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HASHIMOTO'S ENCEPHALOPATHY PRESENTING WITH NEUROCOGNITIVE SYMPTOMS: A CASE REPORT

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ABSTRACT

A 45-year-old female presented with a one-month history of cough with expectoration, followed by intermittent fever, chest pain, and progressive neurological symptoms, including confusion and drowsiness. Her condition worsened with sudden-onset abdominal pain, vomiting, and bladder incontinence, prompting hospitalization. Initial assessments revealed accelerated hypertension, altered sensorium, and elevated anti-thyroid antibodies. Imaging showed old infarcts and intraparenchymal hemorrhage. After ruling out alternative causes, she was diagnosed with Hashimoto's Encephalitis, a rare autoimmune disorder characterized by cognitive impairment and neurologic deficits. She responded to glucocorticoid therapy and supportive treatment. This case highlights the importance of early recognition and intervention in autoimmune encephalitis.

KEYWORD: Intraparenchymal, cough, bladder, Hashimoto's Encephalitis.

CHIEF COMPLAINTS

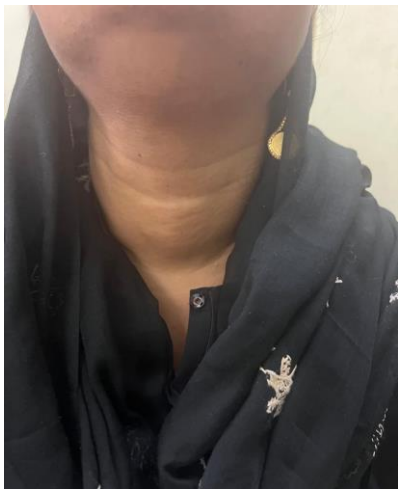
Patient was brought by husband to the hospital with chief complaints of:

- Cough with expectoration since 30 days
- Fever since 5-6 days
- Chest pain since 5 days
- Confusion and drowsiness since 5-6 days

PATIENT DETAILS

Name- Mrs. Farhath Kauser Age- 45 Years

Sex- Female Informant- Self



HISTORY OF PRESENTING

ILLNESS

Patient was apparently asymptomatic 30 days ago. Patient had travelled to Saudi Arabia on pilgrimage following which she developed

- Cough with expectoration
- Chest pain which was not associated with fever.

1 week later, cough increased especially at night time with

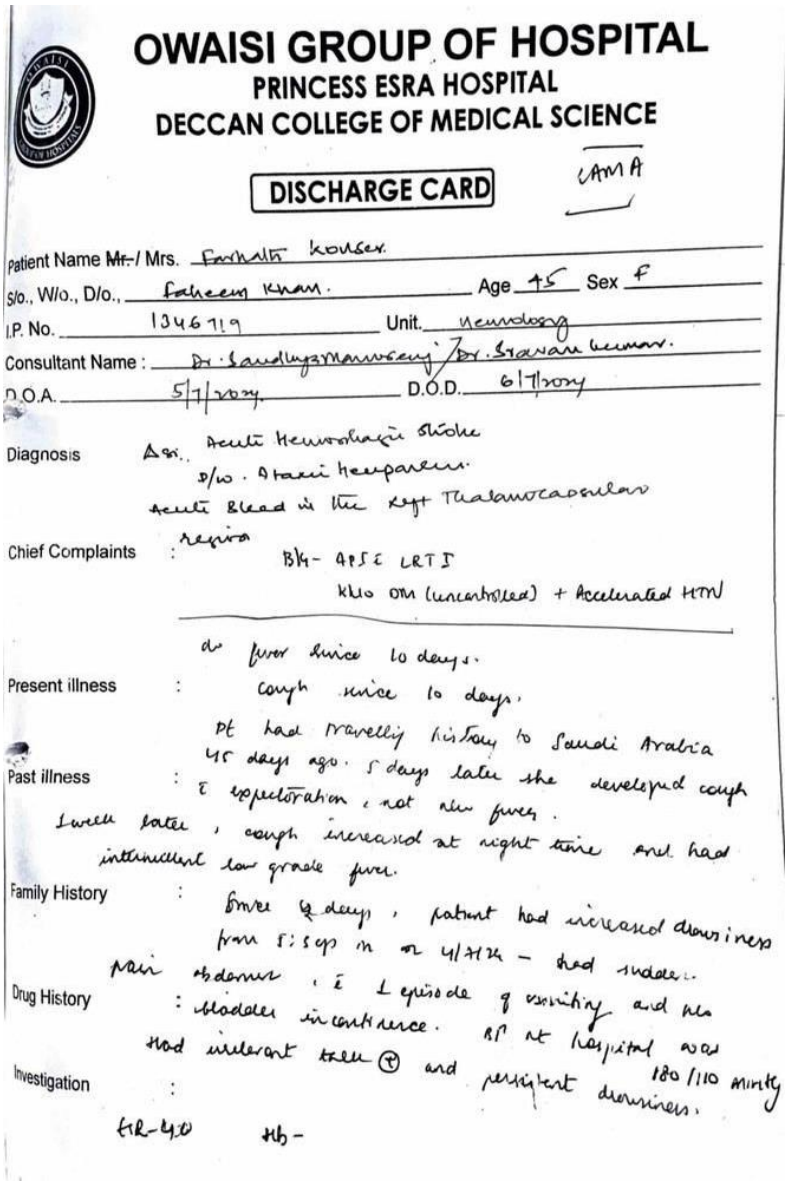
- Intermittent low grade fever.

