Lithium Induced Hypothyroidism

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Introduction

- Hypothyroidism is insufficient production of thyroid hormones[1]
- Primary hypothyroidism is a result of a damage to thyroid gland either due to autoimmunity, radiation surgery or radio iodine whereas secondary hypothyroidism is due to damage of HPO axis.[2]
- Drug induced thyroid dysfunction most commonly results in hypothyroidism. Eg.Iodine and iodine containing drugs (Amiodarone), Lithium, Thionamides, Tetracycline , Minocycline.[3]

Introduction

- Lithium, an alkali metal has been used as a mood stabilizer in psychiatric illnesses since 1950s for management of acute mania, unipolar and bipolar depression, prophylaxis of bipolar disorders, reduce risk of suicide[4]
- Long-term lithium treatment is associated with both dose and time dependent side effects on thyroid, parathyroid and kidneys.[5]

Introduction

- Risk of progression of lithium-associated thyroid dysfunction may be increased in patients whose initial thyroid function is mildly compromised.[6]
- It takes few years after the initiation of lithium to develop hypothyroidism.

Case

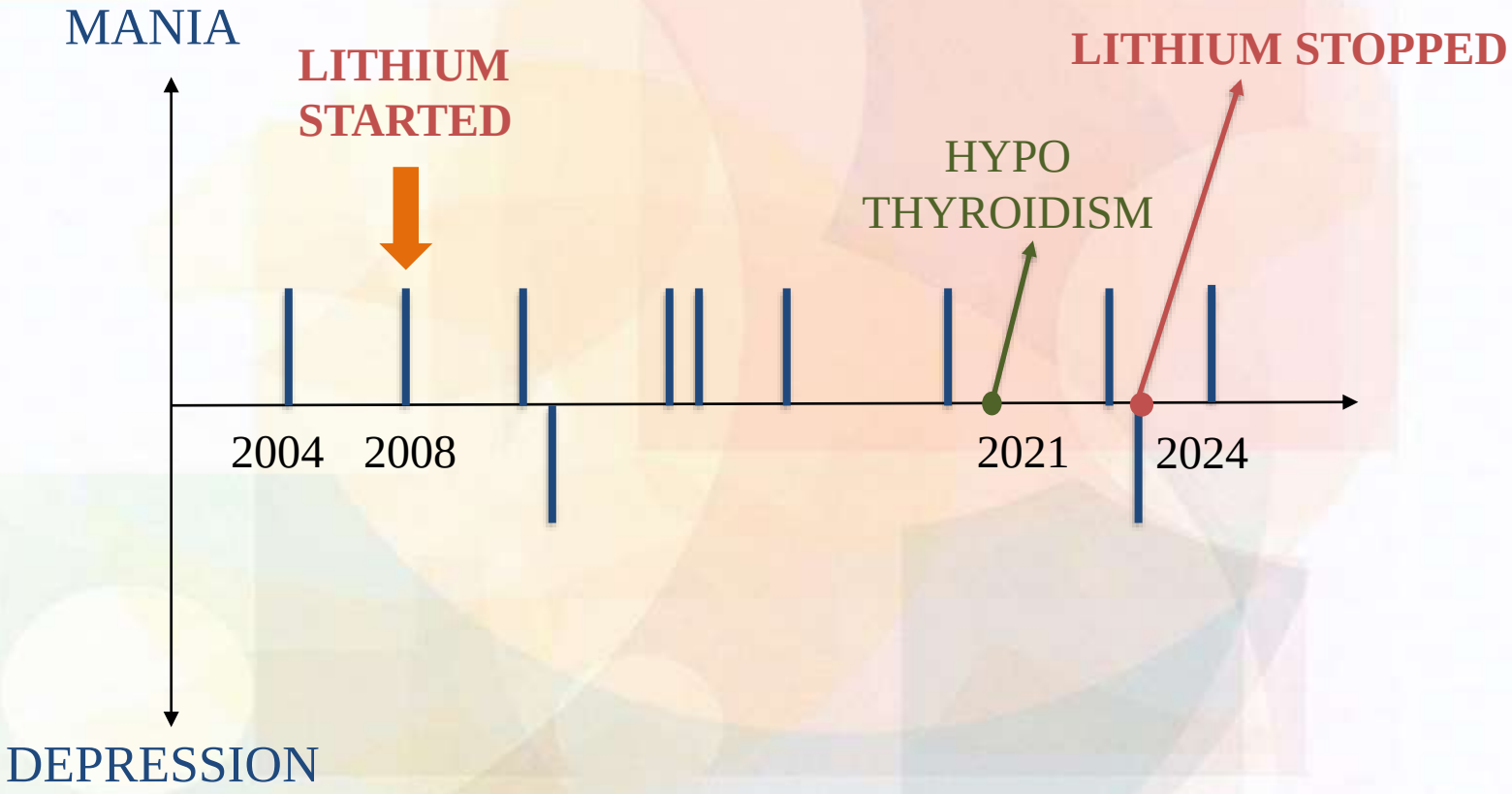
A 40 year old female presented with:

