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

Endocrinology & Diabetology

Pituitary Apoplexy Revealing a Previously Undiagnosed Nonfunctioning Pituitary Adenoma - Case Report

Sanae CHAKDOUFI[1]*, Ouijdane ZAMANI[2], Amal MOUMEN[3]

[1]Endocrinology and Diabetology Department, Mohammed V Military Hospital, Faculty of Medicine and Pharmacy, Mohammed V University, Rabat, Morocco
[2]Radiology and Medical Imaging Department, Mohammed V Military Hospital, Faculty of Medicine and Pharmacy, Mohammed V University, Rabat, Morocco
[3]Endocrinology and Diabetology Department, Moulay Ismail Military Hospital, Meknes; Faculty of Medicine and Pharmacy, Sidi Mohamed Ben Abdellah University, Fes, Morocco

DOI: https://doi.org/10.36347/sjmcr.2026.v14i11.043 | **Received:** 18.09.2026 | **Accepted:** 06.11.2026 | **Published:** 11.11.2026

***Corresponding author:** Sanae CHAKDOUFI
Endocrinology and Diabetology Department, Mohammed V Military Hospital, Faculty of Medicine and Pharmacy, Mohammed V University, Rabat, Morocco

Abstract **Case Report**

Pituitary apoplexy is a potentially life-threatening endocrine and neurological emergency that may reveal a previously undiagnosed pituitary adenoma. A 45-year-old woman presented with sudden severe headache of 24 hours' duration, vomiting, and reduced visual acuity. Ophthalmological examination demonstrated bitemporal hemianopia. Hormonal assessment revealed anterior panhypopituitarism involving the corticotroph, thyrotroph, gonadotroph, and somatotroph axes, without diabetes insipidus. Magnetic resonance imaging demonstrated pituitary enlargement with intrinsic T1-hyperintense foci and peripheral enhancement surrounding non-enhancing areas, supporting pituitary apoplexy in the clinical context. The patient underwent transsphenoidal surgery and received hormone replacement for the affected endocrine axes. Histopathological examination favored a nonfunctioning pituitary adenoma. At 18 months, follow-up showed substantial ophthalmological and neurological improvement; however, panhypopituitarism persisted. This case illustrates that neuro-ophthalmological improvement following treatment may coexist with persistent endocrine dysfunction. Recognition of the presenting syndrome, assessment of cortisol deficiency, and coordinated endocrine, ophthalmological, and neurosurgical management are central to care, with continued reassessment after the acute event.

Keywords: pituitary apoplexy, nonfunctioning pituitary adenoma, panhypopituitarism, bitemporal hemianopia, magnetic resonance imaging, transsphenoidal surgery.

Copyright © 2026 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution **4.0 International License (CC BY-NC 4.0)** which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

Pituitary apoplexy is a clinical syndrome resulting from hemorrhage and/or infarction within the pituitary gland, usually in an underlying adenoma. Its manifestations range from acute headache and vomiting to visual loss, ocular motor abnormalities, altered consciousness, and acute endocrine dysfunction. Secondary adrenal insufficiency is a particularly important complication because it can be life-threatening and requires immediate assessment and treatment when indicated [1,2].

A previously unrecognized pituitary lesion is a frequent setting for presentation. In the retrospective series of 45 patients reported by Sibal et al., only eight patients had a known adenoma before apoplexy [3]. The absence of a pituitary history should therefore not dissuade clinicians from considering a sellar cause of sudden headache accompanied by visual disturbances. Magnetic resonance imaging (MRI) helps identify the lesion and distinguish its hemorrhagic or infarctive components from alternative sellar abnormalities [4].

Management requires coordinated endocrine, ophthalmological, and neurosurgical assessment. Treatment selection depends on the severity and evolution of visual and neurological findings; favorable outcomes have been reported with surgery and with conservative management in selected patients [5,6]. We report a case in which transsphenoidal surgery was followed by substantial neuro-ophthalmological improvement, while anterior panhypopituitarism persisted at 18 months.

Case Report

A 45-year-old woman with no notable medical history and no previously diagnosed pituitary lesion presented to the emergency department with sudden-onset severe headache of 24 hours' duration, vomiting, and reduced visual acuity. She was afebrile, and her general condition was preserved. Ophthalmological examination demonstrated reduced visual acuity and bitemporal hemianopia.

Urgent magnetic resonance imaging (MRI) demonstrated an enlarged pituitary gland containing intrinsic T1-hyperintense foci (Figure 1). Post-gadolinium images showed peripheral enhancement surrounding non-enhancing areas within the lesion (Figure 2). The imaging findings, considered together with the acute headache and visual disturbances, supported pituitary apoplexy.

