



## Pituitary macroadenoma presenting with headache and visual disturbance: A case report

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### ABSTRACT

Pituitary adenomas are benign tumors arising from the anterior pituitary gland and may present with symptoms such as headache, visual disturbances, or endocrine abnormalities. I report a case of a 61-year-old female who presented with chronic headache and visual disturbances. Detailed evaluation revealed mild hyperprolactinemia, severe hypothyroidism, and secondary hypogonadism. MRI showed a well-defined sellar lesion with suprasellar extension. The patient underwent transsphenoidal surgical excision with significant postoperative improvement in symptoms and hormonal profile [1,2].

### I. INTRODUCTION

Pituitary adenomas account for 10–15% of intracranial tumors [2]. They are classified based on size into microadenomas (<10 mm) and macroadenomas (≥10 mm), and based on hormonal activity into functioning and non-functioning adenomas [3]. Clinical presentation depends on hormone hypersecretion and mass effect, particularly compression of the optic chiasm leading to visual field defects [3]. Persistent headache is often an early symptom and should prompt further neurological and endocrine evaluation [2,3].

### II. CASE PRESENTATION

A 61-year-old female presented with progressive frontal headache for 6 months, associated with gradual blurring of vision over 2 months. She denied galactorrhea or other endocrine symptoms. There was no history of seizures, vomiting, or head trauma.

#### Examination:

- Conscious, oriented, vitally stable
- Neurological exam: bitemporal hemianopia on visual field testing
- Other cranial nerves and motor-sensory examination were normal

### INVESTIGATIONS

#### Hormonal profile:

- FSH: 0.72 mIU/mL (low for postmenopausal) [3]
- LH: 0.26 mIU/mL (low for postmenopausal) [3]
- Prolactin: 64.07 ng/mL (mild hyperprolactinemia) [1]
- ACTH: 21.4 pg/mL (normal) [3]
- T4: 4.74 µg/dL (low-normal)
- TSH: 89.49 µIU/mL (markedly elevated → primary hypothyroidism) [1]
- GH: 0.092 ng/mL (normal for age) [3]

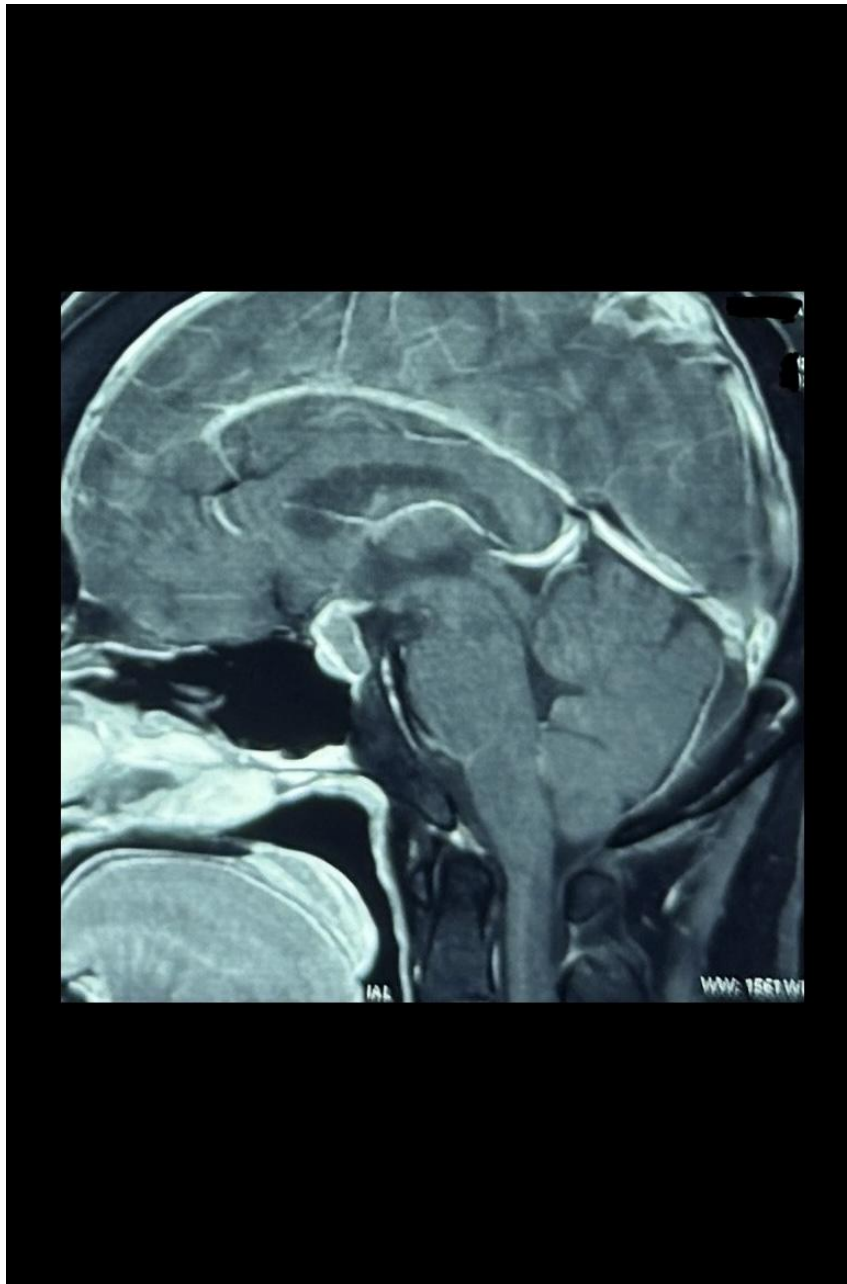
#### Metabolic profile:

