



Contents lists available at bostonsciencepublishing.com

International Journal of Medical and Clinical Case Reports



Recurrent Hyperprolactinemia and Neuro-Endocrine Decompensation Following Self-Discontinuation of Cabergoline in a Patient with Partial Empty Sella Syndrome: A Case Report

Abdirizak Hussein Barre

Abdirizak Hussein Barre, MBBS, Mmed Neurology, Neurologist Doctor, Halab Hospital, Somalia, Email: abdirizak@alumni.siu.edu.so

ARTICLE INFO

Article history:

Received 30 August 2026

Revised 25 September 2026

Accepted 05 October 2026

Published : 08 October 2026

KEYWORDS:

Partial Empty Sella Syndrome,
Hyperprolactinemia,
Cabergoline,
Gynecomastia,
Pituitary Adenoma,
Medication Non-Adherence

ABSTRACT

Background: Partial empty sella syndrome (PESS) is frequently associated with underlying pituitary pathology, including prolactinoma, and can present with a broad spectrum of neurological and endocrine manifestations. Abrupt discontinuation of dopamine agonist therapy in patients with prolactin-secreting adenomas can precipitate rapid biochemical and clinical relapse.

Case Presentation: We report the case of a 56-year-old male with a 13-year history of pituitary gland enlargement, previously biochemically controlled on cabergoline, who presented with a one-month history of progressive headache, dizziness, fatigue, sleep disturbance, gynecomastia, nipple swelling, and reduced libido following self-discontinuation of cabergoline. Laboratory evaluation confirmed a rise in prolactin from 3.65 ng/mL (on therapy) to 19.57 ng/mL (off therapy), alongside newly identified hyperglycemia (HbA1c 8.5%) and hypertension. MRI of the brain/pituitary demonstrated a moderate-grade (Grade III) partial empty sella. The patient was restarted on cabergoline and referred for comprehensive endocrine evaluation.

Conclusion: this case highlights the risk of clinical and biochemical relapse following non-adherence to dopamine agonist therapy in patients with prolactin-related pituitary disease, and underscores the importance of multidisciplinary management encompassing endocrinology, neurology, psychological support, and cardiometabolic risk reduction.

©2026, Abdirizak Hussein Barre., This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited

Introduction

Empty sella syndrome results from herniation of the subarachnoid space into the sella turcica, leading to flattening of the pituitary gland against the sellar floor [1,12]. It may be primary (idiopathic) or secondary to prior pituitary pathology, surgery, radiotherapy, or infarction of a pituitary tumor. Partial empty sella is often an incidental radiological finding but can also be associated with pituitary hormonal dysfunction, particularly when there is a preceding history of a prolactin-secreting adenoma [2].

Dopamine agonists such as cabergoline remain first-line therapy for prolactinomas, both for biochemical normalization of prolactin and for tumor shrinkage.³ Non-adherence or abrupt self-discontinuation is a well-recognized cause of recurrent hyperprolactinemia and re-emergence of associated symptoms, including gynecomastia, sexual dysfunction, and headache [4-7]. We describe such a case, in a patient with a long-standing history of pituitary enlargement and partial empty sella, who self-discontinued cabergoline and experienced a marked resurgence of neuro-endocrine symptoms.

Case Presentation:

Patient information: A 56-year-old married male, businessman by occupation, presented to the outpatient clinic on 23 May 2026.

Chief complaint: Headache with dizziness, fatigue, sleep disturbance, nipple swelling, breast enlargement (gynecomastia), and reduced libido.

* Corresponding author.

Abdirizak Hussein Barre, MBBS, Mmed Neurology, Neurologist Doctor, Halab Hospital, Somalia, Email: abdirizak@alumni.siu.edu.so

History of present illness:

The patient reported chronic, recurrent, moderate-intensity headaches affecting the entire head, described as a heaviness/pressure sensation, associated with photophobia, phonophobia, and a hot sensation localized to the affected area, these were accompanied by dizziness, fatigue, and sleep disturbance, all progressive in nature.

On the reproductive/endocrine axis, he reported reduced libido, premature ejaculation, nipple swelling, and gynecomastia. He had self-discontinued cabergoline 0.5 mg approximately one month prior to presentation, after which his symptoms re-emerged and progressed, becoming more severe than previously experienced, the overall symptom pattern was considered suggestive of recurrent pituitary hormonal dysfunction secondary to non-adherence.

Past medical history pituitary gland enlargement, diagnosed in 2012.

