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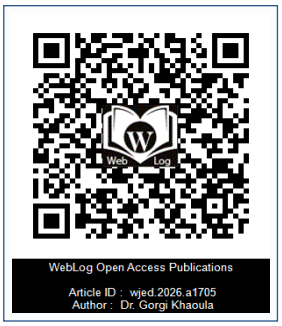
Case Series
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Symptomatic Rathke's Cleft Cyst: A Series of Five Cases and Review of the Literature

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Abstract

Introduction: Rathke's cleft cyst (RCC) is a rare benign cystic lesion of the sellar region arising from an embryonic remnant of Rathke's pouch. Although often asymptomatic, it may become responsible for endocrine, neurological, or ophthalmological manifestations when it is large or compressive.

Objective: To describe the clinical, hormonal, radiological, therapeutic, and evolutionary characteristics of symptomatic Rathke's cleft cysts through a series of five cases.

Patients and Methods: A retrospective descriptive study including five patients followed for symptomatic Rathke's cleft cyst in a university endocrinology department.

Results: The mean age was 34.4 years, with a female predominance. The circumstances of discovery were mainly headaches (40%) and endocrine disorders (40%), followed by visual disturbances (20%). All patients presented with partial or global anterior pituitary insufficiency. Hypothalamic–pituitary MRI revealed an intrasellar cyst with protein-rich content consistent with a Rathke's cleft cyst. Hormonal replacement therapy was initiated in all patients. One patient underwent transsphenoidal surgical treatment. Outcome was favorable, with clinical, radiological, and hormonal stability.

Conclusion: Symptomatic Rathke's cleft cyst should be considered in cases of unexplained hypopituitarism. Management relies on hormonal replacement therapy and surgery in compressive forms. Prognosis is generally favorable with regular follow-up.

Keywords: Rathke's Cleft Cyst; Hypopituitarism; MRI; Transsphenoidal Surgery

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Introduction

Rathke's cleft cyst is a benign congenital lesion resulting from the persistence of an embryonic remnant of Rathke's pouch, the structure from which the adenohypophysis originates [1]. It is usually discovered incidentally during brain imaging performed for other indications [2].

However, in some cases, RCC may become symptomatic due to progressive growth, leading to compression of the pituitary gland, pituitary stalk, or optic chiasm [3]. Clinical manifestations are variable and mainly include endocrine disorders, headaches, and visual disturbances [4].

The aim of this study is to report a series of five symptomatic Rathke's cleft cysts and to analyze their clinical, diagnostic, therapeutic, and evolutionary features in light of recent literature data.

Patients and Methods

This is a retrospective descriptive study including five patients followed for symptomatic Rathke's cleft cyst in the Department of Endocrinology at Ibn Sina University Hospital in Rabat.

Collected data included:

- Demographic characteristics,
- Circumstances of discovery,
- Clinical and hormonal biological findings,
- Hypothalamic–pituitary MRI results,
- Therapeutic management,
- Clinical, hormonal, and radiological outcomes.

Table 1: Clinical and Endocrine Characteristics of Patients with Rathke's Cleft Cyst.

Patient	Age (years)	Sex	Mode of presentation	Identified hormonal deficiencies	Treatment	Outcome
1	33	F	Headaches	Corticotropic, thyrotropic	Hormonal replacement	Stable
2	25	M	Headaches	Corticotropic, gonadotropic	Hormonal replacement	Stable
3	21	F	Secondary amenorrhea	Gonadotropic	Hormonal replacement	Stable
4	43	M	Micropenis	Gonadotropic	Hormonal replacement	Stable
5	50	F	Visual disturbances	Corticotropic, thyrotropic, gonadotropic, lactotropic	Surgery + hormonal replacement	Stable

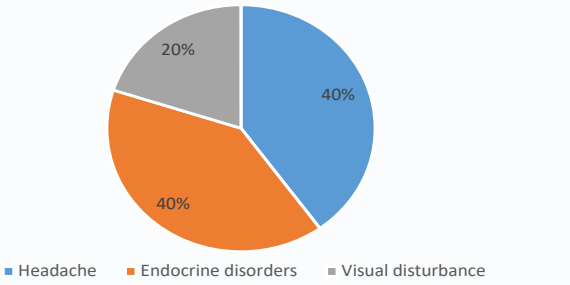


Figure 1: Distribution of circumstances of discovery.

The diagnosis of RCC was based on MRI findings and, in one case, on anatomopathological confirmation after surgery.

Observations

Five patients were included, aged 21, 25, 33, 43, and 50 years, with three women and two men.

The circumstances of discovery were:

- Headaches in two patients,
- Endocrine disorders in two patients (secondary amenorrhea in one patient and micropenis in one patient),
- Visual disturbances in one patient.

Clinical examination and hormonal evaluation revealed anterior pituitary insufficiency in all patients, with various hormonal deficiencies. Fundoscopic examination was normal in all patients. Visual field testing was normal in four cases and altered in one patient presenting with visual disturbances.

Hypothalamic–pituitary MRI showed, in all cases, a well-defined intrasellar cyst with T1 hyperintense content, suggestive of protein-rich material, compatible with a Rathke's cleft cyst.

Therapeutically, all patients received hormonal replacement therapy adapted to the identified hormonal deficiencies (corticotropic, thyrotropic, and gonadotropic axes). One patient with visual disturbances underwent surgical excision via a transsphenoidal approach. Histopathological examination confirmed the diagnosis of RCC.

Clinical, biological, and radiological follow-up was performed every six months. Evolution was marked by stability of the lesions and endocrine disorders in all patients.

Results

See Table 1 and Figure 1.

Discussion

Rathke's cleft cyst is a benign condition that is often underdiagnosed due to its asymptomatic nature in the majority of cases [1, 2]. However, when symptomatic, it may lead to a wide range of clinical manifestations related to mass effect on sellar and suprasellar structures [3].

In our series, endocrine disorders and headaches were the main presenting symptoms, which is consistent with literature data reporting these manifestations as the most frequent [4, 5]. Anterior pituitary insufficiency is explained by progressive compression of normal pituitary tissue and, in some cases, by chronic local inflammation [6].

The observed hormonal deficiencies predominantly involved the corticotropic, thyrotropic, and gonadotropic axes, as reported in several recent series [7, 8]. Visual impairment is less frequent but represents a major indication for surgical management [9].

MRI remains the key diagnostic tool, allowing differentiation of RCC from other cystic lesions of the sellar region, particularly craniopharyngioma [10].

Therapeutic management depends on symptomatology. Non-compressive forms are managed with hormonal replacement therapy and regular follow-up, whereas transsphenoidal surgery is indicated in cases of visual impairment or refractory headaches [11, 12].

Outcome is generally favorable, although cyst recurrence may occur, justifying long-term surveillance [13, 14].

Conclusion

Symptomatic Rathke's cleft cyst is a rare but important cause of hypopituitarism. Diagnosis relies on hypothalamic–pituitary MRI. Management is most often conservative, with surgery reserved for compressive forms. Regular clinical, hormonal, and radiological follow-up is essential.

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