Hormonal assessment demonstrated anterior panhypopituitarism involving the corticotroph, thyrotroph, gonadotroph, and somatotroph axes. There was no diabetes insipidus. The patient underwent transsphenoidal surgery and received hormone replacement for the affected endocrine axes. Histopathological examination of the surgical specimen favored a nonfunctioning pituitary adenoma.

At 18 months, ophthalmological and neurological findings had improved substantially. However, anterior panhypopituitarism persisted, requiring ongoing hormone replacement. The patient continues to attend outpatient consultations for endocrine monitoring and treatment adjustment.

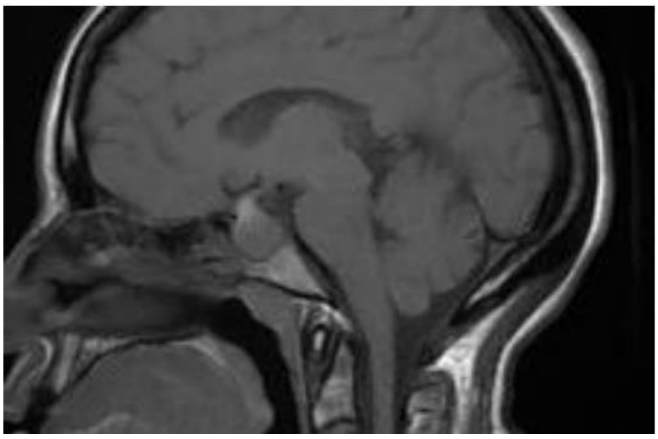


Figure 1: Sagittal T1-weighted magnetic resonance image showing an enlarged pituitary gland with intrinsic hyperintense areas

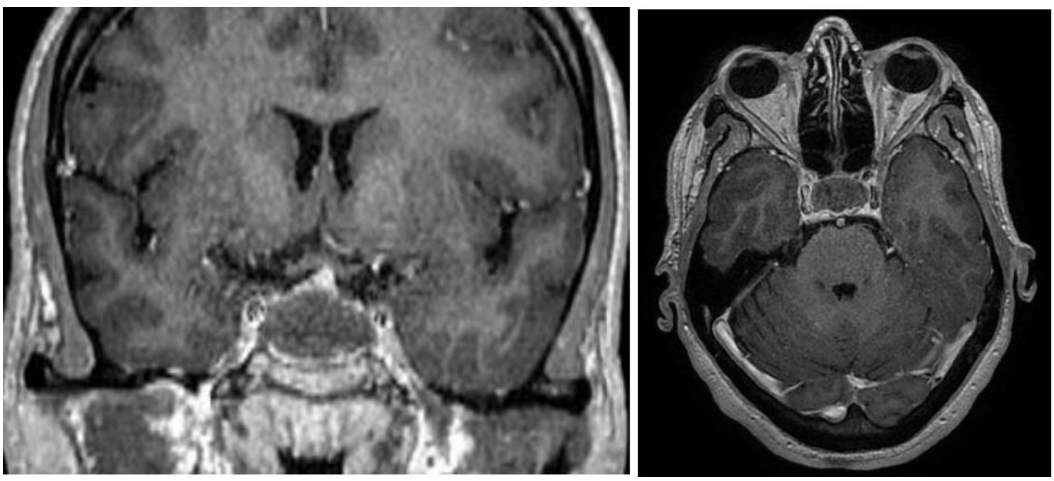


Figure 2: Post-gadolinium magnetic resonance images in coronal (left) and axial (right) planes showing peripheral enhancement around non-enhancing areas of the pituitary lesion. The images support the diagnosis in conjunction with the clinical and endocrine findings

Discussion

This patient's sudden headache, vomiting, visual impairment, and bitemporal hemianopia fit the recognized clinical spectrum of pituitary apoplexy. The absence of a known adenoma is also consistent with published cohorts: Sibal et al. found that most patients had no previously diagnosed adenoma, while Singh et al. reported a known adenoma in only 22 of 87 patients [3,6]. Thus, the diagnostic relevance of this case lies in

recognizing the syndrome rather than in the rarity of an otherwise established presentation.

MRI is central to the diagnostic assessment. Intrinsic T1 hyperintensity can reflect blood products or proteinaceous contents, while peripheral enhancement surrounding non-enhancing tissue can occur in apoplexy [4]. Neither finding is diagnostic in isolation. In this case, the imaging appearance was concordant with the acute clinical syndrome, and subsequent histopathology favored an underlying adenoma. The duration of symptoms alone cannot establish the age of an intralesional hemorrhage.

