ORIGINAL RESEARCH PAPER

General Medicine

PITUITARY APOPLEXY MASQUERADING AS MENINGOENCEPHALITIS.

KEY WORDS:

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INTRODUCTION

Pituitary apoplexy is a rare but potentially life-threatening medical emergency that results from sudden haemorrhage or infarction of the pituitary gland, typically within a pre-existing pituitary adenoma. It presents with a constellation of acute symptoms including severe headache, visual disturbances, ophthalmoplegia, altered sensorium, and hormonal deficiencies.

Case Report

A 22 year old male with no prior co morbidities was brought to the emergency room with complaints of involuntary movements involving all four limbs associated with involuntary micturition and decreased responsiveness . He had no complaints of tongue bite, up rolling of eyes. No complaints of vomiting or headache.Patient had history of fever one week ago which resolved after symptomatic treatment. On arrival patient blood pressure was elevated 160/80 mmhg , remaining vitals were normal. Patient was initially sedated and intubated in view of low GCS and on going seizure. Meningeal signs were negative. In view of fever and new onset GCTS meningoencephalitis was suspected

Baseline Investigations

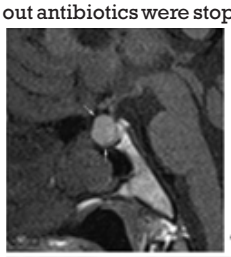
Hb	15.5
Total count	16,500 polymorph predominant
Platelets	2.55 lakhs
PT/INR	12.2/1.04
Bun	7
Serum creatinine	0.7
Sodium	114
Potassium	4.1
Chloride	77
Bicarbonate	17
Calcium	8.7
Magnesium	1.8
Total bilirubin	2.72
Direct bilirubin	0.65
Indirect bilirubin	2.07
SGOT/SGPT	86/20
Total protein	6.7
Albumin	4.4
Globulin	2.3
ECG	Normal sinus rhythm
Chest X-ray	Within normal limits

In view of hyponatremia , work up was done revealed urine spot sodium 94 and urine osmolarity 360 . Patient was initially given 3% NACL correction and fluid restriction considering SIADH secondary to a CNS infection. Suspecting meningoencephalitis, patient was started on Inj cetriaxone , inj acyclovir ,inj dexa and inj levipil. Lumbar puncture was done.

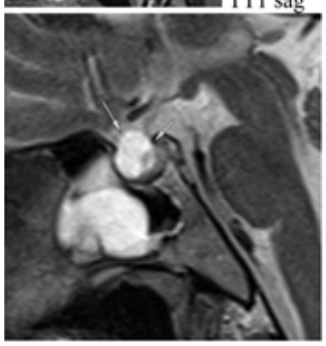
CSF Analysis Showed

PROTIEN	33 mg/dl
SUGAR	67 mg/dl
ADA	< 5.1
TOTAL NUCLEATED CELLS	1
CULTURE	NO GROWTH
CYTOLOGY	NO INFLAMMATION / MALIGNANT CELLS
AFB	Negative
HSV-1/HSV-2/VZV PCR	Negative

MRI Plain + contrast was done – a T1/T2 hyperintense peripherally enhancing lesion measuring 10.7*10.9*9.9 mm with suprasellar extension is seen within pituitary, suggestive of pituitary macroadenoma with haemorrhage and cystic changes within, and mild deviation of infundibulum towards right . There was no abnormal leptomeningeal enhancement noted. Neurosurgery opinion was obtained advised nil active intervention . Fundus examination was normal. As infection was ruled out antibiotics were stopped.



TT1 sag



T2sag

Hormonal Evaluation Was Done Revealed

TESTOSTERONE	21.44 ng/dl (Normal Range 249-836)
LH	0.77 mlU/ml (Normal Range 1.7-8.6)
FSH	1.91 mlU/ml (Normal Range 1.5-12.4)
PROLACTIN	17.16 mg/ml (Normal Range 4.04-15.2)

FT4/TSH	1.32 ng/dl /2.640 MiU/ml
RANDOM CORTISOL	4.10 microg / dl

Endocrinology opinion was taken and patient was started on inj hydrocort 100 mg IV TDS. Patient's sensorium gradually improved. Patient was extubated and shifted to ward and steroids and anti-epileptics were titrated accordingly. Repeat imaging on day 5 done showed no interval change in size or signal characteristics of macroadenoma.

On follow up after 2 weeks

TESTOSTERONE	590 ng/dl (Normal Range 249-836)
LH	5.21 mlU/ml (Normal Range 1.7-8.6)
FSH	4.26 mlU/ml (Normal Range 1.5-12.4)
PROLACTIN	13.18 mg/ml (Normal Range 4.04-15.2)
FT4	0.82 ng/dl
SODIUM	137

DISCUSSION :

Pituitary apoplexy is a rare but potentially life-threatening endocrine emergency characterized by sudden hemorrhage or infarction of the pituitary gland, usually within a pre-existing adenoma. The condition typically presents with acute headache, visual disturbances, ophthalmoplegia, and altered mental status. However, atypical presentations can complicate diagnosis, as seen in our case of a 22-year-old male who presented primarily with generalized tonic-clonic seizures and hyponatremia, without the classic signs of apoplexy such as visual field defects or headache.

The patient initially presented with generalized seizures, low Glasgow Coma Scale (GCS), and severe hyponatremia (serum sodium 114 mmol/L), prompting a preliminary diagnosis of meningoencephalitis and syndrome of inappropriate antidiuretic hormone secretion (SIADH). SIADH is a known paraneoplastic or inflammatory complication of central nervous system disorders, including pituitary apoplexy (1). However, cerebrospinal fluid (CSF) analysis showed no evidence of infection or inflammation, and polymerase chain reaction (PCR) tests for herpes viruses were negative, effectively ruling out viral encephalitis.

Neuroimaging played a pivotal role in diagnosis. MRI revealed a peripherally enhancing lesion with hemorrhagic and cystic changes within the pituitary gland, consistent with a hemorrhagic pituitary macroadenoma. Pituitary apoplexy has been reported in up to 10–20% of patients with macroadenomas, often triggered by physiological stress, hypertension, or coagulopathy (2). Our patient had a transient febrile illness a week prior, which may have acted as a physiological trigger.

Endocrine evaluation confirmed hypopituitarism with low testosterone, LH, FSH, and cortisol levels, consistent with pituitary insufficiency secondary to apoplexy. Prompt initiation of intravenous hydrocortisone was critical, as adrenal insufficiency is a major contributor to morbidity and mortality in such cases (3). Rapid clinical improvement in the patient's mental status following steroid therapy supports the diagnosis of pituitary apoplexy-induced adrenal insufficiency.

Interestingly, follow-up hormonal assessment showed normalization of gonadotropin and testosterone levels, suggesting reversible hypopituitarism in this case. However, FT4 remained borderline low, warranting ongoing endocrine surveillance. Repeat MRI showed no progression, supporting the decision for conservative management. Although transsphenoidal surgery is indicated in patients with worsening visual symptoms or hemodynamic instability, many cases, especially those without compressive symptoms, can be managed medically (4).

This case underscores the need for a high index of suspicion for pituitary apoplexy in young patients presenting with unexplained seizures, hyponatremia, or altered sensorium, even in the absence of classical features. Early diagnosis and appropriate endocrine replacement can significantly alter the clinical trajectory and prevent long-term complications.

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