

Hashimoto's Encephalopathy (HE) – Early Manifestation of Impending Thyroid Storm

Sourya Acharya¹, Samarth Shukla², Amol Andhale³, Vidyashree Hulkoti⁴

¹Department of Medicine, Datta Meghe Institute of Medical Sciences (Deemed to be University), Sawangi (M), Wardha, Maharashtra, India. ²Department of Pathology, Datta Meghe Institute of Medical Sciences (Deemed to be University), Sawangi (M), Wardha, Maharashtra, India. ³Department of Medicine, Datta Meghe Institute of Medical Sciences (Deemed to be University), Sawangi (M), Wardha, Maharashtra, India. ⁴Department of Medicine, Datta Meghe Institute of Medical Sciences (Deemed to be University), Sawangi (M), Wardha, Maharashtra, India.

INTRODUCTION

Hyperthyroidism may be associated with various neuropsychiatric manifestations like anxiety, irritability, restlessness, decrease in concentration, dementia, lack of judgement and planning.^[1] Rarely, seizures, myoclonus, chorea, or catatonia can occur. Encephalopathy may be present in only 1% of cases.

PRESENTATION OF CASE

A 64-year-old woman presented with chief complaints of rapid onset and progressive altered behaviour and judgement since 3 months. There was no past history of psychiatric problems and she was not on any drug treatment. On examination, temperature- 99.9 °F, pulse- 126 / minute, mild oedema feet, mild exophthalmos, warm, moist handshake, fine tremors (all signs of hyperthyroidism). There was no visible goitre.

Neurologic Examination

Higher Functions: She was agitated, impaired recent and immediate memory, impaired judgement. DTR revealed brisk tendon reflex bilaterally in all four limbs. The Burch-Wartofsky score was 35 out of 45 suggesting impending storm.

CBC, KFT, LFT were normal. TSH was <0.001 µU/mL (normal 0.27–4.2 µU/mL), free thyroxin level (fT₄) of 8.4 ng/mL (normal 0.9–1.7 ng/mL). CT brain was normal. CSF study was normal. ECG was normal. USG neck revealed mild asymmetric thyroid gland enlargement with multiple nodularity. Thyroid anti-peroxidase Ab was positive. A diagnosis of hyperthyroid encephalopathy (HE) with impending crisis was made.

Corresponding Author:
Dr. Sourya Acharya,
Professor,
Department of Medicine,
Datta Meghe Institute of Medical Sciences,
Deemed to be University, Sawangi (M),
Wardha, Maharashtra, India.
E-mail: souryaacharya74@gmail.com

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DISCUSSION OF MANAGEMENT

She was treated with antibiotics, IV fluids, (methimazole 20 mg TDS orally), beta-blockers (propranolol 40 mg orally), and 40 mg prednisolone orally tapered through the next week, tab. Haloperidol 5 mg bid. One week after the patient's condition improved and she was discharged with the advice to undergo radioiodine therapy.

DISCUSSION

Hashimoto's encephalopathy (HE) was first described by Brain et al; in a male with hypothyroidism who developed severe neuropsychiatric manifestations and also had positive antithyroid peroxidase Ab (TPO) in CSF.^[2] These neurological manifestations of HE are usually associated with subclinical hypothyroidism. Overt hypothyroidism but can rarely also appear in patients with hyperthyroidism.^[3] Hyperthyroidism associated HE is usually due to the adrenergic hyperactivity influencing certain brain functions and the decreased levels of transthyretin in these cases that increase the levels of free thyroxine in brain.^[4,5]

Hashimoto's encephalopathy associated clinical manifestations usually are, focal neurological deficits and in some cases it may present with a chronic course characterized by dementia, confusion, and hallucinations (in 75% of cases).^[1]

Other possible causes like trauma, stroke, meningitis/encephalitis, tumours, electrolyte/metabolic, autoimmune diseases, sepsis should be ruled out.

We confirmed our diagnosis in this case with the presence of signs of hyperthyroidism, demonstration of MNG in USG thyroid, presence of anti TPO Ab.

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