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Behind the Sella: A Rare Case of Pituicytoma Mimicking a Pituitary Adenoma

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Study Design A
Data Collection B
Statistical Analysis C
Data Interpretation D
Manuscript Preparation E
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Patient: Male, 48-year-old
Final Diagnosis: Pituicytoma
Symptoms: Decreased libido • erectile dysfunction • headache • visual acuity worsening • weight gain
Clinical Procedure: —
Specialty: Endocrinology and Metabolic • Neurosurgery

Objective: Rare disease

Background: Pituicytoma is a rare central nervous system (CNS) World Health Organization (WHO) grade I glioma originating from pituicytes, the specialized glial cells of the neurohypophysis or infundibulum. It accounts for less than 0.1% of all sellar and suprasellar masses and often presents a diagnostic challenge because of its clinical and radiological resemblance to other pituitary lesions.

Case Report: A 48-year-old man was admitted to the endocrinology clinic because of clinical symptoms of hypogonadism, headaches, and visual field defects. Hormonal evaluation revealed hypogonadotropic hypogonadism and hyperprolactinemia. Magnetic resonance imaging (MRI) demonstrated a sellar-suprasellar mass, initially suggestive of prolactinoma. Lack of response to initial hormone replacement therapy, progressive tumor enlargement, and worsening visual impairment, prompted surgical resection via a right-temporal craniotomy. Histopathological and immunohistochemical examination established the diagnosis of pituicytoma (CNS WHO Grade 1). The postoperative course was complicated by transient cognitive impairment and endocrine deficiencies requiring long-term hormonal replacement therapy. We also review the epidemiology, clinical presentation, and current therapeutic approaches for this uncommon tumor.

Conclusions: Pituicytoma is a rare benign tumor that may closely mimic pituitary adenoma, both clinically and radiologically. Clinical manifestations are non-specific and primarily reflect tumor size and local extension. MRI findings are not pathognomic, making histopathological confirmation essential. Surgical resection remains the treatment of choice, whereas radiotherapy may be considered after subtotal resection. The case underscores the importance of recognizing hyperprolactinemia secondary to pituitary stalk compression, careful endocrine interpretation, individualized surgical planning, and prolonged multidisciplinary follow-up, given the uncertain long-term prognosis and potential endocrine sequelae.

Keywords: Endocrine System Diseases • Pituitary Diseases • Rare Diseases • Sella Turcica

Full-text PDF: https://www.amjcaserep.com/abstract/index/idArt/953658

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Introduction

Pituicytoma is a rare benign neoplasm that originates from neurohypophyseal pituicytes of the neurohypophysis or infundibulum, accounting for less than 0.1% of all sellar and suprasellar masses. The first case report of this tumor available in the literature dates back to 1958, when it was diagnosed at autopsy in a 47-year old woman who underwent radiotherapy and was operated on twice for macroadenoma [1]. Authors proposed the term "pituicytoma" to name this type of tumor for the first time. Over the next few decades, several case reports appeared, which were then reviewed and summarized by Brat et al in 2000 [2]. In 2007, pituicytoma was finally recognized in the World Health Organization (WHO) classification of tumors of the central nervous system (CNS) as a separate entity – low-grade glial neoplasm of the sellar region [3].

Based on the latest 2021 WHO classification of CNS tumors, pituicytoma is defined as a rare, slow-growing glial spindle-cell neoplasm arising from neurohypophysis, often characterized by high vascularity, with thyroid transcription factor-1 (TTF-1), vimentin, and S100 expression being its immunohistochemical markers [4]. Magnetic resonance imaging (MRI) usually reveals a well-circumscribed homogenous intra- or suprasellar lesion with no specific findings that distinguish it from a more common pituitary adenoma [1,5]. Clinical findings vary with tumor size and location, usually resulting from mass effect and pituitary hormonal insufficiency. Thus, its clinical and radiological features often mimic the far more common pituitary adenomas, making the diagnosis challenging and frequently leading to initial misclassification. With histopathological examination being the cornerstone of diagnosis, pituicytoma becomes an unexpected postoperative finding of unknown prognosis.

Due to its rarity and lack of study cohorts, diagnostic and therapeutic recommendations are still lacking. We hereby report a case of pituicytoma presenting as a presumed pituitary macroadenoma. The purpose of this case report is to describe the clinical presentation, radiological findings, and management of this tumor in order to contribute to the limited existing knowledge on this rare neoplasm. The report seeks to highlight the diagnostic challenges associated with its preoperative misdiagnosis as pituitary adenoma and to emphasize the need to include it in differential diagnoses of sellar lesions presenting with endocrinopathy in order to improve surgical planning and patient management.

Case Report

A 48-year-old man with no significant previous medical history was admitted to the endocrinology clinic due to erectile dysfunction, decreased libido, weight gain, and recurrent headaches. Physical examination revealed features of hypogonadism: scanty facial hair and absence of hair on the lower extremities, gynecomastia without nipple discharge, and reduced testicular volume. Initial hormonal evaluation revealed hypogonadotropic hypogonadism, hyperprolactinemia with a blunted response to the metoclopramide stimulation test, secondary hypothyroidism and decreased concentration of insulin-like growth factor 1 (IGF-1). A summary of laboratory findings is presented in **Table 1**.

