

**An Unusual Cause of Hyponatremia in a Elderly Patient:  
Folliculj Sennae Use**

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**Abstract**

Hyponatremia is a common electrolyte disorder in geriatric population which is mainly related to drug use, renal or cardiac insufficiency or endocrinopathies. However, herbal medicine use is a common but generally misdiagnosed cause of decreased sodium level. In this case report, we present a 62 year old female patient admitted with hyponatremia which is related to use of a herbal medicine called '*folliculj sennae*'.

**KeyWords:** hyponatremia, herbal medicine, folliculj sennae

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**Introduction**

Hyponatremia is the most common electrolyte disorder which is observed in %15-30 of all fluid-electrolyte disturbances (1). In hospitalized geriatric patients, mild hyponatremia is seen in %17 and severe hyponatremia in 4.5% (2). Every 1 mmol/L decrease in serum sodium level below 135 mmol/L is associated with %23 increase in the mortality rates.

Polypharmacy and increased antidiuretic hormone (ADH) level are the main contributors of increased tendency to hyponatremia (3). The most common causes of hyponatremia are drugs, especially, diuretics, antipsychotics, antiepileptics that are commonly used in patients at advanced age (4). Endocrinopathies including hypopituitarism, adrenal insufficiency, diabetes mellitus and inappropriate ADH syndrome are additional risk factors of hyponatremia.

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Use of herbal medicines like licorice are well-known causes of hyponatremia (5). Laxatives may also impair sodium-water balance. Sennae acts as bowel stimulant via inducing peristalsis by myenteric plexus as well as decreasing water absorption from the colon mucosa. Extract of sennae, sennosides, have been used for decades for constipation or bowel preparation to colonoscopic examination that may cause fluid and electrolyte imbalance (6). However, there is a limited data in terms of the association of hyponatremia and folliculj sennae, a herbal plant. Folliculj sennae is a herbal tea that is used as a laxative in some Middle East and Asian countries.

Here in, we report a case of folliculj sennae use related hyponatremia in a elderly patient.

**Case report**

A 62 year old female patient with a history of chronic obstructive pulmonary disease, hypertension and mastectomy for breast cancer and thyroidectomy for goiter admitted with fatigue, malaise and myalgia that gradually increased in the last 2 weeks. She reported continuous headache for 2 days during her emergency department admission. She referred to internal medicine clinic of our hospital with hyponatremia. Her vital signs and physical examination findings were normal. Except increased sodium ( $\text{Na}:192 \text{ mmol/L}$ ) and hypoosmolality (osmolality: 260), all laboratory variables were within normal range.

In the etiological evaluation of hyponatremia, thyroid hormone and cortisol levels were also in normal. Euvolemic status, hypoosmolality and normal thyroid and hypothalamic hormone levels were suggesting inappropriate ADH syndrome. There were no signs of dehydration associated with drug use diarrhea. Her medical recordings revealed 5 times admission with hyponatremia that well responded to hypertonic IV fluid. She had irregular use of antidepressant drug (sertraline) that is not matched with hyponatremic attacks. After 2 days of hypertonic fluid administration and diuretic use, her sodium levels exceeded  $130 \text{ mEq/L}$  and symptoms were disappeared. She was discharged with the recommendation of outpatient visits and discontinuing herbal medicine.

**Discussion**

Because of aging related altered water excretory capacity of elderly population, hyponatremia accounts the most common electrolyte disorder in this population. As glomerular filtration rate decreases by aging, impaired fluid excretion causes decreased sodium concentration which is potentiated by medications. Increased sensitivity to osmotic stimuli is observed in geriatric population which is considered as another risk factor of hyponatremia (2). While acute severe hyponatremia is characterized by severe

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neuropsychiatric symptoms, chronic hyponatremia slowly impairs cognition which may be overlooked (7).

A remarkable proportion of elderly people suffer from chronic, probably related to diminished bowel peristalsis or low fiber intake which directs them to use laxatives. Patients whose symptoms do not respond to medical therapy may seek relief from alternative methods like herbal medicines. Folliculj sennae has limited use in some parts of the world like southeastern region of Turkey(8). In our case, she had been using herbal plant for more than 5 years in which she had 5 times documented hyponatremia which necessitates hospitalization. Other possible causes of hyponatremia were excluded, and at 2nd day of the discontinuation of the herbal plant use, serum sodium level exceeded, and symptoms like fatigue and confusion were immediately improved.

Pseudohyponatremia should be considered at the initial evaluation of the patients that is related to hyperlipidemia, hyperproteinemia or hyperglycemia. Identification of the type of hyponatremia is vital to determine the cause and appropriate treatment of the electrolyte disorder. While diuretics and fluid restriction is the mainstay of the therapy in hypervolemic hyponatremia, volume replacement is essential for the patients with hypovolemic hyponatremia. Our patients received hypertonic saline solution for once at the admission, and did not require after discontinuation of Folliculj sennae.

Chronic hyponatremia is less serious problem compared to acute severe life-threatening hyponatremia. However, in elderly population, even chronic hyponatremia may cause mortality that necessitates early intervention to reverse the situation. Public awareness against long-term hyponatremia risk of herbal medicine use should be augmented. Clinicians should consider herbal medicine use related hyponatremia in geriatric patients with disorganized behaviour.

**Conflict of interest**

The authors have no conflict of interest in this paper.

**Financial disclosure**

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