- Irritability
- Sleeping only 3 hours per night and used to leave house ostensibly for work which she never attended.
- Wore flashy clothes at home.
- Big talks claiming she would hire multiple servants to do household chores.

Case

- Patient stopped working, claiming that she was qualified enough to receive a higher pay to support her lifestyle.
- The symptoms were acute in onset and rapidly progressed.

Past history



Mental Status Examination

- Dressed in bright colored clothes, with colorful mask, pacing around the ward greeting everyone.
- Speech output increased
- Mood stated as bohot accha hai.
- Affect elated, reactive, inappropriate to setting.
- Thought revealed delusion of grandeur
- Insight was 2/5
- Social judgement impaired

Investigations

- CBC, LFT, RFT are within normal limits.

	NORMAL	2O21	2023	Mar 2024	May 2024	July 2024
T3	0.60-2 ng/dL	0.66	0.98	0.68	0.67	0.76
T4	4.5-12 ug/dL	5.4	5.72	5.57	5.35	7.84
TSH	**0.3-5.5 µIU/mL**	**13.77**	**13.8**	**11.01**	**9.27**	**1.52**
THYROXINE	-	25mcg	50mcg	75mcg	100mcg	100mcg
S. Lithium	0.6-1.2 mmol/L	0.45		0.69	0.89	-

Discussion

- The estimated prevalence of thyroid dysfunction linked to lithium varies between 14.17% for overt thyroid dysfunction and 19.35% for subclinical hypothyroidism.[7]
- It is usually asymptomatic and more commonly seen in women.[8]
- Hence it is important for a TFT to be performed prior to the start of lithium therapy.

Discussion

- Lithium does not need to be stopped in order to treat hypothyroidism.
- Additional Levothyroxine as thyroid replacement therapy can be tried.
- Withdrawal of Lithium is associated with reversal of hypothyroidism in majority of the cases.
- Trial of Withdrawal of TRT may be tried under a cover of serial TFTs and is restarted if evidence of persistently high TSH, low T4 are seen.[4]

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Two cases of Catatonia

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Introduction

- Catatonia is a motor dysregulation syndrome with patients unable to move normally despite full physical capacity.
- The main symptoms are mutism, negativism, posturing and rigidity, persistent staring, repetitive movements, automatic obedience, and lack of response to pain. **Stupor is a hallmark of Catatonia**.
- Studies have found that the frequency of catatonia as a part of Schizophrenia varies with a range between 4 and 15%[1,2]