Trauma and surgical history

- Head trauma in 2012, considered a possible precipitating event for his pituitary condition.
- No prior hospitalizations or surgical procedures.

Medication history

- Cabergoline 0.5 mg, twice weekly, initiated in 2013 for management of his pituitary condition.
- Self-discontinued all medications, including cabergoline,

approximately one month before presentation, without medical advice.

- Restarted cabergoline on 28 May 2026.
- Confirmed not taking any prolactin-raising agents (antipsychotics, metoclopramide, antidepressants, verapamil, or opioids).

Allergy history long-standing skin and ocular allergies; no known drug allergies.

Family history mother with diabetes mellitus. No other significant family history.

Social history: married, with a couple of children (youngest aged 3 months; patient confirmed to be fertile), businessman by occupation, and denies substance use (Tobacco or Khat).

General appearance: Conscious, tired, mildly dehydrated, with visible facial/head sweating; functionally independent.

Breast examination: Bilateral nipple swelling with breast enlargement consistent with gynecomastia.

Neurological Examination:

Mental status: alert and oriented to time, place, and person; mild short-term memory lapses; attention intact but concentration reduced; speech and language normal; mood notably aggressive with reduced frustration tolerance.

Cranial Nerves:

- CN I: Olfaction intact.
- CN II: funduscopy normal with mild retinal vascular compression noted.
- CN III/IV/VI: pupillary and extraocular movements normal, no nystagmus.
- CN V: facial sensation and jaw strength normal.
- CN VII: mild facial asymmetry noted.
- CN VIII: hearing reduced, left worse than right, with abnormal balance.
- CN IX/X: palatal movement, swallowing, and gag reflex intact.
- CN XI/XII: shoulder shrug and tongue movement normal.

Review of systems:

System	Findings
General	Fatigue, weakness, tiredness, dizziness, mild dehydration
Chest	Normal
Abdominal	Distended (gas)
Gastrointestinal	Chronic gastritis, constipation
Cardiac	Occasional palpitations
Respiratory	Mild intermittent dyspnea
HEENT	Headache with head sweating; allergic conjunctivitis with dryness (vision intact); reduced hearing (left > right); rhinitis; throat normal
Genitourinary	Benign prostatic hyperplasia; left renal stone; bilateral mild testicular/scrotal swelling and pain; no polyuria
Skin	Dry skin, muscle wasting, scalp/head sweating
Male reproductive	Reduced libido, premature ejaculation; fertility preserved

Vital signs (serial)

Date	BP (mmHg)	Pulse (bpm)
23.05.2026	135/60	80
24.05.2026	145/85	80
25.05.2026	140/80	80
26.05.2026	140/75	65
28.05.2026	150/80	80

On presentation: BP 145/80 mmHg, Pulse 80/min, RR 20/min, Temp 37.0°C, SpO₂ 96%.

Coordination/gait: finger-nose and heel-shin testing normal; no dysdiadochokinesia; mildly positive Romberg sign; gait grossly normal with slight ataxic component.

Motor: muscle wasting noted; mild hypotonia predominantly in the upper limbs, right greater than left. Power testing showed asymmetric grip strength (right hand able to lift 8 kg vs. left hand 11 kg); lower limb strength preserved and better than upper limbs.

Sensory: superficial and deep sensation intact throughout (pain, temperature, light touch, vibration, joint position); cortical sensation (stereognosis, graphesthesia) intact.

Reflexes: deep tendon and superficial reflexes normal and symmetric; plantar responses flexor bilaterally; no pathological reflexes.

Meningeal signs: negative (no nuchal rigidity; Kernig's and Brudzinski's signs negative).

Autonomic: excessive sweating noted; no orthostatic hypotension, bladder, or bowel dysfunction.

Neuroimaging: MRI of the brain/pituitary demonstrated findings consistent with a partial empty sella, moderate grade (Grade III) [1].

Assessment / Differential Diagnosis:

Primary Diagnosis

- Partial Empty Sella Syndrome (Moderate, Grade III), with MRI evidence of a chronic structural pituitary change.

Associated Endocrine/Pituitary Disorders

- History of hyperprolactinemia, likely secondary to a prolactinoma, previously biochemically controlled on cabergoline; recurrence temporally associated with medication self-discontinuation.
- Pituitary hormonal dysfunction, most consistent with a prolactin-secreting adenoma affecting the hypothalamic-pituitary axis.

Metabolic and Cardiovascular Comorbidities

- Newly identified diabetes mellitus (HbA1c 8.5%), currently under evaluation; patient has declined pharmacologic treatment.
- Newly identified hypertension, currently under evaluation; patient has declined antihypertensive therapy.

