

An uncommon cause for vomiting

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ABSTRACT

Thyrotoxicosis may present with a variety of non specific symptoms in elderly patients. Gastrointestinal symptoms such as nausea, vomiting and abdominal discomfort can occasionally be the presenting feature of thyrotoxicosis in this age group. We describe an elderly patient in whom thyrotoxicosis was diagnosed after extensive evaluation for nausea, vomiting and anorexia. This patient was also found to have hypercalcemia. This case highlights the importance of recognizing thyrotoxicosis in older patients presenting with GI symptoms and mild hypercalcemia

Keywords: Hypercalcemia, thyrotoxicosis, vomiting

Introduction

In elderly people, thyrotoxicosis may not present with classical hyperadrenergic features and ophthalmopathy. In contrast, they may present with symptoms such as anorexia and weight loss. We present an elderly patient who presented with anorexia, vomiting, and weight loss, secondary to thyrotoxicosis.

Case Report

A 72-year-old female was referred by primary care physician to the emergency room with persistent nausea, vomiting, anorexia, and weight loss of 6-week duration. She did not have abdominal distension or bowel disturbance. She also complained of excessive fatigability and feverishness of 3-month duration without any localizing features.

On examination, she was emaciated and dehydrated. Her blood pressure was 120/72 mmHg, and pulse rate was 102/min and

regular. She had generalized hyperpigmentation of the skin. She also had a soft diffuse goiter. Cardiovascular, respiratory, and abdominal examination were unremarkable.

The blood investigations showed:

- Sodium - 144 mmol/L (135–145)
- Potassium - 3.0 mmol/L (3.5–5)
- Bicarbonate - 28 mmol/L (22–29)
- Magnesium - 1.4 mg/dL (1.7–2.2)
- Creatinine - 0.6 mg/dL (0.5–1.4)
- Fasting plasma glucose - 102 mg/dL (70–100)
- Aspartate transaminase - 46 U/L (8–40)
- Alanine aminotransferase - 28 U/L (5–35)
- Alkaline phosphatase 169 IU/L (40–125)
- Albumin - 3.8 g/dL (3.5–5)
- Cortisol (8 am) - 25 µg/dL (9–25)
- Hemoglobin - 12.8 g/dL (12–15)

Which were normal except for hypokalemia and hypomagnesemia.

Further evaluation revealed an elevated corrected calcium of 11.3 mg/dL (8.3–10.4) with a phosphorus of 2.8 mg/dL (2.5–5), 25-hydroxy Vitamin D of 32 ng/ml (30–75) with suppressed

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serum intact parathyroid hormone levels <3 pg/ml (8–50), and normal serum electrophoresis.

In view of her age, presenting symptoms, and hypercalcemia, the initial evaluation was directed toward the search for an underlying malignancy or infectious disease. However, the investigations including upper gastrointestinal (GI) endoscopy were unremarkable. A subsequent thyroid hormone profile revealed hyperthyroidism serum thyroid stimulating hormone (TSH) 0.001 μ IU/ml (0.3–4.5), total thyroxine (T_4) >24 μ g/dL (4.5–12.5), and free T_4 3.5 ng/dL (0.8–2.0), with a uniform increased uptake demonstrated on a radioiodine uptake study.

She was diagnosed to have thyrotoxicosis complicated by hypercalcemia. Hypercalcemia also appeared to be the major contributor to her GI symptoms, which improved with the initial rehydration therapy. She was started on oral carbimazole (30 mg once a day) along with β -blockers (propranolol 40 mg thrice daily). During the follow-up visit after 2 months, she was symptom-free with a free T_4 concentration of 0.8 ng/dL (0.8–2.0), TSH of 0.6 μ IU/ml, and corrected serum calcium of 8.8 mg/dL.

Discussion

Vomiting and anorexia are unusual and paradoxical symptoms of thyrotoxicosis. Various mechanisms have been postulated for the occurrence of these symptoms in thyrotoxicosis. Excess thyroid hormone *per se* stimulating the chemoreceptor trigger zone and direct action of excess thyroid hormones on GI motility,^[1] hypoperistalsis of the pharynx and esophagus induced by hypomagnesemia,^[2] thyrotoxicosis-induced hypercalcemia,^[3] and increase in β -adrenergic activity (due to an increased number of β -adrenergic receptors)^[4,5] are reported to cause vomiting. The hypercalcemia of thyrotoxicosis is usually mild and asymptomatic, occurring in nearly about 15% of patients. Symptomatic hypercalcemia is unusual except when it occurs in the presence of concomitant primary hyperparathyroidism.^[3]

This case report highlights the fact that endocrine conditions such as hyperthyroidism should be considered in the differential diagnosis for elderly patients presenting with persistent vomiting and also in an etiological workup of hypercalcemia as classical features of thyrotoxicosis including increased adrenergic activity, ophthalmopathy, and dermatopathy may not be present in many subjects.

Learning points for primary care physicians

- In elderly patients, classical symptoms of thyrotoxicosis may not be seen
- Hyperthyroidism should be considered in patients with persistent vomiting
- Hypercalcemia may be secondary to uncommon etiologies such as thyrotoxicosis which will normalize with the treatment of the underlying cause.

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Conflicts of interest

There are no conflicts of interest.

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