Since 2 days, patient presented with

- Altered sensorium
- Persistent drowsiness
- Accelerated HTN

From 5:30pm on 4/7/2024, patient developed

- Sudden pain abdomen
- An episode of vomiting
- Bladder incontinence. Then she was taken to nearby hospital and treatment was started.



OWAISI GROUP OF HOSPITAL
PRINCESS ESRA HOSPITAL
DECCAN COLLEGE OF MEDICAL SCIENCE

DISCHARGE CARD

LAMA

Patient Name Mr./ Mrs. Farheen kouser
S/o., W/o., D/o., Faheem Khan. Age 45 Sex F
I.P. No. 1346719 Unit. Neurology
Consultant Name : Dr. Sandhya Narayan / Dr. Sravan Kumar.
D.O.A. 5/7/2024 D.O.D. 6/7/2024

Diagnosis Adv.. Acute Hemorrhagic Stroke
D/D. Ataxic Hemiparesis
Acute Bleed in the Left Thalamocapsular region

Chief Complaints : BK- APSE LRTI
Klebs OM (uncontrolled) + Accelerated HTN

Present illness : c/o fever since 10 days.
cough since 10 days.

Past illness : Pt had travelling history to Saudi Arabia 45 days ago. 5 days later she developed cough & expectoration, not new fever. 1 week later, cough increased at night time and had intermittent low grade fever.

Family History : Since 2 days, patient had increased drowsiness from 5:30 pm on 4/7/24 - had sudden pain abdomen, 1 episode of vomiting and Hx bladder incontinence. BP at hospital was 180/110 mmHg had unilateral limb ⓟ and persistent drowsiness.

Drug History :