MRI of the pituitary gland identified a snowman-shaped sellar and suprasellar mass measuring approximately 17 × 20 × 27 mm. The lesion appeared isointense on T1-weighted images and showed strong, slightly heterogeneous contrast enhancement. It was compressing the optic chiasm and was adjacent to the internal carotid arteries. Preoperative MRI findings are presented in **Figure 1**.

Visual field examination demonstrated constriction in the right eye to approximately 40 to 50° superiorly, and to approximately 30° inferiorly and nasally. In the left eye, constriction to approximately 40° superiorly and to approximately 50° inferiorly and nasally was observed. The results of perimetric examinations are presented in **Figures 2 and 3**.

Based on hormonal test results, local visual field defects, and MRI findings, the patient was diagnosed with a pituitary macroadenoma and referred to a neurosurgeon who did not recommend surgical intervention. Treatment with cabergoline and levothyroxine was thus initiated.

At the 3-month follow-up, an excessive decrease in prolactin levels was observed, which was not typical for the initially suspected prolactinoma. The patient discontinued cabergoline due to side effects, including breast tenderness and lack of improvement in hypogonadism symptoms. Testosterone replacement therapy was subsequently started. A follow-up MRI was performed 6 months later and revealed enlargement of the sellar and suprasellar lesion to 19 × 20 × 29 mm (**Figure 1**).

At the 6-month follow-up visit, laboratory evaluation demonstrated adequate thyroid hormone and testosterone replacement, preserved corticotropic pituitary axis function, and persistently low serum prolactin levels (**Table 2**). The latter finding may have resulted from lactotroph damage caused by the tumor.

Due to tumor progression, the patient was referred for a neurosurgical re-evaluation; however, he postponed the consultation for another 6 months, during which the lesion further enlarged. Another follow-up MRI revealed enlargement of the sellar and suprasellar lesion to 22 × 21 × 29 mm with compression of the optic chiasm and adhesion to the internal carotid

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Table 1. Baseline hormonal parameters at diagnosis.

Hormone	Result	Normal reference range
LH	2.1 mIU/mL	1.7-8.6 mIU/mL
FSH	3.3 mIU/mL	1.5-12.4 mIU/mL
TT	0.41 ng/mL	2.8-8.0 ng/mL
SHBG	45.3 nmol/L	18.3-54.1 nmol/L
PRL	633.3 µIU/mL	86-324 µIU/mL
PRL 30 min after MTC	1170.0 µIU/mL	increase ≥ 300%
PRL 60 min after MTC	910.3 µIU/mL	
TSH	2.88 µIU/mL	0.27-4.2 µIU/mL
FT4	11.1 pmol/L	12-22 pmol/L
FT3	3.6 pmol/L	3.1-6.8 pmol/L
IGF-1	56.1 ng/mL	82.6-209.0 ng/mL
ACTH	24.0 pg/mL	4.7-48.8 pg/mL
Morning serum cortisol	19.26 µg/dL	6.02-18.4 µg/dL

ACTH, adrenocorticotropic hormone; FSH, follicle-stimulating hormone; FT4, free tetraiodothyronine; FT3, free triiodothyronine; IGF-1, insulin-like growth factor 1; LH, luteinizing hormone; MTC, metoclopramide; PRL, prolactin; SHBG, sex hormone-binding globulin; TSH, thyroid stimulating hormone; TT, total testosterone.

arteries. The tumor also caused impression on the dorsal part of the pituitary gland and adjacent temporal and frontal lobes, with associated swelling (**Figure 1**).

Visual field testing of the right eye demonstrated superior visual field limitation to approximately 40 to 50°, and inferior and nasal limitation to approximately 30°, with absolute and relative paracentral scotomas. In the left eye, superior, inferior, and nasal visual field limitation to approximately 30° was observed, representing slight improvement (**Figures 2, 3**).

Owing to the clinical progression of relatively rapid tumor growth and worsening visual function, 1 year after initial diagnosis, the patient underwent right-temporal craniotomy. The surgical approach was selected at the discretion of the operating neurosurgeon. Detailed intraoperative findings, including a comprehensive description of the lesion morphology and intraoperative photographic documentation, were not available to the authors.

Histopathological examination revealed multiple fragments of brown tissue with a total diameter of 2 cm on gross inspection. Microscopic examination demonstrated a low-grade spindle-cell neoplasm of uncertain histogenesis. Immunohistochemical studies showed weak focal epithelial membrane antigen positivity (+/-) in scattered tumor cells, progesterone receptor negativity, diffuse vimentin positivity, and glial fibrillary acidic protein positivity in a subset of cells. The tumor was negative for Olig2, CD34, smooth muscle actin, desmin, CD117, Melan-A, SOX10, and IDH1/R132H. Beta-catenin exhibited membranous staining, while ATRX gene expression was retained. Additional findings included CD99 positivity, increased p53 expression, diffuse S100 positivity, and nuclear positivity for TTF-1. Cytokeratin AE1/AE3 staining was negative. The Ki-67 proliferation index was below 5%. The overall morphological and immunohistochemical profile was consistent with pituicytoma, CNS WHO Grade 1.

Postoperatively, the patient developed short-term memory disorders, secondary adrenal insufficiency, and diabetes insipidus. Consequently, replacement therapy with hydrocortisone and desmopressin was initiated.

Four months after surgery, the patient was admitted for hormonal re-evaluation. Physical examination revealed gynecomastia and a well-healed craniotomy scar. Biochemical assessment demonstrated persistent postoperative diabetes insipidus, as well as insufficiencies in corticotropic, gonadotropic, and thyrotropic axes. A summary of postoperative laboratory results is presented in **Table 3**.