The extent of anterior pituitary dysfunction deserves attention even when the general condition initially appears preserved. Corticotroph deficiency can cause acute secondary adrenal insufficiency. Guidelines emphasize prompt assessment and glucocorticoid treatment when indicated, without delaying treatment to obtain laboratory samples [1,2]. These recommendations provide the management context; the available case information does not establish the exact perioperative replacement regimen. Absence of diabetes insipidus in this patient does not lessen the significance of the anterior deficiencies.

Surgical and conservative strategies must be interpreted in relation to the presenting deficits. Ayuk et al. reported outcomes in 33 patients, with conservative treatment selected for patients without visual deficits or with improving visual findings; deteriorating vision was the predominant indication for surgery [5]. This selection limits direct comparisons between strategies. Our patient had reduced visual acuity and bitemporal hemianopia and underwent transsphenoidal surgery, with subsequent improvement. Her course supports the possibility of favorable recovery after decompression but cannot demonstrate superiority over conservative treatment.

Visual recovery and endocrine recovery should be assessed separately. In the series by Sibal et al., normal pituitary function at follow-up was reported in only five surgically treated and two conservatively treated patients, despite frequent visual improvement [3]. Singh et al. likewise documented substantial long-term replacement needs, with thyroid hormone and cortisol replacement required by 62.7% and 60% of patients, respectively [6]. Persistent panhypopituitarism at 18 months in the present case is consistent with this pattern and supports continued endocrine surveillance despite symptomatic improvement.

Conclusion

Pituitary apoplexy may reveal a previously unsuspected pituitary adenoma in a patient presenting with sudden severe headache, vomiting, and visual disturbance. In this case, bitemporal hemianopia and anterior panhypopituitarism without diabetes insipidus accompanied supportive MRI findings, and histopathology favored a nonfunctioning adenoma. Transsphenoidal surgery and hormone replacement were followed by substantial ophthalmological and neurological improvement, while panhypopituitarism persisted at 18 months. This course illustrates the need to evaluate visual and endocrine outcomes independently and to maintain outpatient endocrine follow-up after improvement of the acute neurological presentation.

Patient Consent

Written informed consent was obtained from the patient for publication of this case report and the accompanying images.

References

1. Rajasekaran, S., Vanderpump, M., Baldeweg, S., Drake, W., Reddy, N., Lanyon, M., Markey, A., Plant, G., Powell, M., Sinha, S., & Wass, J. (2011). UK guidelines for the management of pituitary apoplexy. Clinical Endocrinology, 74(1), 9–20. https://doi.org/10.1111/j.1365-2265.2010.03913.x
2. Baldeweg, S. E., Vanderpump, M., Drake, W., Reddy, N., Markey, A., Plant, G. T., Powell, M., Sinha, S., Wass, J., & Society for Endocrinology Clinical Committee. (2016). Society for Endocrinology endocrine emergency guidance: Emergency management of pituitary apoplexy in adult patients. Endocrine Connections, 5(5), G12–G15. https://doi.org/10.1530/EC-16-0057
3. Sibal, L., Ball, S. G., Connolly, V., James, R. A., Kane, P., Kelly, W. F., Kendall-Taylor, P., Mathias, D., Perros, P., Quinton, R., & Vaidya, B. (2004). Pituitary apoplexy: A review of clinical presentation, management and outcome in 45 cases. Pituitary, 7(3), 157–163. https://doi.org/10.1007/s11102-005-1050-3
4. Goyal, P., Utz, M., Gupta, N., Kumar, Y., Mangla, M., Gupta, S., & Mangla, R. (2018). Clinical and imaging features of pituitary apoplexy and role of imaging in differentiation of clinical mimics. Quantitative Imaging in Medicine and Surgery, 8(2), 219–231. https://doi.org/10.21037/qims.2018.03.08
5. Ayuk, J., McGregor, E. J., Mitchell, R. D., & Gittoes, N. J. L. (2004). Acute management of pituitary apoplexy—surgery or conservative management? Clinical Endocrinology, 61(6), 747–752. https://doi.org/10.1111/j.1365-2265.2004.02162.x
6. Singh, T. D., Valizadeh, N., Meyer, F. B., Atkinson, J. L. D., Erickson, D., & Rabinstein, A. A. (2015). Management and outcomes of pituitary apoplexy. Journal of Neurosurgery, 122(6), 1450–1457. https://doi.org/10.3171/2014.10.JNS141204