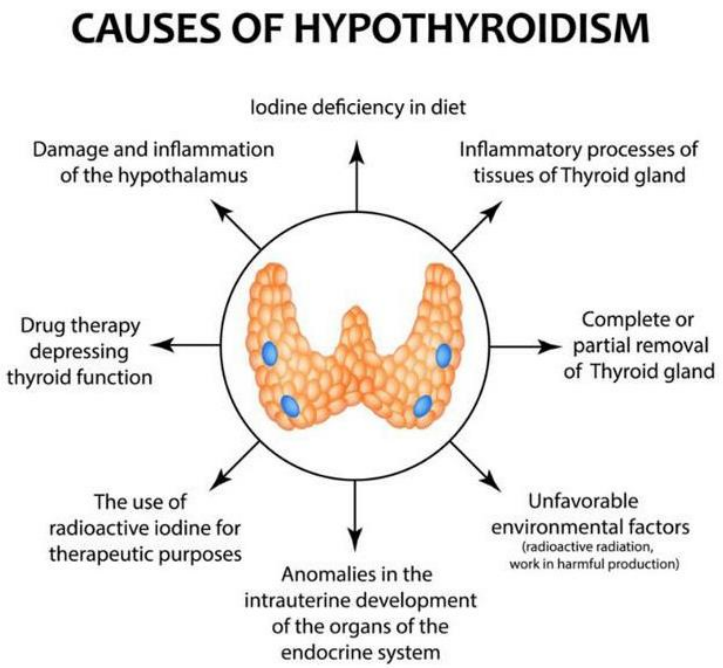
Investigation : TLR-40 Hb-

PAST HISTORY

- History of Hypertension since 5 years
- History of Hypothyroidism since 8 years
- History Hair loss since one year
- No similar complaints in the past
- No H/O TB/Epilepsy/Asthma/COPD/ CAD/ Blood transfusions
- No H/O Head Trauma
- No H/O Major hospitalizations
- No H/O Major surgeries
- No H/O of other associated autoimmune disorders such as SLE/Vitiligo/Addison's disease.

FAMILY HISTORY

None of the patient's parents, siblings or first degree relatives have or have had similar complaints or any significant comorbidities.



Personal History

- Diet: Mixed
- Appetite: Normal
- Bowel & Bladder: Irregular
- Sleep: Disturbed
- Addictions: None
- Drug History: Patient was taking Regesterone

GENERAL EXAMINATION

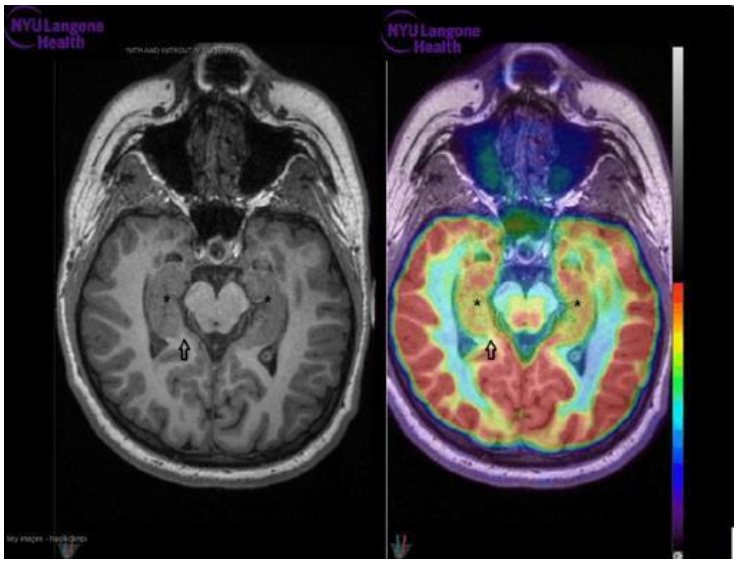
- On examination, the 45-year-old patient was in altered sensorium with persistent drowsiness, is moderately built, well-nourished and conscious, cooperative, and comfortably lying on the bed, oriented to time, place and person.
- Puffy Face w/ edematous eyelids.
- Non-pitting pre-tibial edema (Myxedema) seen.
- Goitre: Firm and rubbery in consistency (Characteristic).
- There is No Pallor, Icterus, cyanosis, koilonychias and no generalized lymphadenopathy.

Vitals

- Temperature: 101 °F
- Blood Pressure: 180/110 mmHg
- Pulse Rate: Tachycardia 80 beats/min
- Sp02: 96% on room air
- RR: 19-21 breaths/min

Patient Details

- Height: Approx 5'3
- Weight: 63kg



SYSTEMIC EXAMINATION

1. Intellectual Functions

- Handedness: Right
- Memory: Recent and Remote intact
- Appearance: Well-kept
- GCS Score- E2V5M6
- Speech: Normal