Follow-up MRI demonstrated a slightly heterogeneous pituitary gland measuring approximately 6 mm (height), 11 mm (width), 16 mm (length), with non-visualization of the pituitary

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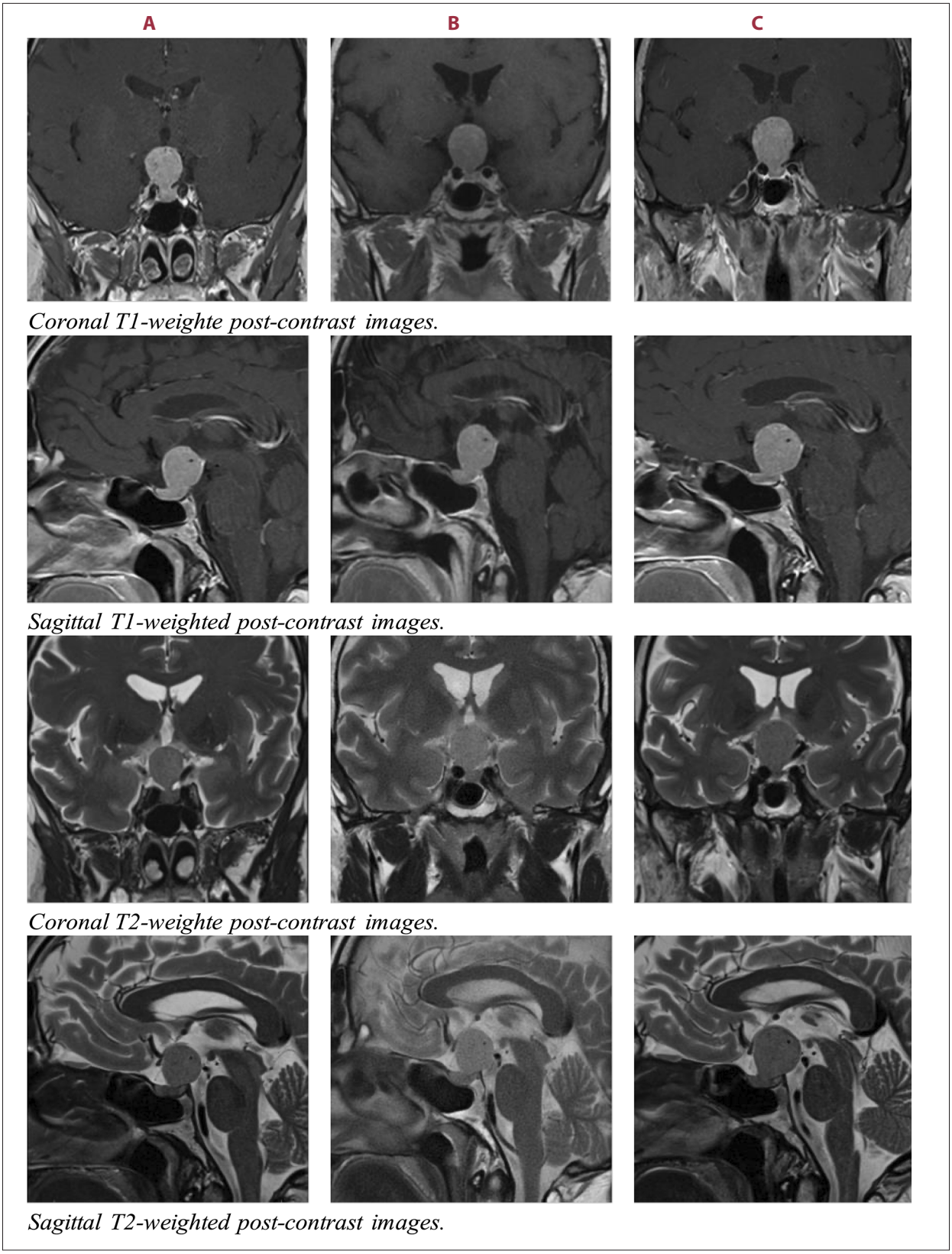

Figure 1. Magnetic resonance imaging (MRI) of the pituitary gland demonstrating the lesion. Column **A**: at diagnosis. Column **B**: at 6-month follow-up. Column **C**: at 12-month follow-up.

