

Autoimmune thyroiditis presenting as psychosis

Soumitra DAS^{1*}, Nimisha DOVAL², Vikas MOUN³

Summary: Hashimoto's thyroiditis is a rare condition associated mainly with neurological symptoms. It contains an abundant amount of auto-antibodies in the blood. Only a few cases of behavioral symptoms without significant neurological disturbances have been recorded in the literature. In this view, our case is unique as it was not associated with overt hypothyroid manifestations.

Key words: Thyroiditis, psychosis, antibodies, autoimmune encephalitis.

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1. Introduction

Abnormal thyroid function has long been associated with psychiatric symptoms.^[1] Hashimoto's thyroiditis is one condition presenting occasionally as psychosis.^[2] It is characterized by the presence of goiter and serum thyroid antibodies.^[3] It is an autoimmune disease in which the thyroid gland is infiltrated by lymphocytes which attack and destroy the functioning thyroid cells called thyrocytes. We present a case of a patient with hypothyroidism with acute onset psychotic symptoms and positive antithyroid antibodies without a previous psychiatric history.

2. Case report

A 68 year old man presented with chief complaints of irritability, withdrawn behaviour and reduced sleep for the past 2 weeks followed by increased physical activity and suspiciousness against his neighbours for the past 1 week. HOPI revealed that 3 weeks back, the patient was developing withdrawn behavior, was interacting less than usual with family members, was irritable and sleeping less than usual. Two weeks later the patient started suspecting that people were keeping a close watch on his activities and would avoid going out of the house and not allow visitors in the house. There

was also a history of unprovoked aggression and agitation. There was no history of muttering or holding odd postures for long hours.

There was no past history of any psychiatric illness. There was no history of any substance abuse in the patient. Premorbid personality of the patient was also not contributory. There was no family history of any psychiatric illness or any substance use or major medical illness. Past medical records revealed a history of Warthin's tumor in 2010. Since then the patient had remained asymptomatic. There was no history of diabetes or hypertension in the patient. There was no thyroid swelling. Blood pressure was 130/86 mmHg. PR was 96/min. General physical examination was within normal limits. A formal neurological examination revealed no apparent abnormality. Upon mental status examination, patient was conscious and oriented to time, place and person. Psychomotor activity was increased. Affect was perplexed. Thinking revealed persecutory delusions. The BPRS score at the time of initial assessment was 40.

The complete blood count, electrolytes, lipid profile, blood sugar, liver and renal function tests and routine laboratory findings were within normal limits. Thyroid function, revealed decreased T3 (25 ng/dl), decreased free T4 (0.7 µg/dl) and raised TSH (55 uIU/ml). The levels

¹Department of Psychiatry, Govt. T D Medical College, Alappuzha, Kerala, India

²Department of Psychiatry, UCMS & GTB Hospital, New Delhi, India

³Department of Psychiatry, PGI ROHTAK, Haryana, India

*correspondence: Dr. Soumitra Das. Mailing address: Senior Resident in Dept. of Psychiatry, C/420 PG Hostel, C Block, Govt. T D Medical College, Alappuzha, Kerala, India. Postcode:: 688005. E-mail: soumitratdmc@gmail.com

of auto-antibodies revealed raised levels of Thyroid peroxidase antibody (TPOAb=177 IU/mL; normally less than 35 IU/mL). CT Head and neck was normal. EEG and ECG were within normal limits.

A diagnosis of Hashimoto's thyroiditis presenting as psychosis was made. The patient was started on Quetiapine 25 mg HS which was gradually increased to 300mg/day. The patient's psychotic symptoms started improving in 2 days. The patient's sleep and agitation improved initially and the persecutory delusions started resolving. In about one week period the patient's delusions had resolved and became persecutory ideas which resolved in another 1-2 weeks. At one week follow up the initial BPRS had dropped down to 26. This further reduced to 9 by the 3rd week follow up. Patient was being continued on Tab Quetiapine 300 mg . Quetiapine was continued for 6 months after which it was withdrawn gradually over 2-3 months. Patient has been on monthly follow up for the last one year. He has not shown any psychotic symptoms, so there has not been any further requirement of antipsychotic treatment. An endocrinology referral had also been sought for the patient had also been given Thyroxine 100 µg and 75 µg on alternate days.

Thyroid function tests were repeated after one month. Thyroid function, revealed normal T3 (86 ng/dl), normal free T4 (1.4 µg/dl) and raised TSH (26 uIU/ml).

