

## Case Reports

### SYMPTOMATIC RATHKE'S CLEFT CYST: A CASE REPORT

AHMAD KAMGAR POUR, M.D., AND SEYYED ALI FAKHR  
TABATABAI,\* M.D.

*From the Department of Neurosurgery, Beheshti Hospital, Shiraz University of Medical Sciences, Shiraz,  
and the \*Department of Neurosurgery, Tehran University of Medical Sciences,  
Tehran, Islamic Republic of Iran.*

#### ABSTRACT

A large Rathke's cyst was marsupialized into the sphenoid sinus of a 45-year old woman who presented with headache, polydipsia, cessation of menses and diplopia. A brief review of cases is presented.

**Keywords:** Rathke's cleft cyst, Marsupialization  
*MJIRI, Vol. 10, No. 4, 305-307, 1997.*

#### INTRODUCTION

Rathke's cleft cysts (RCC) are intrasellar cysts lined by cuboidal or columnar epithelium, often with cilia and goblet cells.<sup>1,4</sup> These cysts are assumed to be derived from the remnants of Rathke's pouch, an invagination of the stomodeum.<sup>5,6</sup> RCC is a non-neoplastic lesion of the parasellar region that may present as a mass. This paper describes a rare and large symptomatic RCC which was treated successfully by marsupialization into the sphenoid sinus.

#### Case Report

A 45 year old woman was admitted to Beheshti Hospital in February 1994 with bifrontal headache, polydipsia, cessation of menses and diplopia of 5 years' duration. On examination, the skin was dry and pale, visual acuity was almost normal but visual field studies showed bitemporal hemianopia. Both discs were slightly pale. Laboratory studies revealed: prolactin=350; GH<1; FSH= 1.1.; LH= 2.3; T<sub>4</sub>= 3.3; T<sub>3</sub>RU= 24.9.

The CT scan demonstrated a large sellar-suprasellar cyst extending to the sphenoid sinus (Fig. 1).

A sublabial trans-sphenoidal approach was adopted. After opening the sphenoid sinus, the cyst was exposed. First it was punctured and about 20cc of creamy mucinous material aspirated, then the cyst was marsupialized into the sphenoid sinus.

The patient's postoperative course was uneventful. Headache, visual field defect and diplopia improved. The postoperative CT scan revealed decompression of neural elements. The pathological report of the resected sample was compatible with RCC (Fig. 2).

Two years later the patient was asymptomatic but had not resumed menstruation.

#### DISCUSSION

Small incidental Rathke's cleft cysts are identified between the anterior and posterior lobes of the pituitary gland

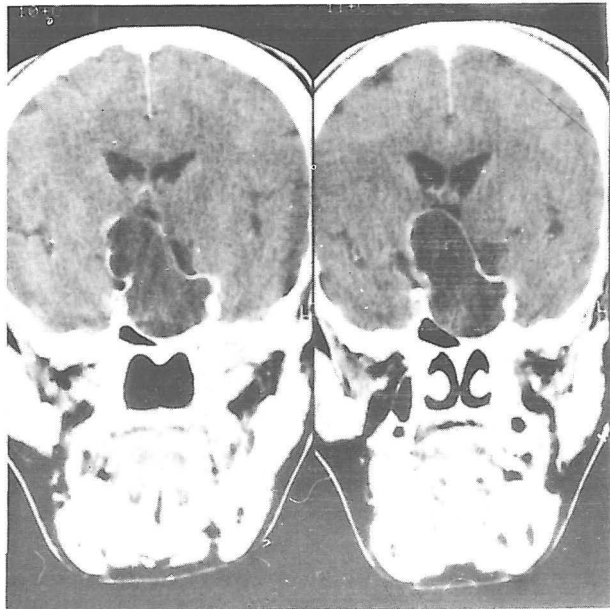
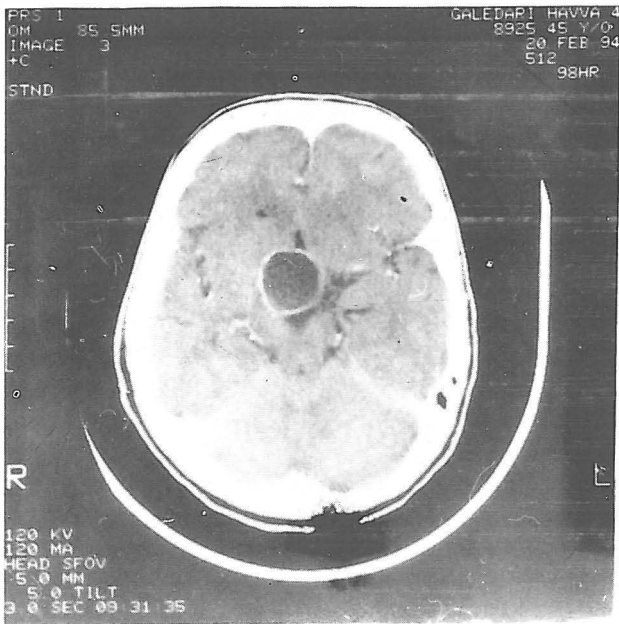