Reproductive/Androgen-Related Manifestations

- Reduced libido, premature ejaculation, and gynecomastia, consistent

Investigations:

Test	Result	Reference Range
Prolactin	3.65 ng/mL	2.52–13.23 ng/mL
Total PSA	5.7 ng/mL	0–4 ng/mL
ALT	23 U/L	7–50 U/L
LDL-C	78 mg/dL	100–129 mg/dL
Creatinine	0.8 mg/dL	0.5–1.35 mg/dL
Calcium	8.8 mg/dL	8.5–10.5 mg/dL
ESR	5 mm/hr	0–15 mm/hr
Glucose (random)	137.8 mg/dL	70–126 mg/dL

Hormonal and Biochemical Profile — After 3 Weeks Off Cabergoline (26 May 2026)

Test	Result	Reference Range
Prolactin	19.57 ng/mL	Males: <20 ng/mL
Testosterone	4.17 ng/mL	2.6–10.45 ng/mL
T3	1.33 nmol/L	1.3–3.1 nmol/L
T4	101.98 nmol/L	66–181 nmol/L
TSH	2.09 mIU/L	0.3–4.2 mIU/L
FBS	105.6 mg/dL	70–110 mg/dL
HbA1c	8.5%	4.5–6.5%

Note: Total PSA (5.7 ng/mL) was mildly elevated above the standard reference range and, together with reported BPH, warrants urological correlation.

Neuroimaging: MRI of the brain/pituitary demonstrated findings consistent with a partial empty sella, moderate grade (Grade III) [1].

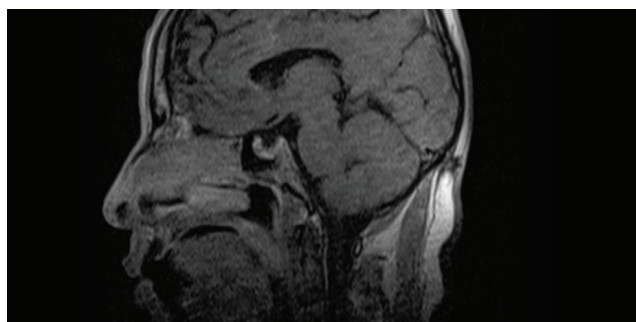


Figure 1: Midline sagittal T1-weighted MRI of the brain/pituitary region. The sella turcica is enlarged and predominantly CSF-filled, with a thin rim of residual pituitary tissue flattened against the sellar floor — findings consistent with a moderate-grade (Grade III) partial empty sella.

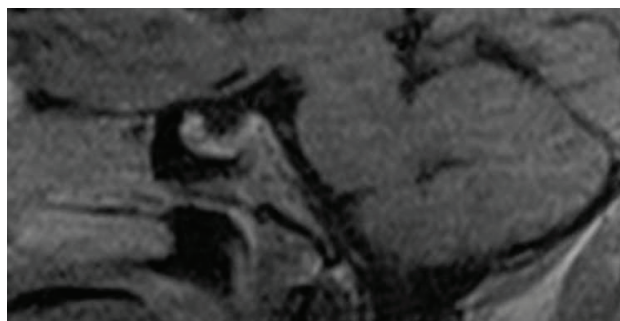


Figure 2: Magnified sagittal view of the sellar region, demonstrating the empty sella with a thinned, flattened pituitary gland along the floor of the sella and an intact pituitary stalk traversing the CSF-filled sellar space.

with hyperprolactinemia-associated hypogonadal features.

Management and follow-up:

- Reinitiation of cabergoline therapy (restarted 28.05.2026).
- Referral to endocrinology for comprehensive assessment of pituitary function and optimization of dopamine agonist therapy.
- Referral to general/plastic surgery for evaluation of gynecomastia.

- Psychological consultation to address behavioral changes (aggression) and to support treatment adherence.
- Ophthalmology review recommended if visual symptoms progress, including formal screening for bitemporal hemianopia.
- Counselling provided regarding cardiovascular and neurological risks of untreated hypertension and diabetes; patient continues to decline pharmacologic initiation for these conditions at this time.

Despite reinitiation of treatment, the patient continued to experience persistent neurological and endocrine symptoms, prompting formal specialist referral for further evaluation and long-term management, specifically requesting:

- Comprehensive endocrine assessment for pituitary insufficiency.
- Full hormonal profile evaluation.
- Optimization of dopamine agonist therapy.
- Consideration of advanced management options and long-term follow-up planning.