2. Cranial Nerves

Nerve	Procedure	Right and Left
1. Olfactory	Close eyes, close one nostril and repeat on both sides. Use smelling salt, coffee, asafetida	Normal
2. Optic	1. Visual acuity: Snellen/ Counting Fingers from 6m onwards, Hand Movements close to face, Projection of light and Perception of light 2. Visual Field: (Confrontation) 3.Colour vision 4. Reflexes- Light and Accom 5. Fundus Exam	Normal
3,4,6 CN	Ocular movements	Normal
Trigeminal Nerve	Motor: Pterygoids, Temporalis (Mastication) Sensory: Over face, corneal, conjunctival reflex, jaw jerk	Normal
Facial Nerve	Deviation of mouth, frowning, closure of eyes against resistance, blowing, whistling, smiling, accumulation of tears, drooling of saliva	B/L Abductor paresis - facial asymmetry
Vestibulocochlear Nerve	Whispering, watch test, rinnes, weber, schwabach	Normal
Vagus & Glossopharyngeal	Gag reflex, uvula position	Normal
Spinal Accessory	Shrug shoulders, movement of head to one side against resistance	Normal
Hypoglossus	Deviation of tongue, See tongue inside the mouth for fasciculations	Normal

3. Motor System

A. Attitude and Position: Normal

B. Nutrition (Bulk) - Normal

C. Increased tone:

Neck Stiffness +

Rt pronator drift +

D. Power: UL LL, Right Left

4/5, 4/5

E. Abnormal Movements: -

4. REFLEXES: [For both sides]

Superficial: 2+ (Normal)

Deep: B/L Plantar Flexion +

5. SENSORY SYSTEM

Superficial: Normal

Deep: Normal

6. CEREBELLUM

Ataxia + (Rt, Lt)

7. COORDINATION AND GAIT

Ataxic Gait +

8. Skull and Spine: Normal

9. Signs of Meningeal Irritation: -

CASE SUMMARY

Over a months period, a 45-year-old female who was previously healthy developed cough with expectoration which was initially not associated with fever. One week later, cough increased at night time and had intermittent low-grade fever. The patient reported slowness in performing her daily activities, walking difficulties and trouble with getting changed. Additionally, her relatives observed transient episodes of fluctuating consciousness with drowsiness.

Initially the patient was admitted to Princess Esra Hospital where she was found to have increased drowsiness. On 4/7/24 from 5:50pm onwards patient suddenly developed pain abdomen with 1 episode of vomiting and bladder incontinence. BP at the hospital was accelerated above 180mmHg systolic. Patient was administered anti-seizure medication, anti-hypertensives and supportive treatment.

Laboratory studies at the time did not yield any significant findings except for mild leucocytosis. After a few days, patient's attendants refused further management and willing to go to a different hospital. Patient was advised Gynaecology opinion as patient was taking Regesterone at the time.

Patient underwent multiple investigations including LFT, RFT, CT Brain (Plain), etc at the latter hospital and was found to have positive findings. For example, her Anti TPO was excessively elevated following which she was diagnosed as a case of Hashimoto's Encephalitis after ruling out other diseases.

Provisional Diagnosis: Suspected Encephalitis following URTI with Hypothyroidism and Accelerated HTN.

PATHOPHYSIOLOGY

Hashimoto's Encephalitis (HE) is an unusual neurologic disorder whose etiology, pathogenesis and histologic characteristics are unclear.

A hospital-based epidemiologic study of neurologic symptoms consistent with HE estimated its prevalence to be about 2.1 per 100,000. The disorder occurs more frequently between age 44 to 46 years, with a female to-male ratio of four to one.

The clinical manifestations usually include acute to subacute onset of confusion with alteration of consciousness. Two major patterns of presentation were described: (1) 25% of patients follow a stroke-like pattern of multiple recurrent

