.[3] Treatment-induced hyponatremia is more common than it once was, and that frequency is projected to rise with rising polypharmacy as well as an aging population.[4] In our case, suspicion of antihypertensive therapy leading to hyponatremia was ruled out by thorough history. The patient was on thiaz ide–chlorthalidone and was taking a low-sodium diet, but there were no previous reports of hyponatremia. We propose that continuous intake of isabgol (for nearly 15 days) led to hyponatremia. Isabgol husk supplement along with the low-fiber diet considerably increases the urine and fecal elimination of important minerals of the body. Psyllium husk has been found to interact

with sodium ions and lead to sodium excretion via the fecal route.[5] In 1 experiment, psyllium mucilaginous gel was shown to retain a minimum 50% of sodium over a concentration range (5-300 mg sodium/g psyllium). In a gastrointestinal tract (GIT) pH-simulated model, the adsorption of sodium at biologically relevant pH values (pH 1.2 (stomach) and 6.8 (intestine)) was investigated. The GIT model salt absorption was steadily rising (about 50%), according to the findings, while under pH levels following numerous items of washing, the simulated intestinal sodium loss was only about 20%. With this GIT model, the mechanism behind the low availability of sodium by psyllium husk was clearly revealed.[6] A low-sodium diet was a supportive factor in our case for the development of hyponatremia after isabgol intake.

On discontinuing isabgol and infusing 3% hypertonic saline increased sodium levels, and the hyponatremia was resolved gradually. We believe the recent intake of isabgol for constipation has resulted in hyponatremia. This case highlights that isabgol may be associated with the development of hyponatremia, especially in patients with a low sodium diet and/or using diuretics.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of SKCC Institutional Ethics Comittee (Date: 13-May-2023, Number: NA).

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