Fig. 1-A. Axial (a) and coronal (b) CT scan: suprasellar cyst with rim enhancement;

in 13 to 23-percent of routine autopsies.<sup>1,8</sup>

A symptomatic Rathke's cleft cyst is a rare clinical occurrence. It is believed that RCC is derived from Rathke's pouch.<sup>9,10</sup> Some have suggested that RCC may arise from neuroepithelium, as these cysts exhibit a wide range of histological features that are indistinguishable from colloid cysts. A hypothesis of common embryological origin from endodermal remnants has been proposed suggesting that RCC, colloid cysts and neuroenteric cysts share similar histological and immunohistological features. Suffice it to say that immunochemistry (glial fibrillary acidic protein,

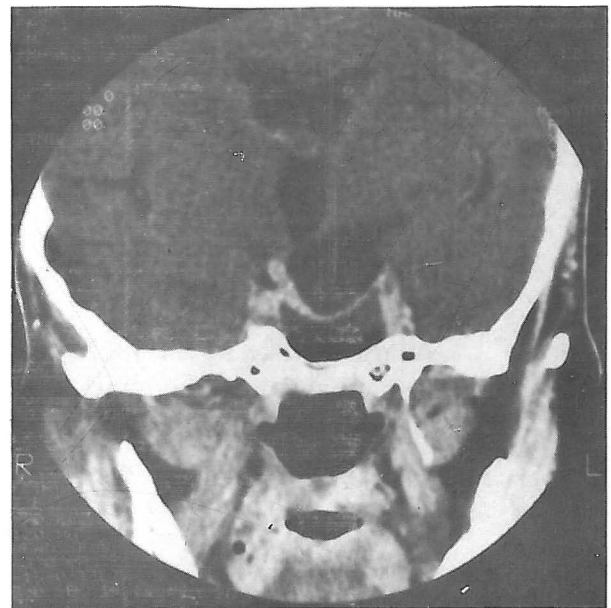
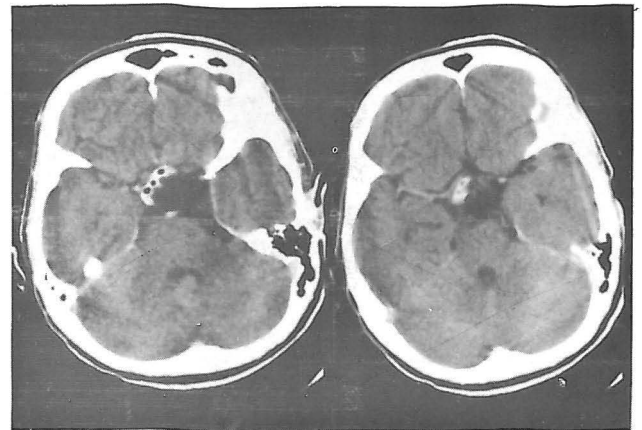


