

Iatrogenic hypothyroidism and acute psychosis

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Received 12 May 2013; revised 10 June 2013; accepted 18 June 2013

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ABSTRACT

We present the case of a 39 years old woman who was referred to our day hospital unit because of anxiety. The patient didn't endorse any past psychiatric symptoms except for an acute psychotic episode in August 2010. In June 2010 she was diagnosed with hypothyroidism (likely due to Hashimoto's thyroiditis) and was started on Methimazole 30 mg. Shortly after that she reported persecutory ideation and hallucinations which quickly progressed, until she was hospitalized in a psychiatric facility. Upon admittance her lab work revealed severe hypothyroidism. Methimazole was suspended, she was started on Haloperidol, and the symptoms went into remission after four days. Despite the fact that she self discontinued Haloperidol shortly after discharge, she showed no sign of psychotic symptoms. While it is widely accepted that hypothyroidism can cause depressive symptoms, to the best of our knowledge very few cases of psychotic symptoms associated with this condition have been described. Based on the patient's clinical history, on the rapid onset and remission of symptoms, on the lab values and on the doses of medication that were prescribed, we hypothesize that our patient's psychotic episode was caused by iatrogenic hypothyroidism.

Keywords: Psychosis; Hypothyroidism

1. BACKGROUND

The association between thyroid deficiency and psychiatric presentation is not infrequent [1,2], but is commonly overlooked as an etiology for behavioral, affective, and cognitive changes [3]. Traditionally, lethargy and lassitude were thought to be the typical psychiatric

manifestations of hypothyroidism. Studies have shown, however, that 5% to 15% of myxedematous patients have some form of psychosis [4].

2. CASE REPORT

We present a case of a 39 years old woman complaining of anxiety, who was referred to our Psychiatry Day Hospital unit in September 2010. She said her anxiety had begun about a month earlier, denied substance abuse and any history of psychiatric disorders except for an acute psychotic episode in August 2010.

General medical history was unremarkable except for hyperthyroidism (TSH 0.001 μ U/mL; fT3 14.6 pg/mL; fT4 37 pg/mL) which first presented in June 2010, 10 months after the birth of her first child. Anti thyroglobulin and anti thyroperoxidase antibodies at the time were 133 UI/mL and 146 UI/mL. The subject was started on Methimazole 30 mg on July 10th 2010 and, two weeks later, she developed auditory and visual hallucinations and persecutory delusions, which worsened until, on July 31st, she was hospitalized in a psychiatric ward.

Upon admittance she was alert and oriented, and passively cooperant. General examination was normal except for bilateral swelling in the lower limbs (which had begun 10 days earlier). She was euthymic but anxious because of visual and auditory hallucination (large faces with wigs laughing at her) and persecutory delusions. Lab work indicated severe hypothyroidism (TSH 87.8 μ U/mL, fT3 1.23 pg/mL and fT4 1.75 pg/mL). Methimazole was suspended and the patient was started on Haloperidol 10 mg.

Four days later her symptoms remitted (at the time of discharge on August 4th she had no hallucinations nor delusions). She self discontinued Haloperidol one week later with no change in her mental status, and no recurrence of psychotic symptoms. At the end of August she started having tremors, anxiety, mood swings and in-

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somnia. Lab work indicated mild hyperthyroidism (TSH 0.15 µU/mL, fT3 4.1 pg/mL, fT4 12 pg/mL).

In mid September 2010 she was evaluated by means of the Hamilton Anxiety Rating Scale (HAM-A), Hamilton Depression Rating Scale (HAM-D), Brief Psychiatric Rating Scale (BPRS) and Scale for the Assessment of Positive Symptoms (SAPS). Her HAM-A score was 22, her HAM-D was 13, her BPRS score was 30 and her SAPS score was 2. Thyroid function was: TSH 0.02 µU/mL, fT3 4.5 pg/mL, fT4 1.6 pg/mL; anti thyroglobulin and anti thyroperoxidase antibodies were 60 UI/mL and 86 UI/mL, respectively. Following an endocrinological consult the patient was diagnosed with Hashimoto's thyroiditis and was started on Methimazole 10 mg and Delorazepam 1 mg.