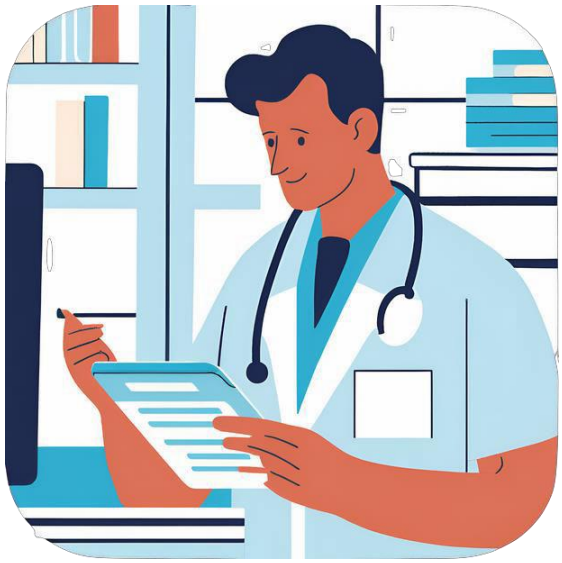
episodes of focal neurologic deficits with a variable degree of cognitive dysfunction and consciousness impairment, (2) and the remaining 75% present with a diffuse progressive pattern of slow cognitive decline with dementia, confusion and hallucinations. These two clinical patterns may overlap over the course of the disease. In this case report, our patient's clinical manifestations are more consistent with the first form of presentation, which is less common.

The pathogenic role of thyroid antibodies remains unknown, there is no evidence that any antithyroid anti-body reacts with brain tissue or affects nerve function, and there is no clear correlation between the severity of the neurologic symptoms and the concentration of these antibodies.

Hashimoto's encephalopathy has been generalised as a steroid-responsive syndrome associated with TPO antibodies, myoclonus, and a slow- wave activity on electroencephalography.

DIFFERENTIAL DIAGNOSIS

The differential diagnosis of HE must consider any condition associated with delirium, rapidly progressive dementia, seizures or focal neurologic deficits. Thus, the list of diseases that can be confused with HE is vast, including stroke or transient ischemic attack, cerebral vasculitis, carcinomatous meningitis, toxic metabolic encephalopathies, paraneoplastic syndromes, Creutzfeldt-Jakob disease, degenerative dementia and psychiatric diseases.



PROGNOSIS

The long-term prognosis is variable, although a high percentage of patients respond to treatment; others could have a progressive or a relapsing course. The symptoms usually improve with glucocorticoid therapy however, it is not necessary because of treatment. A systematic review of 85 cases published on HE found clinical response in 98% of patients treated with glucocorticoids, 92% of patients treated with glucocorticoids and levothyroxine and 67% of patients treated with levothyroxine only.

1) CBP

RBC count: 4.9 million/cumm

WBC count: 12100 cells/cumm

Platelets: 4.3 Lakhs/cumm

Haemoglobin: 10.1 gms%

Differential Count

- Neutrophils: 75%
- Lymphocytes: 15%
- Monocytes: 06%
- Eosinophils: 04%
- Basophils: 00%

Impression

WBC: Leucocytosis,

RBC: Normocytic Normochromic Anisocytosis,

PLT: Adequate.

2) RFT

Urea: 27 mg/dl

Creatinine: 0.9 mg/dl

Uric acid: 4.5 mg/dl

INVESTIGATIONS

3) LFT: Serum Albumin: 3.9g/dl

AST: 13 U/L

ALT: 16 U/L

4) Serum Electrolytes

Sodium: 135.4 mmol/L

Potassium: 3.89 mmol/L

Chloride: 98.2 mmol/L

5) Immunoassay

- Anti Thyroglobulin Antibody (Anti-TG): 695.34 IU/ml (normal: 0-4.11 IU/ml)
- Anti Thyroperoxidase Antibodies (Anti-TPO): 214.3

IU/ml (Normal: less than 50)

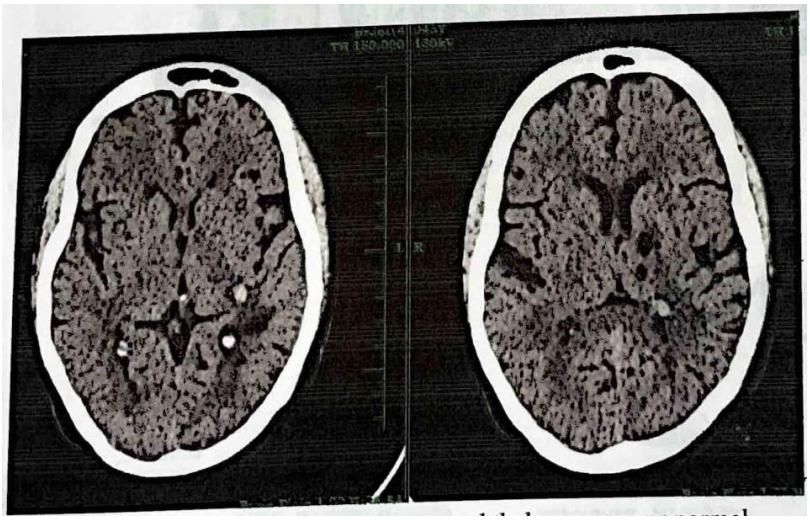
6) Glycosylated Haemoglobin A1C (HbA1C): 8.0%

