



Case Report

Atypical sellar cyst: A rare case

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Received : 05 December 2019

Accepted : 03 June 2020

Published : 20 June 2020

DOI

10.25259/SNI_584_2019

Quick Response Code:



ABSTRACT

Background: Sellar cysts are common in neurosurgery. Around 90% of these are diagnosed as pituitary adenomas. The other 10% are nonadenomatous, inflammatory, infective, metastatic, or cystic in nature. Some rare cysts include dermoid, epidermoid, colloid, and arachnoid. They all have different histological features. The case we present demonstrates a unique cyst with features that are not previously documented.

Case Description: A 60-year-old female presented to the neurosurgical department complaining of blurring of vision and severe headache for more than ½ year. Imaging was done which revealed a bony erosive lesion in the region of sella. Magnetic resonance imaging with contrast showed high signals with no contrast enhancement. A clear diagnosis could not be made based on radiology. Surgery was done and sample was sent for histopathology. Based on histopathological report findings, a diagnosis of benign atypical sellar cyst was made. Post procedure, the patient recovered and was discharged.

Conclusion: Sellar cysts present similarly. They are differentiated based on their histological features. The sellar cyst we encountered had features different from the ones already described in the literature.

Keywords: Benign epithelial cyst, Endoscopy, Sellar cyst

INTRODUCTION

Sellar lesions are frequently encountered in neurosurgical clinics. The clinical presentation of sellar lesions is more or less similar. Common signs and symptoms include headaches, visual disturbances, hydrocephalus, focal neurological deficits and variable changes in mental state. Despite significant similarity in clinical features, the differential diagnoses for sellar lesions are vast. 90% of all sellar masses are pituitary adenomas.^[6] Remaining 10% of all the sellar masses include other non-adenomatous, inflammatory, infective, metastatic and cystic lesions. Intrasellar cystic lesions are not uncommon. Most common sellar cysts are Rathke's cleft cysts, which are usually asymptomatic but a few symptomatic cases have also been reported. Other rare sellar cysts include epidermoid, dermoid, colloid and arachnoid cysts.^[3] Here, we present a case of an atypical sellar cyst which according to its unique histological features does not conform to the already identified sellar cysts.

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CASE PRESENTATION

A 60-years-old female with chronic hypertension, came to neurosurgical clinic with history of gradually progressive bilateral blurring of vision for 7 months and severe, headache for 3 months.

Neurological examination and systemic examination of this lady were normal without deficits.

Hematological and biochemical tests were within normal parameters. However, pituitary function tests revealed raised ACTH = 143 pg/ml. Rest of the pituitary hormones, i.e., follicle stimulating, luteinizing, thyroid-stimulating hormone, prolactin, and insulin-like growth factor levels were within normal range.

On imaging, computed tomography scan brain revealed erosive lesion in region of sella causing bony destruction and remodeling [Figure 1 a and b]. This was followed by magnetic resonance imaging brain with contrast which showed indicated a well-defined, rounded, and homogenous cystic area in the region of sella showing high signal on both T1 and T2 images with no contrast enhancement [Figure 1c-e].

At this point, a clear diagnosis could not be made due to atypical radiological features. Hence, patient was planned for surgery + biopsy of suspected lesion.

After careful planning, the cyst was removed by a routine trans-nasal trans-sphenoidal endoscopic approach. The cyst contained greenish jelly like material which was removed completely along with the cyst wall. The contents were sent for histopathological examination.

Histopathological examination revealed benign cyst lined with flattened squamous epithelium and underlying fibrous tissue. On one region, a pseudostratified ciliated epithelium was also seen. Abundant hemorrhage was seen along with few calcified fragments. There was no evidence of malignancy in the sections examined. A diagnosis of benign atypical sellar cyst was made. This pathology report was reviewed by the head of the department pathology who concurred with the findings.

Post procedure, patient recovered well and was discharged. Her initial symptoms had resolved completely on her follow-up at 4 weeks.

DISCUSSION

A wide variety of mass lesions ranging from benign cysts to malignant tumors can occur within the sellar region. Although differential diagnoses of the sellar lesions are wide, the clinical presentation of these lesions is usually similar with varying severity. It is essential to differentiate and accurately diagnose these lesions as clinical approach, treatment, and outcome for each diagnosis is different.