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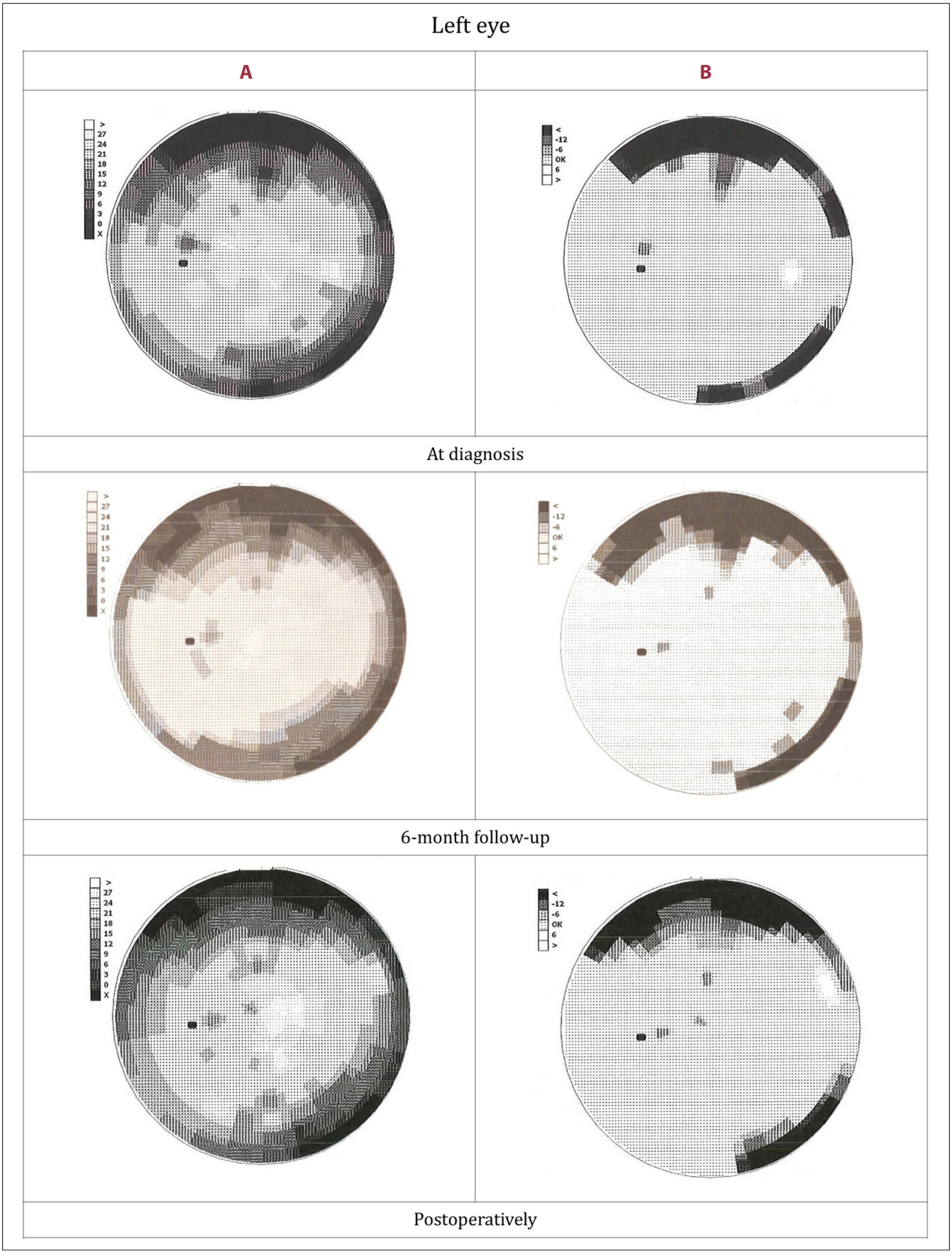

Figure 2. Visual field examination of the left eye at diagnosis, at 6-month follow-up, and postoperatively. Column **A**: absolute values (dot scale). Column **B**: deviation from age-matched norms (dot scale).

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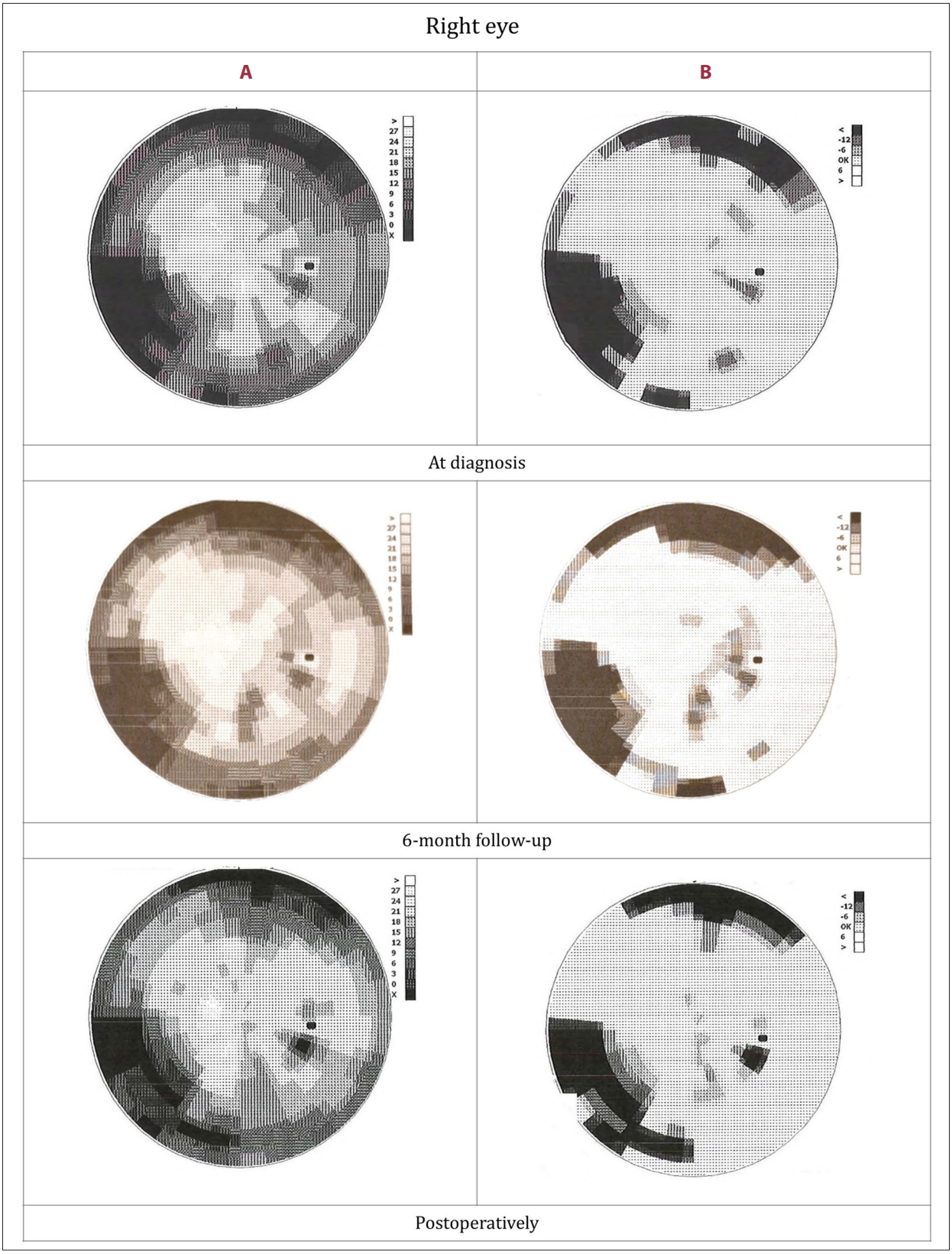

