A Rare Case of Pituitary Adenoma with Calcification: A Case Report

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ABSTRACT

Though craniopharyngioma remains the most common sellar suprasellar tumor with calcification, it can be seen very rarely in pituitary adenomas and Rathke’s cleft cysts. Appreciation of the pattern of calcification in a sellar suprasellar lesion can give a clue to the nature of the lesion. The authors describe a 53-year-old male with a cystic sellar suprasellar lesion and curvilinear calcification that was managed by successful transsphenoidal surgery. The present case highlights the occurrence of calcification in a pituitary adenoma and the importance of recognizing the calcification pattern for pre-operative diagnosis of sellar suprasellar lesions that can help plan the surgical strategy and management.

KEY WORDS: Pituitary adenoma, Calcification, Sellar, Suprasellar

ÖZ


ANAHTAR SÖZCÜKLER: Hipofiz adenomu, Kalsifikasyon, Sellar, Suprasellar
INTRODUCTION

Craniopharyngioma is the most common sellar suprasellar lesion with calcification [2]. However, calcification can occur rarely in cases of pituitary adenomas and Rathke’s cleft cysts [1,4]. Preoperative differential diagnosis is important and presence or absence and type of calcification pattern can be helpful for distinction between these pathologies [4]. The authors describe a case of cystic sellar suprasellar lesion with curvilinear calcification which was finally diagnosed as a pituitary adenoma. The present case highlights this imaging feature as distinction is important both from the therapeutic and prognostic point of view, considering the varied and more aggressive behavior of craniopharyngiomas as compared to pituitary adenomas and Rathke’s cleft cysts.

CASE REPORT

A 53-year-old male presented to us with gradually progressive decrease in vision in both eyes for six months. Examination revealed a visual acuity of 0.15 on Snellen’s chart with presence of temporal field defects on perimetry. Fundus examination showed bilateral pallor of the optic disc. Magnetic resonance imaging revealed a sellar suprasellar lesion hypo- to isointense on T1W MRI with a hyperintense component and relatively homogenous enhancement on contrast administration with enlarged sella (Figure 1). Noncontrast computed tomography obtained in the same patient showed a hypodense sellar suprasellar lesion with curvilinear calcification (Figure 2). A hormone profile was within normal limits. A diagnosis of craniopharyngioma/pituitary adenoma was considered in view of the location of the lesion and presence of calcification. Sublabial transsphenoidal decompression of the solid cystic lesion was performed. The final biopsy however revealed the presence of a pituitary adenoma (Figure 3).

DISCUSSION

The differential diagnosis of sellar suprasellar lesions most commonly includes pituitary adenoma and craniopharyngioma [4]. Presence of calcification in a cystic sellar suprasellar mass is however almost diagnostic of a craniopharyngioma [2]. Calcification on the other hand is very rare in pituitary adenomas and is reported in only 0.2% to 8% of cases.(3). Rarely, a Rathke’s cyst can also be calcified and can

Figure 1: Axial T1W (1A) and sagittal postcontrast (1B) MRI showing a sellar suprasellar hypo- to isointense lesion with a hyperintense component and relatively homogenous enhancement on contrast administration with enlarged sella.
the presence of a curvilinear calcification should give
a hint to the presence of pituitary adenoma or very
rarely a Rathke’s cleft cyst[1,5]. Though presence of
calcification led us to consider craniopharyngioma
strongly as the probable diagnosis preoperatively, an
enlarged sella with minimal calcification, especially
of the curvilinear pattern, favored a transsphenoidal
approach; this approach was also chosen considering
the sellar location and pituitary adenoma with
curvilinear calcification described in the literature
[1,3,4]. The differentiation of lesions based on
imaging and clinical features is surgically important
as more than 95% of pituitary adenoma cases can be
safely and completely removed transsphenoidally
while transcranial approaches form the mainstay of
surgery for craniopharyngiomas [2,4]. A subset of
cystic craniopharyngioma with enlarged sella can
however be operated transsphenoidally with
optimum results. Similarly, the presence of heavy
calcification in a sellar suprasellar tumor as
commonly occurs in craniopharyngioma can make
surgical excision difficult due to poor descent of the
suprasellar component of the tumor by a
transsphenoidal approach [2]. The intraoperative
surgical strategy and dissection also differs as the
diagnosis shifts from Rathke’s cyst and pituitary
adenomas to craniopharyngioma [4].

The present case highlights the fact that pituitary
adenomas can rarely have radiological evidence of
calcification and should be distinguished from other
tumors as the prognosis and management with
selection of the surgical approach differs
significantly depending on the nature of the lesion.
Craniopharyngiomas, the most common sellar
suprasellar tumor with calcification, mandate an
entirely different treatment strategy, including
surgical approach, postoperative hormone
replacement therapy and adjuvant radiotherapy in
quite a significant number of patients as compared to
the benign history of pituitary adenomas with total
surgical removal by a minimally invasive endoscopic
approach being curative in a significant number of
patients.

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Figure 2: Axial noncontrast CT showing a hypodense
suprasellar lesion with curvilinear calcification.

Figure 3: Photomicrograph showing sheets of cells with
indistinct cellular outline and moderate amount of cytoplasm,
H&E X 100 (Inset H & E x 200) s/o pituitary adenoma.