Discussion:

This case illustrates several clinically important points:

First, it demonstrates the rapidity and severity with which hyperprolactinemia-related symptoms can recur following discontinuation of dopamine agonist therapy, even after years of stable biochemical control — prolactin rose from within the normal treated range (3.65 ng/mL) to near the upper limit of normal (19.57 ng/mL) within three weeks of stopping cabergoline, accompanied by a marked resurgence in gynecomastia, sexual dysfunction, headache, and neurological complaints [5,7].

Second, the coexistence of partial empty sella with a history of prolactinoma is a recognized pattern, thought to reflect either spontaneous infarction/involution of the adenoma or a component of a primary empty sella process [2]. The mild focal neurological findings (asymmetric upper limb power, mild facial asymmetry, reduced hearing, autonomic sweating abnormalities) raise the possibility of additional structural or functional contributions and merit correlation with detailed pituitary and skull-base imaging, as well as consideration of alternative or coexisting diagnoses.

Third, this case underscores the broader challenge of treatment non-adherence in chronic pituitary disease, compounded here by the patient's concurrent reluctance to initiate treatment for newly diagnosed hypertension and diabetes. A multidisciplinary approach incorporating endocrinology, neurology, psychology, and primary care is essential both to manage the biochemical and structural pituitary disease and to address the behavioral and psychosocial barriers to adherence.

Limitations:

This is a single case report based on outpatient clinical documentation, and formal pituitary dynamic testing (e.g., additional anterior pituitary hormone panel, dedicated visual field testing) was not detailed in the available records.

Causality between the empty sella finding and the patient's neurological signs cannot be firmly established from this presentation alone.

Conclusion:

Self-discontinuation of dopamine agonist therapy in a patient with a history of prolactinoma and partial empty sella syndrome resulted in rapid recurrence of hyperprolactinemia-associated symptoms, alongside incidental identification of new-onset hypertension and diabetes mellitus.

This case reinforces the importance of medication adherence counseling, regular endocrine follow-up, and a coordinated multidisciplinary management plan in patients with chronic pituitary disease.

Declarations:

Consent for publication: The patient provided verbal consent, and his personal information is not being published.

Conflict of Interest: None declared.

Funding: None.

Author Contributions: None

Acknowledgments: None or Referring endocrinologist, radiology team

References

1. Dekkers OM, Lagro J, Burman P, Jørgensen JOL, Romijn JA, Pereira AM. Recurrence of hyperprolactinemia after withdrawal of dopamine agonists: systematic review and meta-analysis. *J Clin Endocrinol Metab.* 2010;95(1):43–51.
2. Yuh WT, Zhu M, Taoka T, Quets JP, Maley JE, Muhonen MG, et al. MR imaging of pituitary morphology in idiopathic intracranial hypertension. *J Magn Reson Imaging.* 2000;12(6):808–813.
3. Sharifi G, Mohammadi E, Paraandavaji E, Tavangar SM, Dabbagh Ohadi MA, Jafari A, et al. Empty sella in somatotrophic pituitary adenomas; a series of 23 cases. *Front Surg.* 2024;11:1350032.
4. Melmed S, Casanueva FF, Hoffman AR, Kleinberg DL, Montori VM, Schlechte JA, Wass JAH. Diagnosis and treatment of hyperprolactinemia: an Endocrine Society clinical practice guideline. *J Clin Endocrinol Metab.* 2011;96(2):273–288.
5. Colao A, Di Sarno A, Cappabianca P, Di Somma C, Pivonello R, Lombardi G. Withdrawal of long-term cabergoline therapy for tumoral and nontumoral hyperprolactinemia. *N Engl J Med.* 2003;349(21):2023–2033.
6. Kharlip J, Salvatori R, Yenokyan G, Wand GS. Recurrence of hyperprolactinemia after withdrawal of long-term cabergoline therapy. *J Clin Endocrinol Metab.* 2009;94(7):2428–2436.
7. Zou Y, Li D, Gu J, Chen S, Wen X, Dong J, Jiang X. The recurrence of prolactinoma after withdrawal of dopamine agonist: a systematic review and meta-analysis. *BMC Endocr Disord.* 2021;21:225.

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER



Submit your manuscript to Boston science publishing journal and benefit from:

- Convenient online submission
- Rigorous peer review
- Immediate publication on acceptance
- Open access: articles freely available online
- High visibility within the field
- Retaining the copyright to your article

Submit your manuscript at
submission@bostonsciencepublishing.com