Figure 3. Visual field examination of the right eye at diagnosis, at 6-month follow-up, and postoperatively. Column **A**: absolute values (dot scale). Column **B**: deviation from age-matched norms (dot scale).

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Table 2. Hormonal parameters at 6-month follow-up.

Hormone	Result	Normal reference range
LH	1.0 mIU/mL	1.7-8.6 mIU/mL
FSH	2.2 mIU/mL	1.5-12.4 mIU/mL
TT	8.58 ng/mL	2.8-8.0 ng/mL
PRL	39.3 µIU/mL	86-324 µIU/mL
TSH	1.52 µIU/mL	0.27-4.2 µIU/mL
FT4	12.6 pmol/L	12-22 pmol/L
FT3	4.3 pmol/L	3.1-6.8 pmol/L
IGF-1	107.9 ng/mL	82.6-209.0 ng/mL
Morning serum cortisol	15.53 µg/dL	6.02-18.4 µg/dL

FSH, follicle-stimulating hormone; FT4, free tetraiodothyronine; FT3, free triiodothyronine; IGF-1, insulin-like growth factor 1; LH, luteinizing hormone; PRL, prolactin; TSH, thyroid stimulating hormone; TT, total testosterone.

Table 3. Hormonal test results at 4 months postoperatively.

Hormone	Result	Normal reference range
LH	< 0.1 mIU/mL	1.7-8.6 mIU/mL
FSH	< 0.3 mIU/mL	1.5-12.4 mIU/mL
TT	< 0.025 ng/mL	2.8-8.0 ng/mL
PRL	117.4 µIU/mL	86-324 µIU/mL
TSH	< 0.005 µIU/mL	0.27-4.2 µIU/mL
FT4	15.9 pmol/L	12-22 pmol/L
FT3	4.6 pmol/L	3.1-6.8 pmol/L
IGF-1	76.1 ng/mL	82.6-209.0 ng/mL
ACTH	4.2 pg/mL	4.7-48.8 pg/mL
Morning serum cortisol	0.15 µg/dL	6.02-18.4 µg/dL
Cortisol 30 min after tetracosactide	2.09 µg/dL	≥ 18 µg/dL
Cortisol 60 min after tetracosactide	3.24 µg/dL	≥ 18 µg/dL
Urine specific gravity	1.005 g/L	1.003-1.030 g/L

ACTH, adrenocorticotropic hormone; FSH, follicle-stimulating hormone; FT4, free tetraiodothyronine; FT3, free triiodothyronine; IGF-1, insulin-like growth factor 1; LH, luteinizing hormone; PRL, prolactin; TSH, thyroid stimulating hormone; TT, total testosterone.

infundibulum. A lesion measuring 3 × 3 × 4 mm, likely representing either residual mass or postoperative changes was noted. Additionally, the normal posterior pituitary bright spot was absent on pre-contrast T1-weighted images (**Figure 1**). Given the small size of the residual lesion and the typically indolent behavior of pituicytoma, a conservative approach with regular MRI surveillance was adopted. In the absence of clinical progression, no further immediate surgical or adjuvant treatment was indicated, considering the risks associated with reoperation in the sellar region.

Postoperative visual field testing confirmed improvement in the right eye. Constriction in the right eye to approximately 40 to 50° superiorly, and to approximately 30 to 50° inferiorly and nasally was observed. In the left eye, constriction to approximately 40 to 50° superiorly and to approximately 50° inferiorly

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and nasally was observed (**Figures 2, 3**). The patient's short-term memory disorders resolved with no further treatment. Substitutive therapy with hydrocortisone, levothyroxine, desmopressin, and testosterone (after exclusion of contraindications) was continued.

Follow-up MRI at 4 months and at 12 months showed no evidence of growth of the tumor remnant (**Figure 4**). A summary of laboratory results at 10 months postoperatively is presented in **Table 4**. At the time of this report, the patient remained under ongoing observation, with continued hormonal monitoring and a follow-up brain MRI planned.

