PSYCHOTIC SYMPTOMS IN A PATIENT WITH HASHIMOTO’S THYROIDITIS

*K.Kontoangelos ¹,², M.Economou ¹,², A.Kandaraki ², V.Mylona ³, I.Makrygiannis ³, G.N.Papadimitriou ¹

1. ¹st Department of Psychiatry, Athens University Medical School, Eginition Hospital

2. University Mental Health Research Institute, Athens, Greece

3. ²nd Department of Internal Medicine, Sismanoglio Hospital, Athens, Greece

Corresponding Author:

* Konstantinos Kontoangelos, MD
Athens University Medical School, ¹st Department of Psychiatry, Eginition Hospital, 74 Vas Sofias Avenue, 11528, Athens, Greece

Tel: 0030-210-7289189  Fax: 0030-210-7242020

E-mail address: kontange@hol.gr
ABSTRACT

Objective: Psychopathological symptoms, depression, apathy, memory and sleep disorders, have been reported in patients with Hashimoto’s thyroiditis, but psychotic symptoms without psychiatric background are extremely rare.

Method: A 74 year male patient without previous psychiatric history was presented with acute psychiatric symptoms to the emergency department and was hospitalized for three days.

Results: The laboratory profile showed the presence of high titer of serum thyroid antibodies (ANTI-TG>4000IU/ml, n.r.=0.0-115.0 IU/ml), high titer (corrected) of serum Anti-thyroid peroxidase antibodies (A-TPO: 386.7 IU/ml, n.r.:0.34 IU/ml) and high Thyroid stimulating hormone TSH:45.6μIU/ml,n.r.:2.03-4.01μIU/ml, T4 (Thyroxine =6.98μg/dL,(n.r.:5.10-14.10μg/dL),T3triiodothyronine=0.84ng/mL(n.r.:0.80-2.00ng/mL). The diagnosis of primary hypothyroidism was made due to Hashimoto’s thyroiditis.

Conclusion: Since psychiatric symptoms may be one of the earliest manifestations of hypothyroidism, they are often misdiagnosed as functional psychiatric disorders. This confusion can lead to delayed treatment.

Key words: psychosis, Hashimoto’s thyroiditis
INTRODUCTION

Hashimoto’s thyroiditis is commonly considered as a well-defined clinicopathological entity, characterized by the presence of goiter and serum thyroid antibodies. (Li Y et al., 2011). It is a multifaceted disease exhibiting various psychological presentations and outcomes and its pathogenesis is still poorly understood (Michels et al., 2010). (deleted) Psychopathological symptoms of Hashimoto’s thyroiditis are related with depression, apathy, memory and sleep disorders (Holsboer., 1995). The impact of thyroid hormones on the proper function of the central nervous system has been known for many years and may occur both in cases of hypo- as well as hyperthyroidism (Payer et al., 2009). We present a case of a patient with Hashimoto’s thyroiditis and acute psychotic symptoms without a previous psychiatric or endocrinological medical history.

MATERIAL & METHOD

A 74-year male patient without previous psychiatric or clinical history was admitted to the emergency department by his family. The patient was hospitalized for three days with acute psychotic symptoms. Due to a skin lesion on the scalp, performed multiple washes with iodized solution, consuming around 2 litres of solution over four days. He had always been in a good physical health in he was not on any medical treatment. When the patient was admitted to the hospital, he had visual hallucinations, disorganized speech, disorganized behaviour, excessive motor activity and insomnia during the last three days. From his medical history, there was no previous psychopathology or personal or family history of thyroid disorders. He was treated with injection Haloperidol 10mg/mL I.M. twice a day for three days and the patient recovered completely and the psychotic symptoms subsided. The laboratory workup revealed the presence of a high titer of serum thyroid antibodies (ANTI-TG>4000IU/ml, n.r.= 0.0-115.0 IU/ml), a high titre of serum A-TPO: 386.7 IU/ml, n.r.:0.0-0.34.0 IU/ml and high TSH :45.6 μIU/ml, n.r.: 2.03-4.01μIU/ml, T4 (Thyroxine =6.98μg/dL,(n.r.:5.10-14.10μg/dL),T3triiodothyronine=0.84ng/mL(n.r.:0.80-2.00ng/mL). The imaging tests (MRI) were negative. Mini mental (corrected) state examination was MMSE=13/30, and was completely improved after the treatment.
DISCUSSION

According to DSM-IV (APA, 1994), the above clinical case belongs to the category of “psychotic disorders due to a general medical condition”. The key feature of this disorder is predominant hallucinations or delusions due to a general medical condition. This diagnosis is not given if it takes place exclusively during a delirium or Alzheimer's-type dementia or vascular dementia with delusions. Hallucinations may involve any of the senses, but some causes may favour certain hallucinations. Thus, olfactory hallucinations, especially those recalling the smell of burning rubber or other unpleasant odours, suggest temporal epilepsy. Generally, the diagnosis of psychotic disorder due to a general medical condition is not given if the person maintains control of reality and believes that the hallucinations derive from the general medical condition. The delusions can be of any type, bodily, of grandiosity, religious and more often of being chased. Delusions with religious content are observed especially in temporal epilepsy (deleted).

