Scholars Journal of Medical Case Reports
Abbreviated Key Title: Sch J Med Case Rep
ISSN 2347-9507 (Print) | ISSN 2347-6559 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Radiology

Apoplexy of a Pituitary Macroadenoma: A Case Report

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DOI: https://doi.org/10.36347/sjmcr.2025.v13i05.137 | **Received:** 16.04.2025 | **Accepted:** 22.05.2025 | **Published:** 31.05.2025

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Abstract **Case Report**

Pituitary apoplexy is an acute infarction or hemorrhage of the pituitary gland. It represents a rare mode of presentation for pituitary macroadenomas, typically non-functioning. We report a case of 65-year-old patient with a history of intracranial hypertension syndrome evolving over two years, associated with a progressive decrease in visual acuity leading to bilateral blindness. The patient presented to the emergency department with sudden-onset right hemiplegia and blindness. An emergency brain CT scan, complemented by MRI, revealed apoplexy of a pituitary macroadenoma. Given the ophthalmological impact, the adenoma was surgically removed via a transsphenoidal approach in neurosurgery. The patient was also started on hormone replacement therapy. The outcome was favorable, with complete recovery of visual acuity.

Keywords: Apoplexy, macroadenoma, MRI.

INTRODUCTION

Pituitary apoplexy refers to an acute vascular event, either ischemic or hemorrhagic, occurring within a pituitary adenoma. It is a rare occurrence, estimated to affect approximately 3% of patients with pituitary adenomas. The classic clinical presentation includes sudden-onset headaches, altered consciousness, endocrine disturbances, and ophthalmological manifestations such as unilateral or bilateral visual impairment, resulting from acute compression of the optic chiasm and oculomotor nerve palsies.

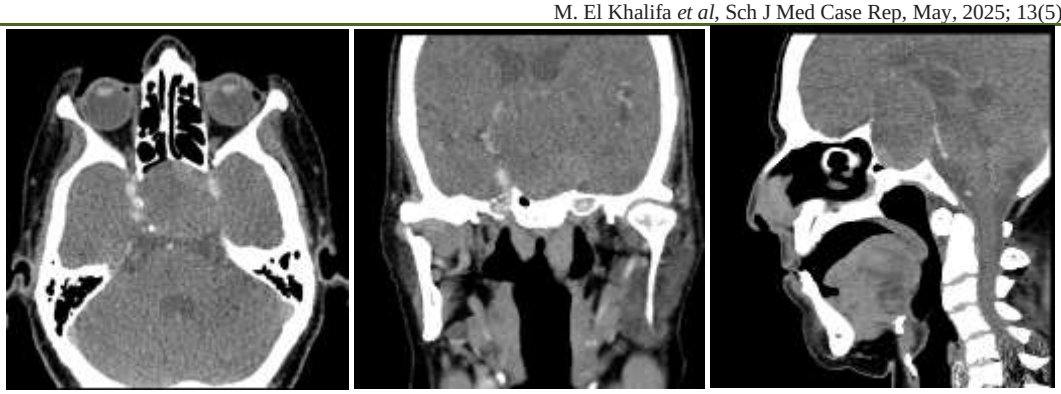
CASE REPORT

We present the case of a 65-year-old patient with a history of intracranial hypertension syndrome evolving over two years, accompanied by a progressive decrease in visual acuity leading to bilateral blindness. The patient presented to the emergency department with sudden-onset right hemiplegia and blindness.

An initial brain CT scan revealed a well-defined intra- and suprasellar macroadenoma with lobulated contours, measuring 49 x 40 x 56 mm (T x AP x CC), exerting slight compression on adjacent structures. MRI of the brain showed a lesion with heterogeneous hyperintensity on T1 and T2 sequences, surrounded by a hypointense rim on all sequences, without abnormalities on diffusion-weighted imaging. In some areas, fluid-fluid levels were observed, indicating hemorrhagic or cystic components. The lesion caused collapse of the sellar floor and clivus.