Discussion

Pituicytoma is a rare, benign, slow-growing neoplasm that originates from pituicytes, the specialized glial cells of the neurohypophysis or infundibulum. The first literature reports describing pituicytoma date back to 1958, and it was only in 2007 when it was recognized by the WHO as a distinct entity. In 2021 pituicytoma was officially included in the WHO Classification of Tumors of the Central Nervous System as a low-grade glial neoplasm (WHO Grade I) [6,7].

Epidemiology

Only approximately 200 cases of pituicytoma have been reported to date [8,9]. The average age of diagnosis is 49 years, with no gender predisposition [7,10-12].

Radiological Features and Histopathological Findings

The pituicytoma location in the sellar and suprasellar region may cause the lesion to be misdiagnosed as a pituitary adenoma, or as a craniopharyngioma or meningioma [12]. On MRI, pituicytomas usually present as well-defined lesions that are iso- or hypointense on T1-weighted images and iso- or hyperintense on T2-weighted images, with strong uniform enhancement after contrast administration. In the literature, tumor size ranges from 4 to 70 mm. There are no distinctive imaging characteristics, hence the tumor is often mistaken for other more common lesions of the region and final diagnosis is based on the results of the histopathological and immunohistochemical examination [6,10,13]. Histopathologically, pituicytomas are characterized by bipolar spindle-shaped cells organized in a fascicular or storiform pattern. Immunohistochemical analysis of pituicytomas will show high expression of TTF-1, vimentin, and S100 expression [14].

Only a few cases of coexistence of pituicytoma and pituitary adenoma have been reported. The rare entity of 2 or more histopathologically different tumors coexisting within the sellar region is called a "collision sellar lesion" [15,16,17].

Clinical Manifestation

The symptoms of pituicytoma vary depending on the size and location of the neoplasm, and are usually a consequence of the mass effect of the tumor [7,12]. Symptoms related to the disruption of hormone secretion of the anterior and posterior pituitary gland may also occur [10,18]. The most common of these are hyperprolactinemia (25.4%), hypopituitarism (19.6%), low testosterone in men (9.8%), and diabetes insipidus (3.9%) [19]. Published data have reported a range of signs and symptoms, of which the most frequent include: visual disturbances, headache, endocrine disturbance, decreased libido, vertigo, polydipsia, and polyuria [11,12,20].

Treatment

As pituicytomas are rare, no specific treatment has yet been recommended. Surgery remains the primary therapeutic option, with both endoscopic transnasal transsphenoidal surgery and craniotomy considered effective [11], although in asymptomatic patients watchful waiting might also be pursued. The decision regarding surgical approach (endoscopic transnasal transsphenoidal surgery or craniotomy) should be determined by crucial factors, including surgeon experience, tumor morphology, adhesion of neurological structures, and risk of intraoperative bleeding [9]. Transsphenoidal surgery, compared with open transcranial surgery, is less likely to cause postoperative complications, particularly visual deterioration and other neurological deficits, among which hemiparesis and cranial nerve palsies have been reported [5,16].

Complete resection is a fundamental goal of surgery because it results in better tumor control and prognosis. A review of previous literature by Ogiwara et al found that non-gross total resection of the tumor is a significant factor for recurrence [21]. However, surgical removal seems to be challenging due to the risk of bleeding related to the highly vascularized nature of pituicytoma tumors [7,20,21]. Intraoperative spontaneous hemorrhage often restricts complete surgical removal; thus, preoperative embolization might be considered when pituicytoma is suspected [22]. Furthermore, the location of the neoplasm, its size, and its close adherence to adjacent neurological structures can force the surgeon to perform subtotal resection.

The main postoperative complications include hypopituitarism, transient or permanent diabetes insipidus, and visual impairment [11,12]. While tumor recurrence is rare (less than 10%), additional radiotherapy may be required in cases with non-gross total resection, particularly with high Ki-67 index. In case of regrowth, reoperation is advised [14]. In view of the