Case 1

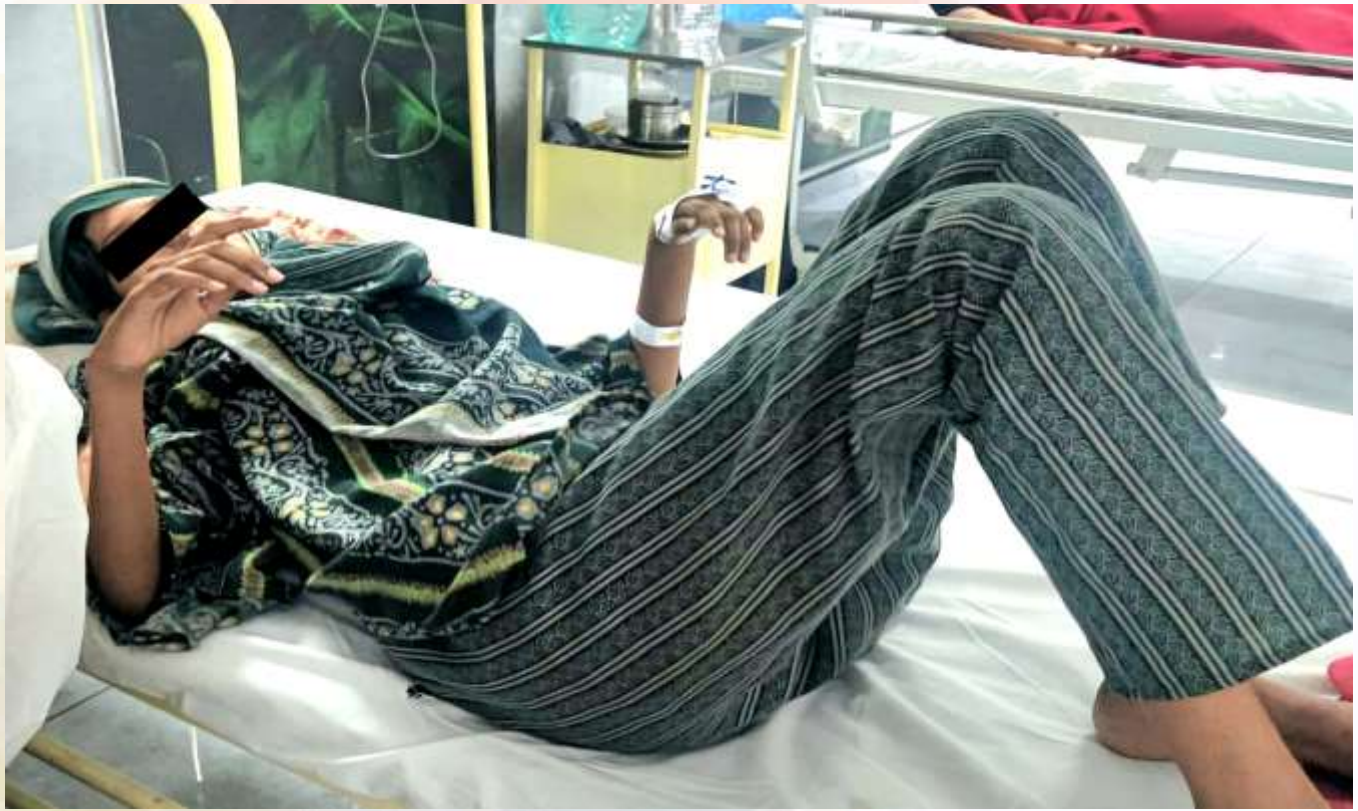
- A 27 year old female presented with catatonic features of:
- Standing in the same posture
- Staring blankly
- Complete refusal to eat and speak (mutism) since two days

Case 1

- There was also a history of decreased self care, poor social interaction, muttering to self, disturbed sleep and poor appetite of 3 months duration.
- No similar complaints in the past.
- **Family history** : Schizophrenia in her elder brother, paternal uncle and aunt.

Case 1

- **GPE**: Malnourished female, with sunken eyes **BMI**:14kg/m^2
- Systemic examination is WNL.



Management

- Patient was admitted i/v/o refusal to eat
- Trial of Lorazepam gave minimal improvement.
- Electro convulsive therapy was started and 10 cycles were administered on which significant improvement was noted.
- All the biofunctions, speech and mobility normalised.

Case 2

- A 26 year old male presented with:
- Maintaining postures for unusually long periods of time
- Staring spells for the last 2 days.
- He had poor self care, disorganized behavior, smiling and crying inappropriately with poor social interaction of 1 month duration.

Case 2

- **Past history** - Multiple episodes of Schizophrenia
- **Family history**- Not significant
- General physical examination and systemic examination - WNL
- **Mental Status Examination**: A young and lean built male, Appropriate to stated age, ill kempt, laying on the hospital bed, staring fixedly at a point, not interacting. Motor retardation noted, eye contact not initiated.

Management

- Routine investigations were done along with MRI Brain plain- WNL.
- A trial of lorazepam was given and on minimal improvement with the symptoms of catatonia, 7 cycles of ECT was administered.
- Complete resolution of catatonic symptoms was noted in the form of normal mobility, speech and biofunctions.

Discussion

- Benzodiazepines are the first choice of treatment for catatonia[3]
- ECT is started in patient with catatonia that is not responding to benzodiazepines or when a decisive and rapid response is required in severe cases with life-threatening conditions.
- Given the malnourished state and dehydration status of the first patient and the risk of muscle contractures and nutritional deficiencies in the second case, since minimal improvement on Benzodiazepine was noted, ECT was administered, following which catatonic symptoms resolved completely.