- Total cholesterol: 328 mg/dL (severe hypercholesterolemia)
- Triglycerides: 469 mg/dL (severe hypertriglyceridemia)

#### Imaging:

- MRI brain: well-defined iso- to hyperintense lesion in the sella tursica measuring 12 × 14 × 16 mm with suprasellar extension, compressing the optic chiasma → consistent with pituitary macroadenoma [4]

**Visual field testing:** confirmed bitemporal hemianopia [3]



### DIAGNOSIS

Based on clinical presentation, hormonal abnormalities, visual field defects, and MRI findings, the patient was diagnosed with pituitary macroadenoma with mild hyperprolactinemia and secondary hypogonadism [1,2,3].

### MANAGEMENT

The patient was started on levothyroxine therapy for hypothyroidism to normalize TSH and reduce secondary hyperprolactinemia [1]. Given the visual

compromise, she underwent transsphenoidal surgical excision of the pituitary lesion [4,5].

### Postoperative care:

- Monitored for fluid-electrolyte balance, pituitary hormone function, and neurological status
- Corticosteroid supplementation was provided perioperatively.

### Outcome and Follow-Up

- Headache resolved completely [2]



- Visual symptoms improved significantly, confirmed by repeat visual field testing [3]
- Prolactin decreased to near-normal values
- MRI at 3 months: no residual tumor [4]

### III. DISCUSSION

Pituitary adenomas are common benign intracranial tumors that can present with a wide spectrum of symptoms depending on hormonal activity and mass effect. In this patient, persistent frontal headache was the initial and primary symptom, highlighting the importance of thorough evaluation of headaches, especially in older adults, as they may be the first sign of significant intracranial pathology [2,3]. The patient also had gradual visual disturbances, and visual field testing confirmed bitemporal hemianopia, which is characteristic of optic chiasm compression by pituitary macroadenomas [3,4]. Hormonal evaluation revealed mild hyperprolactinemia and low postmenopausal FSH/LH, indicating secondary hypogonadism, likely due to pituitary dysfunction [1,3]. Additionally, the patient had severe primary hypothyroidism, which could have contributed to the elevated prolactin levels and dyslipidemia [1]. MRI imaging demonstrated a well-defined  $12 \times 14 \times 16$  mm lesion in the sella tursica with suprasellar extension, confirming the diagnosis of a macroadenoma [4]. Management of pituitary macroadenomas is guided by both functional status and mass effect; in this case, transsphenoidal surgical excision was indicated due to visual compromise and resulted in rapid resolution of headache and visual symptoms, along with improvement in hormonal levels [4,5]. This case underscores the importance of early recognition and multidisciplinary evaluation, including neurological, endocrine, and radiological assessment, to prevent permanent visual and hormonal deficits. Furthermore, it highlights that even subtle symptoms such as chronic headache should not be neglected, as they may be the first indication of significant underlying disease [2,3,5].

### IV. CONCLUSION

This case emphasizes that persistent headaches in elderly patients should never be neglected or dismissed, as they may be an early sign of serious intracranial pathology. Careful evaluation of chronic headache led to the detection of visual field defects, endocrine abnormalities, and early diagnosis of pituitary macroadenoma. Timely thyroid correction and surgical intervention resulted in complete resolution of symptoms, improvement in hormonal profile, and prevention of permanent visual impairment [2,4,5].

### REFERENCES

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