The general medical conditions that can cause psychotic symptoms are many. These include neurological conditions (e.g., tumours, vascular brain disease, Huntington’s disease, temporal epilepsy, trauma to the auditory nerve, deafness, migraine, infections of the CNS), endocrinopathies (e.g. hyper- and hypothyroidism, hyper- and hypoparathyroidism, adrenal gland deficiency), metabolic disorders (e.g., hypoxia, hypercapnia, hypoglycaemia), electrolyte imbalances, liver or kidney diseases and autoimmune disorders with CNS involvement (e.g., systemic lupus erythematosus). We note that the neurological conditions involving the subcortical regions or the temporal lobe most often cause delusions (deleted). Endocrinopathies associated with psychotic symptoms include Hashimoto encephalopathy, which is a rare clinical entity associated with Hashimoto’s thyroiditis. This is characterized by the detection of high titres of antithyroid antibodies in the blood, and responds to treatment with corticosteroids. It was first described in 1966 by Brain et al (Brain et al., 1966, de holanda et al., 2011) added and is mainly characterized by myoclonus, seizures, impaired consciousness and psychotic manifestations (deleted). From a pathophysiological point, it is probably due to the development of cerebral oedema in combination with autoimmune vasculitis accompanying hypothyroidism or the toxic effect of thyrotropin releasing hormone (TRH) (Chaudhuri et al., 2003).

However in our patient the role of excess iodine solution use can not be excluded, as a factor which further aggravated the thyroid function by blocking thyroid hormone
release. Inorganic iodide in excess inhibits organification of iodide and thyroxine synthesis from an affected thyroid gland by autoimmune thyroiditis (Wolf-Chaikoff effect). It has been shown that iodine excess is a risk factor for developing hypothyroidism in antibody-positive subjects (Papanastasiou et al., 2007). Therefore the iodine solution used by our patients could have a triggering effect on further thyroid hormone reduction and possibly contributing to the acute psychotic picture. Nevertheless co-occurrence hypothyroid and psychosis by chance is a possibility and cannot be excluded. As suggested by the reviewer follow up data are necessary which actually in out patient exist and support that treatment with thyroxine (corrected) alone maintain patient health status satisfactory free of further psychotic events with normal thyroid function tests, almost a year post event.

Teuber (Teuber et al., 2003) described a 42-year-old white female who was admitted to hospital showing symptoms of acute psychosis. The results of the laboratory tests showed a combination of incipient Hashimoto’s thyroiditis in a hyperthyreotic state with a high level of anti-TSH receptor antibodies. The patient recovered well in 4 weeks under therapy with 50mg/d Haloperidol (Sasaki et al., 2001) describe a 40-year-old woman with Hashimoto disease exhibiting compulsive checking, mysophobia and excessive hand washing. When these obsessive-compulsive symptoms diminished, she began to suffer from the ‘hallucination of soliloquy’; her mood became increasingly unstable and she attempted suicide by analgesic ingestion (deleted). The prevalence of neuropsychiatric symptoms of thyroid deficiency is related to the fact that most hormones present in the human body are represented in the central nervous system. The hormones are present either through synthesis within the central nervous system or through synthesis at a distant point and admission across the blood-brain barrier. The brain appears to have a unique sensitivity to
thyroid hormone and to utilize it differently that other organ systems (Thompson et al., 2000). Hormone receptors are located within neural networks throughout the brain especially in the amygdala and hippocampus. These receptors in turn can influence neural activity. The thyroid is important for both the maturation of the central nervous system and the maintenance of homeostasis. It has been demonstrated that in hypothyroidism the utilization of available thyroid hormone favours the brain. The neurobehavioral effect of T4 may be related to its action on neurotransmitters (Dratman., 1993).

Asher described the classic manifestations of hypothyroid-induced psychosis in 1949. Asher’s study of 14 patients and the resulting description of myxedema madness has often been cited as a typical example of psychosis secondary to hypothyroidism, subsequent case reports have revealed considerable variation in clinical psychotic presentations (Davis.,1989). Psychosis typically emerges after the onset of physical symptoms, often over a period of months or years. Disorders may occur in patients with either clinical or subclinical hypothyroidism, suggesting that psychosis may be unrelated to the absolute degree of thyroid hormone deficit (Lerhrmann et al., 2002). However, the fact that the patient recovered without corticosteroid does not exclude the diagnosis of HE. It may imply that the role of excess amount of exogenous iodine, absorbed from skin, had precipitated the rather acute onset hypothyroidism and therefore reduction of thyroxine release from the affected thyroid gland due to autoimmune thyroiditis.

This case report highlights the importance of screening for organic causes of psychiatric symptoms presenting for the first time in older patients as well as the importance of ascertaining thyroid function in patients with affective and behavioural problems. Since psychopathogical symptoms may be one of the earliest manifestations of hypothyroidism, they are often misdiagnosed as functional psychiatric disorders. This confusion can lead to delayed treatment.
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