Take home message

- Catatonia is one of the life threatening condition in psychiatry that requires prompt diagnosis and treatment.

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Cycloserine induced psychosis in patients with Tuberculosis: a case series

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Introduction

- Cycloserine was discovered in 1954 from a type of Streptomyces.[1]
- Neuropsychiatric side effects of Cycloserine are well known and may range from milder forms like insomnia to more severe forms like depression, suicidal ideations, mania.[2,3,4]
- Cycloserine, Levofloxacin, Ethambutol and Ethionamide are drugs known to cause psychosis.[3,4]
- The global combined prevalence of ADRs due to Cycloserine was 9% and 5.7% for psychiatric disorders.[4]

Case 1

- 26-year-old Male
- Diagnosed with MDR-TB in March 2023 and started on Tab. Cycloserine 500 mg/day, Tab. Ethionamide 750 mg/day, Tab. Levofloxacin 750 mg/day, and Tab. Ethambutol 1200 mg/day.
- Tab. Cycloserine was later increased to 750 mg OD in July 2023 while admitted to the Pulmonary medicine ward for MDR-TB.

Case 1

- After 2 months of up titrating Cycloserine - Irrelevant talks, 2nd person Auditory hallucinations, Delusion Of Persecution since 5 days.
- Diagnosis- Cycloserine-induced psychosis
- Cycloserine was withheld-started on Risperidone 2mg HS.
- Near total improvement in 3 to 4 days.

Case 2

- 33-year-old Female
- MDR-TB in Oct 2022.; Tab. Cycloserine 500 mg OD, Tab. Ethionamide 750 mg/day, Tab. Levofloxacin 750 mg/day, and Tab. Ethambutol 1200 mg/day.
- August 2023-Increase irritability, pulling out her catheter, muttering to self when alone, 3rd Person Auditory hallucinations and Delusion Of Persecution since 5 days.

Case 2

- Diagnosis- Cycloserine induced psychosis.
- Started –T. Olanzapine 2.5mg up titrated to 10mg HS; Cycloserine was stopped.
- Near Total improvement-next 7 days.

Case 3

- 29-year-old female
- Admitted with c/o low grade fever, breathlessness, cough with expectoration for 2 months.
- Diagnosed with MDR TB in October 2023.
- Started on T. Bedaquiline 400 mg OD for 14 days followed by 200mg thrice weekly, Levofloxacin 1000mg OD, Clofazimine 100mg OD, T.Linezolid 600 mg OD, Tab. Cycloserine 750mg OD.

Case 3

- Psychiatry referral-Irrelevant talk, irritability, Delusion Of Persecution since 3 days.
- Cycloserine was replaced by T.Delamanid 100mg BD.
- Haloperidol 5mg was started-up titrated to 10mg along with Promethazine 25mg.
- Near total improvement in 5 days.

Discussion

- *Psychiatric Adverse Drug Reactions(ADR)* pose an important challenge in the management of tuberculosis.
- In Case 1 and Case 3,psychosis was associated with up titration and initiation of Cycloserine respectively.
- In Case 2,psychosis occurred after 9 months of treatment.
- In all the three cases , the symptoms resolved on stopping Cycloserine and a low dose antipsychotic.
- At high doses, Cycloserine can act as NMDA receptor (NMDAR) antagonists generating or worsening psychotic symptoms.[6,7,8]

Conclusion

- Cycloserine has the propensity to cause a psychotic episode.

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Brain Tumors/SOL with Psychiatric Symptoms

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Introduction

- Brain tumors have an annual incidence of 9 per 100,000 and Space occupying lesions have a prevalence of 5-10 per 100,000[1]
- Most patients present with specific neurologic signs due to mass effect.
- However, rarely they may also present with psychiatric symptoms. These symptoms may at times even appear prior to neurological/medical symptoms.[2,3]

Introduction

- These symptoms can be deceptive, making diagnosis challenging. Hence this presentation.
- We report a case with mainly low mood features and few subtle neurological symptoms appearing later in course, finally revealing a tumor of the brain
  Another with psychotic features presenting years after meningioma excision and third with a presentation raising suspicion of pseudo seizure but imaging confirming to be SOL.

