A 13-Year-Old with a Suicide Attempt, Recent Weight Loss, and Enlarged Thyroid

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A 13-year-old was brought to the emergency department after she had run away from home with her boyfriend and had been found on the highway by her mother’s boyfriend. At presentation, the patient was extremely combative. She reported that she had been feeling depressed for approximately 2 years, and she had previously attempted suicide when she was age 11 years by cutting herself. She also reported that she had difficulty sleeping at night, had experienced periods of time when she felt her heart beat fast while she was at rest, and that she got headaches from overthinking things. The patient denied heat or cold intolerance. She reported that she had lost 30 pounds in the past 3 months. She said she experienced feelings of hopelessness and helplessness, anhedonia, and decreased energy. In addition, she had a decreased interest in daily activities she previously enjoyed, such as poetry and reading. The patient also noted that she struggled with symptoms of anxiety for approximately the past 2 months.

Her maternal family history was positive for hyperthyroidism. Her maternal grandmother’s hyperthyroidism was managed with medication, and her maternal aunt’s hyperthyroidism was managed with ablation. The patient denied substance abuse and denied being on any medications. She had been born via caesarean delivery because the umbilical cord was wrapped around the neck, but no birth trauma or delay in milestones were noted. She was currently attending high school, where she earned A and B grades.

On examination after admission to the hospital, the patient was found to have an enlarged thyroid without a goiter. There was a thrill present over the thyroid but no bruit. Her vital signs were as follows: pulse 122 beats per minute; respiration 23 breaths per minute; blood pressure 132/82 mm Hg; and oxygen saturation 98%. Laboratory testing revealed thyroid-stimulating hormone of 0.006 mcU/mL, free T4 of 2.39 ng/mL, total T4 of 11.6 mcg/dL, free T3 of 4.8 pg/mL, thyroglobulin Ab of <0.9 IU/mL, thyroid peroxidase Ab of 0.3 IU/mL, and thyroid-stimulating immunoglobulin of 126%.

An ultrasound of the thyroid showed decreased vascularity of the thyroid, and a nuclear medicine scan showed the possibility of a goiter.
After evaluation by a multidisciplinary team, the patient was diagnosed with mood disorder due to Graves’ disease (hyperthyroidism), which is a general medical condition.

The patient was prescribed sertraline at a dose of 25 mg orally once daily. She was also prescribed methimazole at a dose of 10 mg twice daily after getting a baseline complete blood count (CBC). It was recommended that the patient get a CBC test if she developed a fever and a sore throat in the near future. The patient had a follow-up appointment with the endocrinology clinic but did not keep her appointment.

Approximately 6 weeks after her initial presentation, she had a second admission to pediatric services after overdosing on sertraline and methimazole. After that admission, the patient was transferred to an outside psychiatric hospital, so she did not keep her scheduled follow-up appointments at our hospital.

DISCUSSION

Hypothyroidism is one of the most common endocrine disorders encountered in clinical practice. The prevalence of hypothyroidism is between 1% and 4.6%. Nearly 3% of the US population (approximately 7.5 million people) are affected by hyperthyroidism, according to the third National Health and Nutrition Examination Survey (NHANES III). NHANES III defines hyperthyroidism as thyroid-stimulating hormone <0.1 mIU/L, with total T4 levels either elevated (overt hyperthyroidism) or normal (subclinical hyperthyroidism).

A little less than one-half of all Americans who have a hyperthyroid condition (approximately 1.3% of the US population) are unaware that they have a hyperthyroid condition, including those with overt symptoms (0.5%) and those with subclinical disease (0.8%). Compared to men, women are 5 times more likely to have hyperthyroidism.

The case presented here is a patient with Graves’ disease with neuropsychiatric manifestation including depression and suicidal ideation. Graves’ disease is an autoimmune syndrome and is the most common cause of hyperthyroidism, which affects approximately 1% to 3% of the general US population. Common symptoms may include tachycardia and atrial fibrillation; however, psychiatric manifestation such as mania and psychosis may also occur. Hyperthyroidism-related anxiety syndromes are typically complicated by major depression and cognitive decline in memory and attention. Thus, pituitary-thyroid testing is an important step in the psychiatric evaluation of any patient with clinically significant anxiety.

Although hypothyroidism is commonly associated with depression, we present a rare case of a patient with Graves’ disease who had symptoms of depression for 2 years prior to her presentation. The patient was started on treatment with methimazole, but we had no follow-up with the patient after she was discharged from our facility because she failed to show up for scheduled appointments.

In younger patients and the elderly, hyperthyroidism can typically manifest either as hyperactivity or as apathy and depression. No clear link between Graves’ disease and attempted or completed suicide has been reported in the literature. Our patient was having psychosocial stressors such as fighting with her mother, and this associated stress could have been associated with the onset of her Graves’ disease.

CONCLUSION

This case illustrates a rare occurrence of Graves’ disease leading to excessive feelings of depression and contributing to a suicide attempt. It demonstrates that even in patients with marked risk factors for self-harm, evaluation for other medical illness is important. It is important to do a comprehensive family history, a complete physical examination, and evaluate laboratory parameters.

It is vital for the psychiatrist to consider general medical conditions as one of the important causes for depression to ensure an accurate diagnosis and guide treatment. Pituitary-thyroid testing is important in the psychiatric evaluation of any patient with clinically significant anxiety. It is important to refer hyperthyroid patients for endocrinologic management, but also to remain involved in treating those with prominent psychiatric symptoms. It is also important to remember that unless the mental health provider is specifically look-
ing for symptoms of hyperthyroidism in depression, it is likely to go undetected.

REFERENCES