Non-Diabetic <=5.8%

Pre-Diabetic 5.8-6.5%

Diabetic >= 6.5%

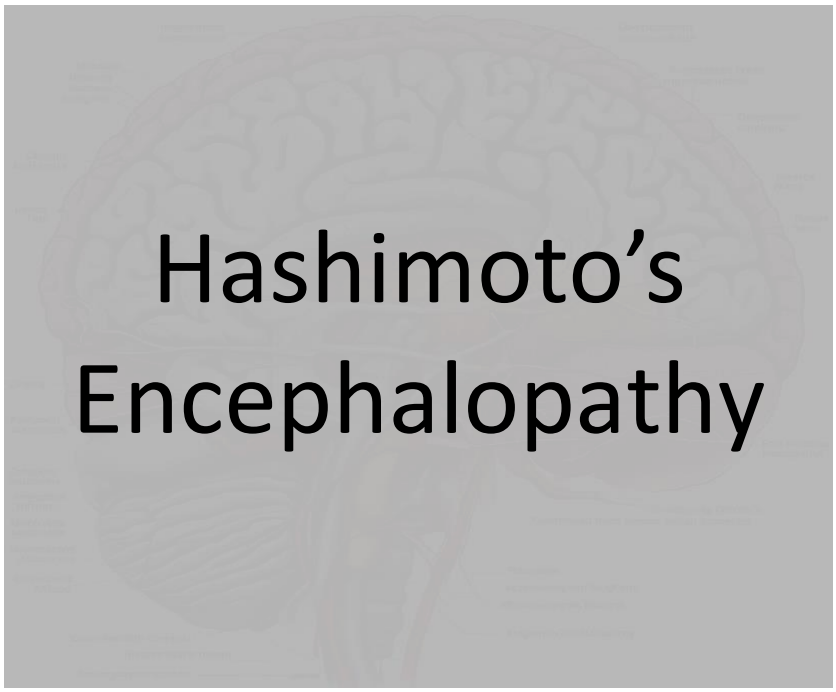
7) CT BRAIN (PLAIN)



Impression

- Old infarcts are seen in the bilateral centrum semiovale and periventricular regions.
- Intraparenchymal hemorrhage in the left ganglio-thalamic region.

FINAL DIAGNOSIS



MANAGEMENT

- Tab. Prednisolone (20mg) - 2 days TID
  10 days BD
  20 days OD
- Tab. Quetiapine (25mg) - for sleep PRN
- Tab. Cilnidipine (5mg) - BD

- Tab. Ursodeoxycholic Acid (300mg) - BD
- Tab. Telmisartan (40mg) + Metoprolol Succinate (50mg) - BD
- Tab. Thyroxine (50mcg) - OD
- Tab. Levetiracetam (500mg) - BD
- Inj. Insulin Lispro (100IU/ml) – TID
- Tab. Rosuvastatin (5mg) - OD x 30days
- Tab. Citicoline (500mg) - BD x 60days

Supportive Treatment

- Inj. Methylcobalamin (500mcg)
- Tab. Calcium (200mg) + Vitamin D3 (0.25mcg) - OD x 30days
- Flexabenz Gel with Diclofenac Diethylamine & Menthol - PRN

UNDER THE GUIDANCE OF

Department of General Medicine (Deccan College of Medical Sciences, Owaisi Group of Hospitals):

Dr. Abubaker, MD Gen Med (HOD)

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