Case 1

A 45 year old male presented to medicine OPD with insidious onset

- Low mood
- Somnolence
- Lethargy
- Lack of concentration
- Difficulty in taking quick decisions

2 months

- Unsteadiness of gait for 1 month

Case 1

- Symptoms precipitated after a febrile illness and diarrhea lasting for 3-4 days
- Physical examination and neurological evaluation were normal.
- Subsequently referred to psychiatry
- Psychiatry evaluation revealed domestic stressor of imminent loss of ancestral property.

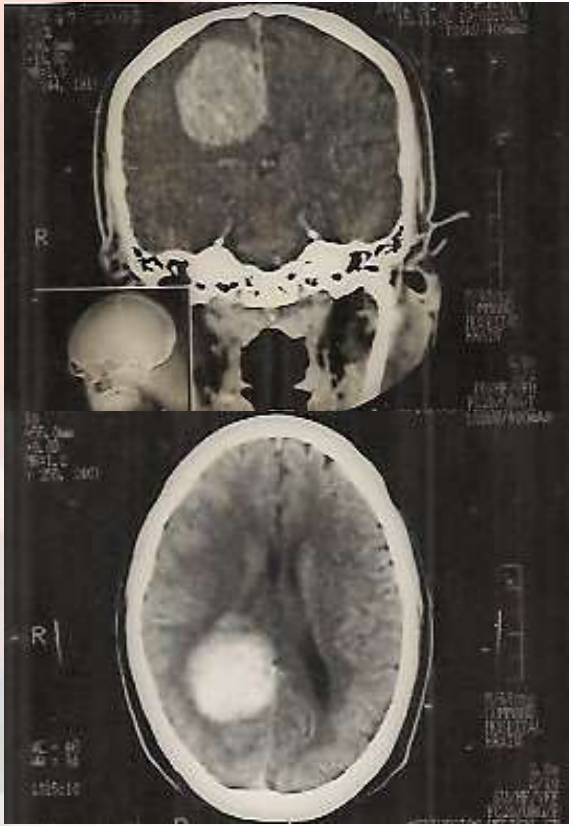
Case 1

Mental Status Examination:

- A kempt but dull looking male with decreased motor activity.
- Speech was with low tone and increased latency.
- Mood described as “O.K.” Affect restricted.
- Thinking was with reduced pace but goal directed. His sensorium was clear some cognitive deficit in recent memory.
- Routine hematological, urine & biochemical investigations - within normal limits. Fundoscopy - no signs of papilledema.

Case 1

- NCCT cranium: well circumscribed, homogenous, insignificantly enhancing 3.5 cm sized soft tissue mass in the suprasellar region with effacement of neighbouring structures and peripheral calcification, with a differential diagnosis of craniopharyngioma and chordoma.
- Patient was then referred for neurosurgical management. But was lost to follow up.



Case 2

- A 19 year old male with irritability and violent behaviour, muttering to self, suspiciousness and fearfulness of others discussing him and his family and wanting to hurt him, hearing voices of unknown men threatening him for 6 months
- Patient underwent left parietal craniotomy with left intraventricular meningioma excision 4 years ago. After which he developed seizures. He was started on Antiepileptics but was poorly compliant.

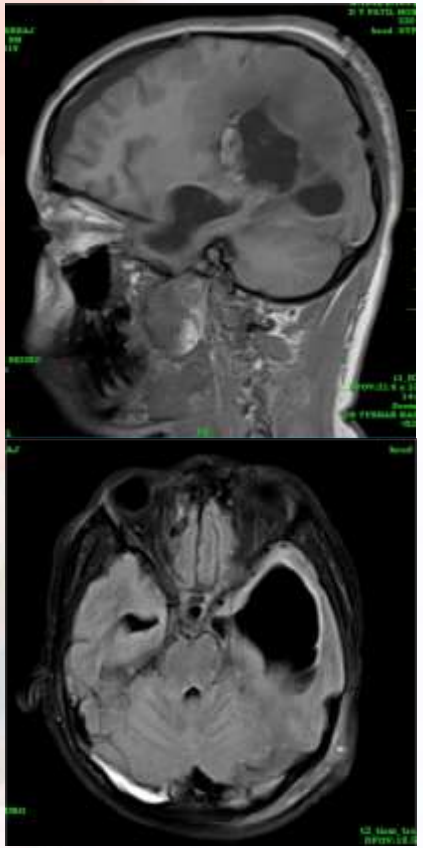
Case 2

- 6 months ago seizures worsened after which he developed psychotic features.
- On antipsychotics after appearance of psychotic symptoms but poorly compliant.
- General physical examination was within normal limits,
- Mental Status Examination showed intact consciousness and orientation, 2nd and 3rd person auditory hallucinations, absent insight, impaired judgement.