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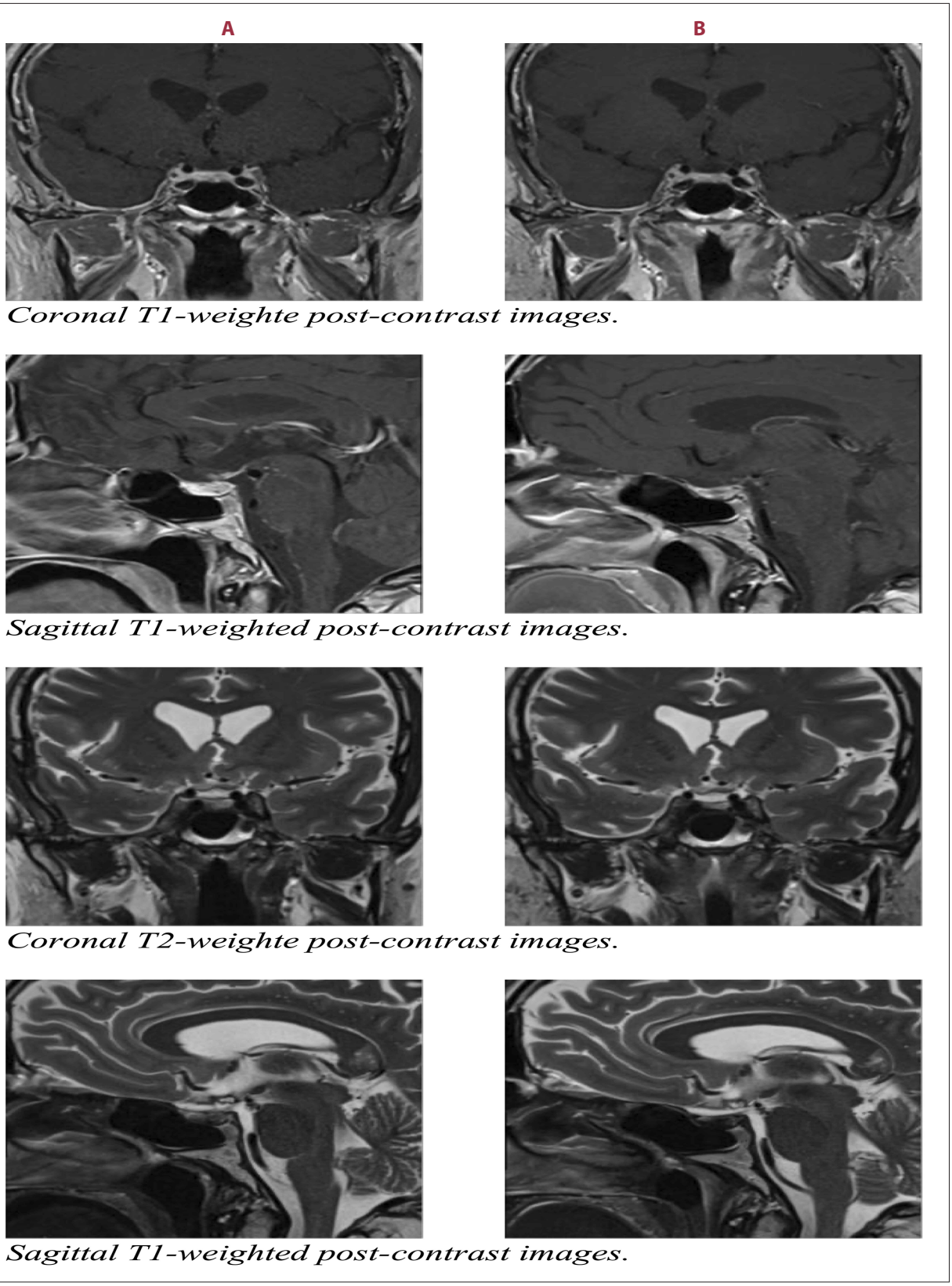

Figure 4. Magnetic resonance imaging (MRI) of the pituitary gland demonstrating the lesion: (**A**) 4 months postoperatively; (**B**) 12 months postoperatively.

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Table 4. Hormonal test results at 10 months postoperatively.

Hormone	Result	Normal reference range
LH	< 0.1 mIU/mL	1.7-8.6 mIU/mL
FSH	< 0.3 mIU/mL	1.5-12.4 mIU/mL
TT	12.9 ng/mL	2.8-8.0 ng/mL
PRL	191.6 µIU/mL	86-324 µIU/mL
TSH	0.005 µIU/mL	0.27-4.2 µIU/mL
FT4	21.3 pmol/L	12-22 pmol/L
FT3	7.0 pmol/L	3.1-6.8 pmol/L
Morning serum cortisol	0.1 µg/dL	6.02-18.4 µg/dL
Cortisol 60 min after tetracosactide	1.07 µg/dL	≥ 18 µg/dL
Urine specific gravity	1.015 g/L	1.003-1.030 g/L

FSH, follicle-stimulating hormone; FT4, free tetraiodothyronine; FT3, free triiodothyronine; LH, luteinizing hormone; PRL, prolactin; TSH, thyroid stimulating hormone; TT, total testosterone.

rarity of data and lack of randomized trials, prognosis is not well characterized; therefore, patients after surgical treatment require multidisciplinary follow-up. Endocrine dysfunction that may present both at diagnosis and after surgery poses serious cardiovascular and metabolic long-term risks and affects patients' quality of life. This underscores the importance of careful pre- and postoperative evaluation.

Authors' Observations

In the present case, a middle-aged patient with hypogonadism and central hypothyroidism was found on MRI to harbor a sellar-suprasellar mass consistent with a presumed pituitary macroadenoma. Due to initial hormonal test results, the predominant prevalence of prolactinoma among pituitary tumors, and the absence of acute neuro-ophthalmological compromise, initial management was conservative, with levothyroxine and cabergoline. However, during follow-up, the lesion demonstrated relatively rapid radiological progression accompanied by worsening visual field defects, while the initial response to cabergoline was rapid and excessive, suggestive of stalk effect rather than hormone production by adenoma. This prompted surgical intervention, and a right-temporal craniotomy was performed. The authors have no information on why an open craniotomy was chosen over a transsphenoidal approach; presumably, carotid adhesion might have posed a need for a wider operative angle to reduce the risk of vascular injury. Additionally, the chosen surgical access may have been influenced by the relatively rapid growth of the lesion and its occurrence in a male patient which could have suggested an aggressive pituitary tumor. Histopathological examination established the diagnosis of pituicytoma.

In contrast with the cases reported in the literature, no evidence of a collision lesion was identified in the present case. Preoperative MRI demonstrated a single, continuous sellar-suprasellar mass without radiological features suggestive of dual pathology, and both intraoperative and histopathological findings confirmed a single tumor entity.

