A 69 YEAR OLD BLIND FEMALE WITH VISUAL HALLUCINATIONS AS THE PRESENTING COMPLAINT OF CHRONIC SECONDARY ADRENAL INSUFFICIENCY

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*Potential Conflict of Interest may exist. Please refer to Meeting App.

INTRODUCTION

- Secondary Adrenal Insufficiency due to hypothalamic-pituitary failure has a prevalence of 100,000 per million. It is often associated with vague symptoms that make the diagnosis challenging.
- The psychiatric manifestations of the condition are often overlooked in the clinical setting, though well described in the literature.

HISTORY OF PRESENTING ILLNESS

A 69 year old blind female developed progressive visual hallucinations three months prior to presentation. Her history was significant for paroxysmal sleep attacks starting at age 38 which was complicated by central hypersomnolence, central diabetes insipidus and permanent optic nerve damage causing complete blindness. At the onset of these symptoms, an EEG was performed at another facility which showed cerebral dysfunction, and she was started on quetiapine. The hallucinations became increasingly complex, with animals walking in the apartment. At that time, the quetiapine was switched to haloperidol. Later she became very distressed that three men were entering her apartment through a window and one of the men attempted to set her house on fire, so she brought us to the ER.

EXAMINATION

VISION

- Acuity: Poor, well nourished, no cardiovascular problems
- Alert and oriented to person, place, and time
- Impaired vision: Hypothyroidism, diffuse myasthenia
- RPE: 157/50 mm Hg
- BP: 157/50
- Pulse: 68 beats/min
- Temp: 98.6° F
- Respiration: 18 breaths/min
- Weight: 100 lb
- Height: 5’5’’
- BMI: 23.8 kg/m²

- Otherwise, no abnormalities

TABLE OF PERTINENT LABORATORY RESULTS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBC</td>
<td>WBC: 4,800</td>
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<tr>
<td>BMP</td>
<td>Calcium: 9.5</td>
</tr>
<tr>
<td>LFT</td>
<td>SGPT: 40</td>
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<tr>
<td>UA</td>
<td>25 mg/dl</td>
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<tr>
<td>Glucose</td>
<td>110 mg/dl</td>
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</tbody>
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TREATMENT

- Corticosteroid therapy was initiated with an initial dose of 1 mg/d in the morning and 0.5 mg/d in the evening.
- Low normal glucose levels were seen, levels below 70 mg/dl were corrected with oral and intravenous dextrose administrations.
- Chronic secondary adrenal insufficiency

FOllow up

- As outpatient follow-up visits, the patient reported improvement of hallucinations, which were now of a far less intrusive nature.
- She also noted a marked improvement in her appetite and had gained weight since discharge.

CT HEAD

- Revealed a remote right frontal craniotomy and right fronto-temporal craniotomy, with post-operative dural clipping (two clips were seen in the suprasellar cistern); there was also a partially calcified multilobulated mass in the suprasellar cistern, measuring 5 x 1.7 x 1.5 cm.
- There was a prior excisional dissection of the right frontal horn, associated with encephalomalacia of the inferior right frontal lobe. There was no acute hemorrhage or infarct. MRI for further evaluation was deferred due to the presence of aneurysm clips.
- At another institution prior to this admission: EEG showed cerebral dysfunction
- Video EEG reported as normal

DISCUSSION

- Diagnostic Consideration of Visual Hallucinations
  - Organic causes –
    - Delirium unlikely due to the absence of metabolic derangements and the treatment of presumed urinoma tract infection without improvement.
    - Other organic causes such as migraines, seizures, CVA and temporal masses were ruled out.
  - Chronic secondary adrenal insufficiency
    - Our patient had reported normal hypothalamic-pituitary-adrenal (HPA) function post-operatively, without overt symptoms of adrenal insufficiency for 3 decades after initial surgery.
    - Her acute development of psychosis prompted re-exploration of her HPA axis, which had not been evaluated despite several inpatient visits for the same complaints.
    - Our patient’s diagnostic workup was consistent with secondary adrenal insufficiency based on low baseline cortisol level, insufficient stimulation after corticotropin injection, and a low-normal ACTH value.
- Treatment with glucocorticoid replacement therapy resulted in improvement in her visual hallucinations, as well as her appetite and weight.
- Charles Bonnet Syndrome
  - Seen in blind patients with insight into their blindness
  - Unlike, given the duration of her blindness and the acuity of her symptoms.
- Primary psychiatric diagnosis
  - Unlikely given the lack of psychiatric or substance use history, late onset of psychosis, and acute onset of visual hallucinations
- Tried on several different antipsychotics with no relief in symptomatology

CONCLUSIONS

- As the presenting symptoms of chronic adrenal insufficiency are often non-specific, a high index of suspicion for this condition is paramount, especially in patients with prior pinitary surgery.
- In this patient, visual hallucinations were the only symptom of secondary adrenal insufficiency. Failure to recognize this condition led to mismanagement with ineffective anti-psychotic regimens before the correct diagnosis was made.
- This case highlights the importance of periodically re-testing HPA axis function in patients with prior pituitary surgery, and re-examining organic causes of hallucinations when multiple antipsychotic regimens fail.

REFERENCES


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CT HEAD