

## Case Report

# A Case of Hypothyroidism Induced Psychosis after Total Thyroidectomy Operation

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Received: August 11, 2016; Accepted: January 11, 2017;

Published: January 16, 2017

**Abstract**

Hypothyroidism is a common endocrine disorder that can accompany psychiatric disorders. In this article, we present a 52-year-old female patient with hypothyroidism diagnosed for 15 years who underwent total thyroidectomy with thyroid papillary carcinoma three months ago, is having prominent somatic and nihilistic delusions and auditory hallucinations for the last 10 days. Risperidone 2 mg/day and thyroid hormone replacement therapy (L-triiodothyronine sodium 75 mg/day) were given simultaneously. BPRS, T3, T4 and TSH measurements revealed a marked improvement in psychotic symptoms from the second week of treatment. In the first month of treatment, the antipsychotic dose is reduced (Risperidone 1 mg/day) and in the second month, the antipsychotic therapy is discontinued and after 8 months the patient is still in remission. We aimed to emphasize that the evaluation of thyroid function tests in psychiatric patients may decrease the use of high dose and long term antipsychotics in some patients.

**Keywords:** Hypothyroidism; Psychosis; Total thyroidectomy; Antipsychotics

**Introduction**

Thyroid disease is a common endocrine disorder seen between 5% and 56% in Turkey [1]. The prevalence of overt hypothyroidism is approximately 1-7% while the prevalence of subclinical hypothyroidism is 14-18% [2]. There are various manifestations ranging from mild cognitive impairment, depression, agitation to psychosis [3,4]. The most common comorbid psychiatric disorder with hypothyroidism is major depression with a rate of 33-43%; followed by cognitive impairment by 29%, anxiety disorders by 20-33% and psychotic disorders by 5% [5]. Hypothyroidism induced psychosis in the patient with papillary thyroid cancer who underwent total thyroidectomy is aimed to be presented in our case.

**Case Presentation**

Fifty two-year-old female patient with no psychiatric admission history was admitted to our clinics with symptoms of insomnia, loss of appetite, malaise, asthenia, introversion, believing her skin is drying, her bones are melting, her body is radioactive and this radioactivity is killing everyone. These symptoms were present for 10 days. The patient has been using levothyroxine for 15 years for hypothyroidism and she underwent total thyroidectomy operation for papillary thyroid cancer 3 months before. It was learnt that she still was not started on radioactive iodine therapy. No pathology was detected in the direction and memory examination of the patient who was conscious, her attention was reduced. Auditory hallucinations in the perception examination, somatic and nihilistic delusions in the thought content were detected in the patient whose emotion and mood was anxious. The BPRS score was assessed as 40 for the first visit. Physical examination revealed a blood pressure of 120/80, a temperature of 36.3°C, a pulse of 72. There was no indication of hypothyroidism such as dry skin, hoarseness and pitting edema. Free Thyroxine (FT4) was 0.19 ng/dl (0.8-1.8 ng/dl), Free

Triiodothyronine (FT3) was 0.62 pg/ml (2-4.2 pg/ml), and Thyroid Stimulating Hormone (TSH) was 107.81 mIU/ml (0.55-4.78 mIU/ml). Risperidone 2 mg/day was started to patient whose condition is considered as a 'psychotic disorder due to another health condition' (Hypothyroidism-related psychotic disorder) according to DSM-5 and L-triiodothyronine sodium 25 mg was started concurrently with endocrinology consult on the day of admission. Dose was increased by 25 mg every 3 days and raised to 75 mg/day. During this period, change in the dosage of risperidone and the use of additional antipsychotic medication were not needed. The patient was followed up with risperidone 2 mg/day and L-triiodothyronine sodium 75 mg/day and discharged on the 15<sup>th</sup> day of admission with BPRS score decreased to 24 and without any psychotic symptoms. Risperidone 2 mg/day treatment was reduced to 1 mg/day at the 1<sup>st</sup> month and stopped at the 2<sup>nd</sup> month of treatment when the psychotic symptoms were not detected in the outpatient follow-ups of the patient who received radioactive iodine treatment 3 weeks after discharge. Patient is still in remission after 8 month.

**Discussion**

Among the medical conditions associated with psychosis, endocrine and metabolic disorders are one of the most common. Fourteen cases of hypothyroidism with psychosis were reported by Asher in 1949 and described as "myxedema madness" [6]. 5-15% of hypothyroid patients may develop psychosis [7]. It has been reported that delusions and hallucinations associated with hypothyroidism are described as developing months or years after the onset of physical symptoms, but recently there has been no correlation between the degree of thyroid dysfunction and the developing psychiatric manifestations [8]. There are no well-defined diagnostic criteria for myxomatous insanity; Diagnosis is usually based on exclusion of other causes of psychosis and thyroid function tests [9]. Thyroid function tests should be performed for every patient presenting

with psychosis along with symptoms suggestive of hypothyroidism to avoid unnecessary use of long term antipsychotics. Thyroid replacement therapy in addition to antipsychotic treatment provides quick recovery in psychosis associated with hypothyroidism.

The present case report emphasizes the importance of evaluating thyroid function tests in patients presenting with psychotic symptoms and emphasizes that use of antipsychotics for shorter periods and at lower doses may be sufficient if thyroid replacement therapy is used in patients with hypothyroidism.

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