Table 1. Thyroid function of the patient

Thyroid function	Before treatment	After treatment
Total T3	25 ng /dl	86 ng /dl
Free T4	0.7 µg/dl	1.4 µg/dl
TSH	55 uIU/ml	20 uIU/ml
Thyroid peroxidase antibody (TPOAb)(N < 35 IU/MI)	177 IU/mL	

Table 2. Case BPRS scores

	At presentation	1 week follow up	3 weeks follow up
BPRS score	40	26	9

3. Discussion

The above clinical case belongs to the category of "psychotic disorders due to a general medical condition" as per DSM-5,^[4] fulfilling the diagnostic criteria of presence of delusions, lab findings suggestive of a medical condition and disturbance not exclusively occurring in delirium. In this case, we suspected autoimmune encephalitis in view of late onset psychosis, positive anti-TPO auto-antibodies and

deranged thyroid functions. The patient responded early and to a lower dose of antipsychotics than expected. The patient was discharged on the same medication and kept under regular follow-up. This again points to the medical, rather than psychiatric pathology underlying the condition of the patient.

This is an interesting case as the patient did not have any overt clinical symptoms of hypothyroidism or thyroiditis. Another point to highlight is that what prompted us to test for antibodies was not only the atypical presentation of psychosis in an elderly patient but also the past history of Warthin's tumor which has been found to be associated with autoimmune disorders in some cases.^[4]

Though the possibility that Hashimoto's thyroiditis and psychotic symptoms only exist at the same time rather than as a causal relationship cannot be completely ruled out, yet it is still unlikely that psychotic symptoms would occur for the first time in an elderly individual without a positive family history or a history of substance abuse.

This report aims to emphasize the importance of screening for organic causes of psychiatric symptoms presenting for the first time in older patients and the possible role of thyroid dysfunction in such cases.

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Conflict of interest statement

The authors declare that they have no conflict of interest related to this manuscript.

Informed consent

The patient signed an informed consent form and agreed to the publication of this case report.

Authors' contribution

Soumitra Das carried out the clinical diagnosis and treatments.

Nimisha Doval collected data and drafted the manuscript.

Vikas Moun critically reviewed the manuscript. All authors read and approved the final manuscript.

自体免疫性甲状腺炎表现为精神症状

Das S, Doval N, Moun V

概述: 桥本氏甲状腺炎系一种罕见的自身免疫性疾病, 血液中含有大量的自体抗体, 主要表现为神经系统症状。有文献报道桥本氏甲状腺炎会出现一些行为症状, 而没有明显的神经症状。我们报告的病例较少见, 与

其他的桥本氏甲状腺炎的常见临床表现不同。

关键词: 甲状腺炎; 精神病; 抗体; 自身免疫性脑炎

References:

1. Heinrich TW, Grahm G. Hypothyroidism presenting as psychosis: Myxedema madness revisited prim care companion. *J Clin Psychiatry*. 2003; **5**(6): 260-266
2. Haggerty JJ Jr, Evans DL, Golden RN, Pedersen CA, Simon JS, Nemeroff CB. The presence of antithyroid antibodies in patients with affective and nonaffective psychiatric disorders. *Biol Psychiatry*. 1990; **27**(1): 51-60
3. Li Y, Nishihara E, Kakudo K. Hashimoto's thyroiditis: old concepts and new insights. *Curr Opin Rheumatol*. 2011; **23**(1): 102-107. doi: <http://dx.doi.org/10.1097/BOR.0b013e328341378c>
4. Aga M, Kondo S, Yamada K, Sawada-Kitamura S, Yagi-Nakanishi S, Endo K, et al. Warthin's tumor associated with IgG4-related disease. *Auris Nasus Larynx*. 2013; **40**(5): 514 - 517. doi: <http://dx.doi.org/10.1016/j.anl.2012.11.005>



Dr. Soumitra Das graduated and obtained a bachelor degree from the Agartala Govt. Medical College, Tripura, India in 2010, and a doctoral degree in psychiatry from the Govt. T D Medical College, Alappuzha, Kerala, India in 2015. Now he is working as a senior resident at the department of Psychiatry at the National Institute of Mental Health and Neuroscience, Bangalore, India. He is also a member of the Indian Psychiatric Society and IPS, Kerala. His research interests include ECT in clozapine resistant schizophrenia.