Among the rare sellar lesions, cystic lesions are not uncommon. Clinically, they mimic pituitary adenomas but they can be differentiated from adenomas on imaging. A wide variety of sellar cystic lesions have been identified ranging from benign Rathke's cleft cysts to neoplastic craniopharyngiomas.^[12] Cysts can also be classified as primary and secondary. Primary cysts are the cysts that arise from within in the sella such as the pituitary gland cysts,

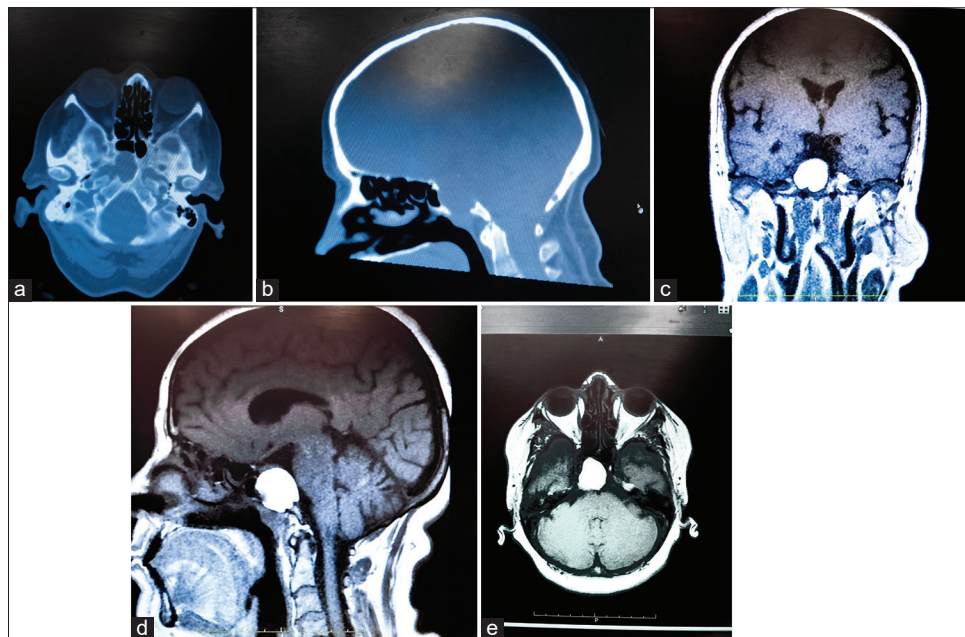


Figure 1: (a) Computed tomography (CT) head (axial view). (b) CT head (sagittal view). (c) Magnetic resonance imaging (MRI) brain (coronal view). (d) MRI brain (sagittal view). (e) MRI brain (axial view).

Rathke's cleft cysts, arachnoid, colloid, and parasitic cysts. Secondary cysts are the cysts that arise from regions other than the sella and invade into it; they include suprasellar arachnoid, epidermoid, Rathke's cysts, and sphenoid sinus mucocele.^[7]

The sellar cyst in our case could not be classified as primary or secondary cyst based on its histological diagnosis. In 1994, Harrison *et al.* microscopically examined 19 cases of sellar cystic lesions, 16 out of which fell under distinct categories but the remaining three could not be classified according to the formal classification. They also showed that there is a significant overlap between the histological findings of sellar cysts and they all are the representative of a continuum of ectodermally derived cystic lesions. Histologically, different cysts have different characteristics but most are nonneoplastic.^[11] Rathke's cleft cysts are lined by columnar epithelium, epidermoid cysts are lined by squamous epithelium, dermoid cysts are lined by keratinized squamous epithelium whereas, the arachnoid cysts are lined by meningothelial cells.^[5] The sellar cyst in our case was found to be lined with flattened squamous epithelium admixed with pseudostratified ciliated epithelium with underlying fibrous tissue and abundant hemorrhage was seen along with few calcified fragments. This histological finding does not conform to any of the classically defined cysts which render this case atypical.

Previously many cases of symptomatic sellar Rathke's cleft cysts^[8,10] and intrasellar arachnoid cysts^[4,9] have been reported but our case is unique, as no previous case of a sellar cyst with histological findings similar to ours has so far been reported (to the best of our knowledge).

Although histological classification of sellar cystic lesions is vast, their treatment is almost always surgical. The treatment approach for cysts depends on the symptomatology, size, pituitary function, and coexistence of pituitary adenoma.^[1] Surgical approach of choice for sellar cysts is the trans-nasal trans-sphenoidal approach and the transcranial approach is only reserved for larger cysts. Baskin *et al.* reported the trans-sphenoidal approach as a safe and effective way of removing sellar cysts.^[2]

CONCLUSION

An elderly female presented in our neurosurgical department with a sellar mass. Radiological imaging was done which showed atypical signs that were non-diagnostic. After endoscopic resection, the specimen obtained was sent for histopathology which revealed unique and benign features. A diagnosis of simple cyst was made. This case is distinctive

because the histopathological features of the cyst do not fit into any previously described category.

Declaration of patient consent

Patient's consent not required as patient's identity is not disclosed or compromised.

Financial support and sponsorship

Publication of this article was made possible by the James I. and Carolyn R. Ausman Educational Foundation.

Conflicts of interest

There are no conflicts of interest.

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How to cite this article: Ali N, Shakeel A, Shaikh Y, Sharif S, Hashmi A. Atypical sellar cyst: A rare case. *Surg Neurol Int* 2020;11:155.