Case 2

MRI Brain plain: Left parietal craniotomy, evidence of excision of left parietal lesion. Left parietal multi locular CSF signal intensity, marked ex vacuo dilatation of temporal & occipital horn, atrium of left ventricle suggestive of porencephalic cyst. Midline shift towards right. Mid brain compression. Diffuse cerebral cortical atrophy. Gliosis involving orbital surface of left frontal lobe. Chronically thrombosed partially recanalized superior sagittal sinus.

Treated with Haloperidol on which the patient showed 90% improvement within a month.



Case 3

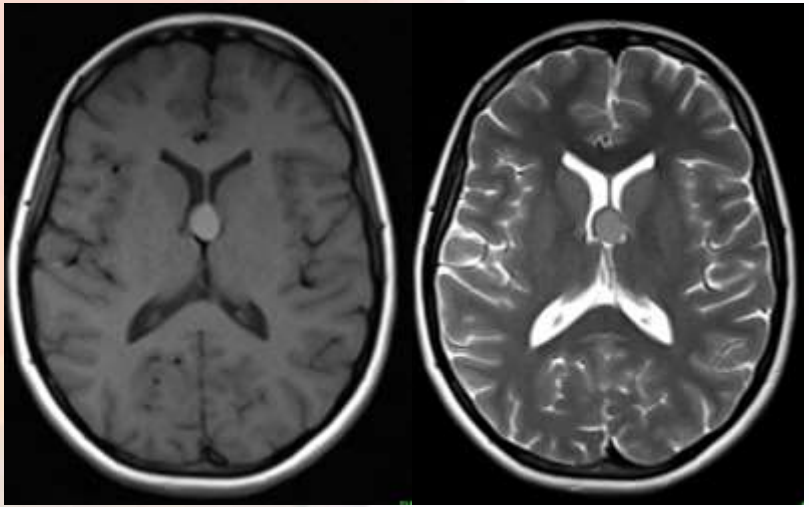
- A 25 year old female being treated IP under medicine for colitis with mesenteric lymphadenopathy, IgG+ Dengue was referred to psychiatry due to multiple episodes of involuntary jerky movements of limbs, neck version lasting few minutes. These episodes occurred over 2 days in the ward. Neurology consult was done and she was suspected to have Psychogenic Non-Epileptic Seizures (PNES)

Case 3

- Psychiatric evaluation revealed patient had apprehension and worrying thoughts about her illness.
- Biofunctions stable
- No significant past, familial history.
- MSE revealed clear sensorium with an anxious mood and distressed affect and worrying thoughts.

Case 3

- MRI Brain (Plain): A well defined T1 intermediate to hyperintense & T2 isointense to hypointense lesion ~10 x 13.5 x 11.5 mm (CC x TR x AP) noted in roof of third ventricle in midline - represents colloid cyst.
- She was referred to neurology and started on Levetiracetam and EEG advised and then referred to Neurosurgery.



Discussion

- Case 1 shows the presence of low mood features and mild cognitive deficits along with unsteady gait appearing later pointing towards possibility of an underlying organicity prompting the need for imaging.
- In case 2 we see the emergence of psychotic symptoms much after the patient underwent meningioma excision that were resolved using antipsychotics.
- In case 3 there is an usual presentation raising suspicion of pseudo seizure. After imaging a ICSOL was found.

Discussion

- Neuroimaging is the primary diagnostic modality used to visualize the presence of brain tumours/ICSOL.
- Treatment options for such patients depend on the symptoms. Antidepressants like SSRIs, Mood stabilisers like Lithium, Antipsychotics for hallucinations, delusions, and other thought disturbances.[4]
- Changes in the lesion should be kept in mind during maintenance treatments, as low-risk patients may progress to high-risk.[5]

Discussion

- Brain tumours/ICSOL can manifest with a wide range of psychiatric symptoms. The sudden onset of psychosis, mood disorders, memory impairment, anxiety, eating disorders or personality changes should prompt a detailed evaluation to rule out organic causes. [6-8]
- Early diagnosis and treatment is important to relieve symptoms and crucial to improve the outcome and quality of life of the patient.

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Thank you.