In October 2010 she started having non-delusional persecutory thoughts which she recognized as "unrealistic". Mood and affect were within the normal range, and she didn't report any anxiety; she denied hallucinations. Thyroid function was: TSH 36 µU/mL, fT3 4 pg/mL, fT4 2 pg/mL. Methimazole was suspended, and the persecutory thoughts completely remitted after two weeks. In January 2011 the patient was euthymic, free of psychotic symptoms and only complained of anxiety. Her lab work indicated subclinical hyperthyroidism (TSH 0.03 µU/mL, fT3 4.3 pg/mL, fT4 16 pg/mL). Anti thyroglobulin and andithyroperoxidase antibodies were 57 and 42 UI/mL. Her HAM-A score was 15, her HAM-D score was 8, her BPRS score was 25 and her SAPS score was 0. Following endocrinological consult the patient was started on 5 mg of Methimazole. She was most recently evaluated in May 2011: lab work showed normal thyroid function, and there were no psychiatric symptoms.

Table 1. Medication and psychiatric rating scales.

	Jun 6th	Jul 7th	Jul 24th	Jul 31st	Aug 23rd	Sep 21st	Nov 15th	Jan 3rd
Methimazole (mg)			30	30	0			
Haloperidol (mg)				10				
SAPS				29		2		0
BPRS				63		30		25

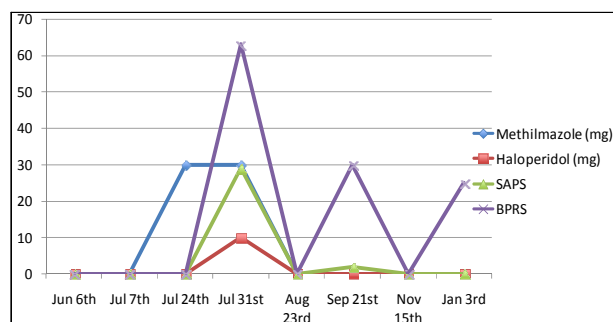


Table 2. Thyroid profile.

	Jun 6th	Jul 7th	Jul 24th	Jul 31st	Aug 23rd	Sep 21st	Nov 15th	Jan 3rd
TSH (µU/mL)	0.0015	0.001		87	0.15	0.02	36.03	0.03
fT3 (pg/mL)	14.6	12		1.23	4.1	4.5	2	4.3
fT4 (pg/mL)	37	35		1.75	12	1.6	2	16

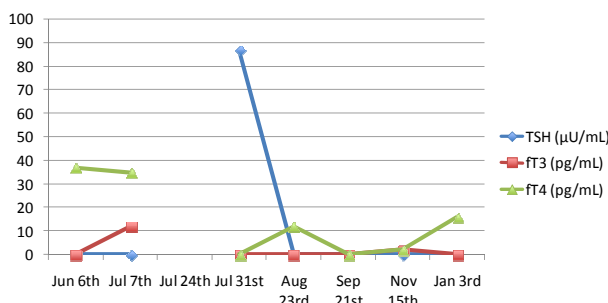
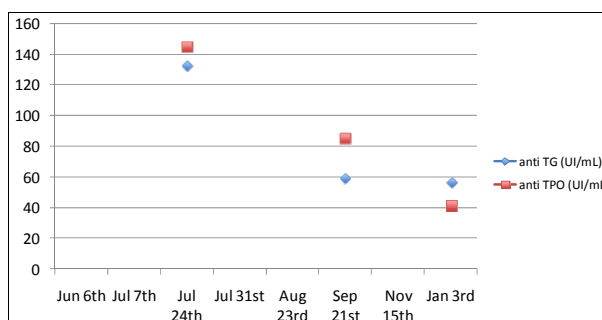


Table 3. Anti-thyroid antibodies.

	Jun 6th	Jul 7th	Jul 24th	Jul 31st	Aug 23rd	Sep 21st	Nov 15th	Jan 3rd
Anti TG (UI/mL)				133			60	57
Anti TPO (UI/mL)				146			86	42



3. DISCUSSION

While it is widely accepted that hypothyroidism can cause depressive symptoms, to the best of our knowledge only a few cases of psychotic symptoms associated with this condition have been described [3,5-10]. Based on the patient's clinical history, on the rapid onset and remission of symptoms and on the doses of medication that were prescribed (**Table 1**), as well as the lab values (**Tables 2 and 3**), we hypothesize that our patient's psychotic episode was caused by iatrogenic hypothyroidism.

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