Preoperative hyperprolactinemia proved to be secondary to the "stalk effect" of the large sellar-suprasellar mass. Compression and distortion of the pituitary stalk impaired hypothalamic dopaminergic inhibition of lactotroph cells, resulting in increased prolactin secretion. In addition, mass effect on the pituitary gland contributed to central hypopituitarism and decreased IGF-1 levels due to compression of normal adenohypophyseal tissue. The marked suprasellar extension and compression of adjacent structures observed on MRI support disruption of hypothalamic–pituitary function as the underlying mechanism of both hyperprolactinemia and pituitary hormone deficiency. Postoperatively, the patient developed transient short-term memory impairment, which subsequently resolved with no further treatment. It was most likely related to surgical manipulation and postoperative edema involving adjacent temporal and frontal lobe structures previously compressed by the tumor. Temporary dysfunction of medial temporal–limbic pathways may have contributed to reversible cognitive deficits following the transcranial procedure. Endocrine complications including secondary adrenal insufficiency and diabetes insipidus also developed postoperatively, due to surgical manipulation and injury to the hypothalamic–pituitary axis, representing frequent complications following surgery in the sellar and suprasellar region. Long-term follow-up revealed persistent panhypopituitarism requiring continued hormonal replacement.

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The clinical course of our case is consistent with observations from the literature on pituicytomas. These rare, low-grade tumors of the neurohypophysis are frequently misdiagnosed preoperatively as pituitary adenomas with misdiagnosis rates exceeding 60% in some series [23]. Although often slow-growing, they can present with progressive visual impairment due to optic chiasm compression, necessitating surgical treatment. Their marked vascularity and firm consistency often make resection challenging and frequently require transcranial approaches rather than standard transsphenoidal surgery. Postoperative endocrine dysfunction is common: hypopituitarism and diabetes insipidus are among the most frequently reported complications, occurring in a substantial proportion of patients [11].

Overall, the presented case reflects the diagnostically challenging course of pituicytoma: initial misclassification as macroadenoma, delayed surgical intervention until visual deterioration, technically demanding resection, transient neurocognitive impairment (reflecting the complexity of surgery in this region), and a persistent postoperative hypopituitarism despite neurological recovery.

Conclusions

We report a case of pituicytoma, a rare sellar and suprasellar tumor, classified as a WHO Grade I glioma arising from neurohypophyseal pituicytes in the neurohypophysis or infundibulum. It typically affects middle-aged individuals, with no clear gender predilection. The most common clinical manifestations include visual disturbances, headaches, and hypopituitarism, while vertigo is less frequently reported. As MRI lacks specific features for pituicytoma, the tumor is often misdiagnosed as another sellar pathology. Definitive diagnosis relies on histopathological and immunohistochemical evaluation. Postoperative complications most commonly include hypopituitarism and transient or permanent diabetes insipidus, while visual deterioration is less frequent. Given the rarity of this tumor and the lack of randomized studies, its long-term prognosis remains uncertain, warranting careful multidisciplinary follow-up.

In the present case, a large sellar-suprasellar mass initially posed a diagnostic challenge. Although early clinical and biochemical findings, particularly hyperprolactinemia, suggested a prolactinoma, subsequent imaging revealed an expansile lesion atypical for this entity. This highlights the importance of interpreting prolactin elevation in the context of pituitary stalk compression to avoid misdiagnosis as a primary prolactin-secreting adenoma. Surgical treatment was performed via a transcranial approach, as decided by the neurosurgical team. Postoperatively, the patient developed transient short-term memory impairment, secondary adrenal insufficiency, and diabetes insipidus, reflecting well-recognized consequences of surgery in the sellar region and necessitating structured endocrine replacement therapy and long-term follow-up.

This case underscores the diagnostic and therapeutic complexity of large sellar-suprasellar lesions and the importance of individualized surgical planning with careful preoperative endocrine assessment and vigilant postoperative hormonal surveillance. It also emphasizes the need to consider pituicytoma in the differential diagnosis of lesions presenting with visual impairment and hypopituitarism, and to further investigate imaging characteristics that may improve preoperative identification and guide surgical strategy.

A small residual lesion was noted on follow-up imaging after surgery. In view of its limited size and the typically slow-growing nature of pituicytoma, a watchful waiting approach with periodic MRI assessments was chosen. As there was no evidence of clinical deterioration or radiological progression, additional surgical intervention or adjuvant therapy was not pursued, given the potential risks associated with reoperation in the sellar region. Owing to the rarity of pituicytoma and the lack of randomized clinical trials, its long-term behavior remains incompletely defined. Continued follow-up is planned in this patient due to persistent postoperative endocrine dysfunction, which necessitates prolonged clinical and radiological surveillance and may also facilitate early detection of potential recurrence. This is particularly relevant given the limited evidence regarding recurrence rates in pituicytomas and the possibility that patients without ongoing endocrine deficits may not undergo sufficiently long follow-up to fully characterize long-term outcomes of this tumor.

Institution Where Work Was Done

Clinic of Endocrinology and Metabolic Diseases, Olsztyn, Poland.

Patient Consent

Written informed consent was obtained and is available in the records of our institution.

Declaration of Figures' Authenticity

All figures submitted have been created by the authors who confirm that the images are original with no duplication and have not been previously published in whole or in part.

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