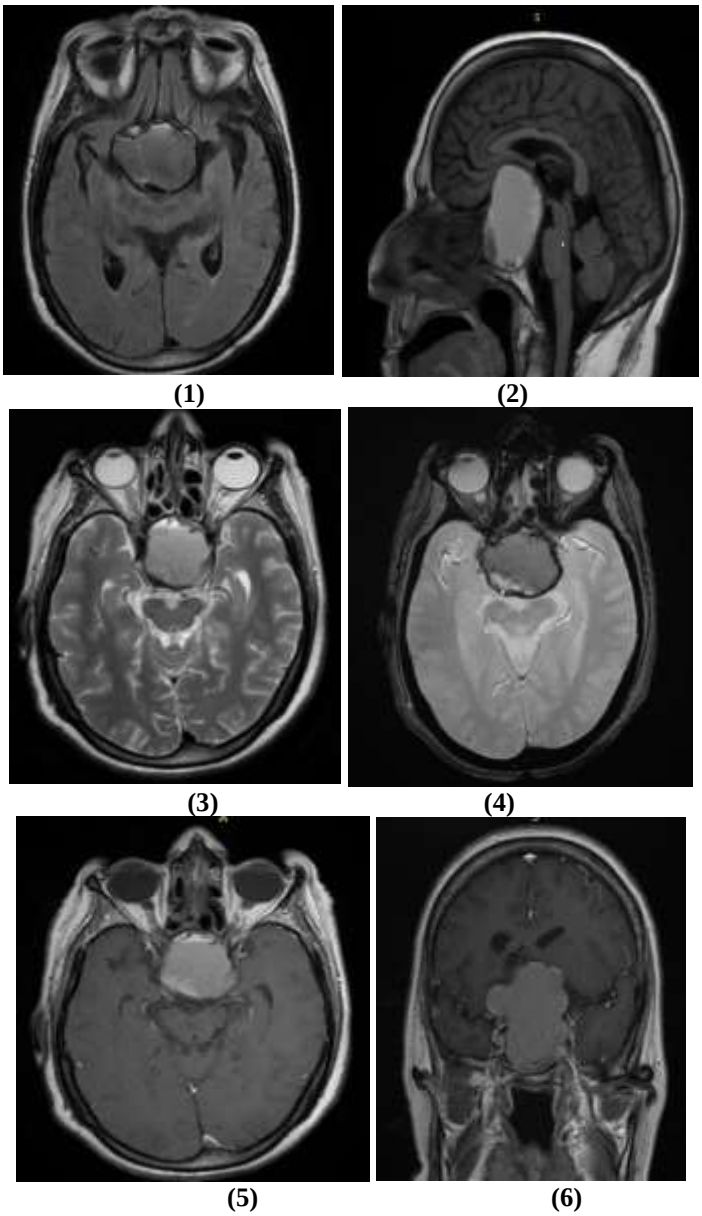
Superiorly, the tumor compressed and displaced the optic chiasm; laterally, it bulged into the cavernous sinuses, more prominently on the left side; anteriorly, it was in contact with the terminal portions of the optic nerves and protruded into the sphenoidal sinus. Superiorly, it displaced the bifrontal parenchyma and both anterior cerebral arteries, which remained patent.

The patient underwent transsphenoidal surgical resection of the tumor. Postoperative recovery was marked by improvement in visual acuity. A visual field assessment is scheduled for three months postoperatively.



(1) (2) (3)

Figure 1: Brain CT scan axial (1) coronal(2) sagittal(3) showing the presence of an intra- and suprasellar macroadenoma with lobulated contours, measuring 49 x 40 x 56 mm (T x AP x CC), exerting slight compression on adjacent structures



(1) (2) (3) (4) (5) (6)

Figure 2: Brain MRI showing a macroadenoma with heterogeneous hyperintensity on T1 (1,2) and T2 (3) sequences, surrounded by a hypointense rim on all sequences, without abnormalities on diffusion-weighted imaging. In some areas, fluid-fluid levels were observed, indicating hemorrhagic components

DISCUSSION

Pituitary apoplexy is a rare but serious complication, occurring in approximately 3% of patients with pituitary adenomas. In over two-thirds of cases, the adenoma is undiagnosed prior to the apoplectic event. [3]

Clinically, it presents with sudden-onset headaches, sometimes accompanied by altered consciousness, anterior pituitary insufficiency, and ophthalmological signs that may predominate the clinical picture: sudden decrease in visual acuity, even blindness, and oculomotor disturbances. [4]

Diagnosis is an emergency and relies on brain imaging, particularly MRI. Management combines hormone replacement therapy and transsphenoidal surgical resection. This approach generally leads to a favorable outcome, especially regarding visual function.

CONCLUSION

Pituitary apoplexy is a rare but serious complication of pituitary adenomas. Clinical signs are varied, combining neurological symptoms , sometimes with altered consciousness, endocrine signs with possible anterior pituitary insufficiency. As a diagnostic emergency, brain imaging will confirm the diagnosis. The combination of hormone replacement therapy and transsphenoidal tumor resection most often leads to a favorable outcome and sometimes complete visual recovery.

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