Fig. 1-B. Postoperative axial (a) and coronal (b) CT scan.

carcinoembryonic antigen and cytokeratin) fails to distinguish RCC, neuroenteric cyst and colloid cysts from each other.<sup>5</sup> Although the histological pattern of RCC is usually distinct from that of craniopharyngioma, nevertheless the differentiation of the cyst lined with squamous epithelium is not always easy.<sup>6</sup>

The first report of these cysts was forwarded by Goldziehen.<sup>11</sup> Yoshida et al. in 1977, after reviewing the available literature, collected 34 cases, 19 of whom had been operated on and 15 who had been autopsied. Most cases occur in patients 40 to 60 years old. There was no sex predilection. The presenting symptoms were impairment of visual acuity, visual field defect, hypopituitarism, headache, diabetes insipidus, diplopia and dwarfism.<sup>12,13</sup>

Our case presented with full-blown symptoms of a sellar-parasellar lesion, including headache, diplopia, bitemporal hemianopia, hypopituitarism, polydipsia and cessation of menses.

REFERENCES

1. Berry RG, Schelzinger NS: Rathke-cleft cysts. *Arch Neurol* 1: 48-58, 1959.
2. Kepes JJ: Transitional cell tumor of the pituitary gland: development of a Rathke's cleft cyst. *Cancer* 49: 337-343, 1978.
3. Shanklin WM: Incidence and distribution of cilia in the human pituitary with a description of micro-follicular cysts serial from Rathke's cleft. *Acta Anat* 11: 381-382, 1951.
4. Shanklin WM: On the presence of cysts in the human pituitary. *Anat Rec* 104: 379-407, 1949.
5. Graziani N, Dufour M, Branger DF, Donnet A, Boillot PX, Grisoli F: Do the suprasellar neuroenteric cysts, the Rathke cleft cyst and the colloid cyst constitute a same entity? *Acta Neurochirurgica (Wien)* 133: 174-180, 1995.
6. Tindal CT, Barrow DL: Tumors of the sellar and parasellar area in adults. In: Youman J (ed), *Youman's Neurological Surgery*. Third edition, Philadelphia: W.B. Saunders Co., p. 3456, 1990.
7. Bayourhi ML: Rathke's cleft and its cysts. *Edinburgh Med J* 55: 745, 1948.
8. McGrath P: Cysts of sellar and pharyngeal hypophyses. *Pathology* 3 (2): 123-131, 1971.
9. Shuangshoti S, Netsky MG, Nashald BS Jr: Epithelial cysts related to sella turcica: proposed origin from neuroepithelium. *Arch Pathol* 90: 444, 1970.
10. Concha S, Hamilton BPM, Milan JC, et al: Symptomatic Rathke's cleft cyst with amyloid stroma. *J Neurol Neurosurg Psychiatry* 38: 782, 1975.
11. Goldzieher M: Ueber Sekti onsbefunde bei Diabetes insipidus. *Verb Dtsch Ges Pathol* 16: 281-287, 1913.
12. Yoshida J, Kobayashi T, Kageyama N, Ka Baki M: Symptomatic Rathke's cleft cyst. *Neurosurgery* 47: 457-458, 1977.
13. Steinberg, GK, Koenig GH, Golden JB: Symptomatic Rathke's cleft cyst. *J Neurosurgery* 56: 290-295, 1982.
14. Nemoto Y, Inove Y, Fukuda T, Shakudo M, Katsuyama J, Hakuba A, Nishimura S, Omoyama Y: MR appearance of the Rathke's cleft cyst. *J Neuroradiology* 30: 155-159, 1988.
15. Kucharck ZY: Rathke's cleft cyst: CT, MR imaging and pathologic features. *J Radiology* 65: 491-495, 1989.

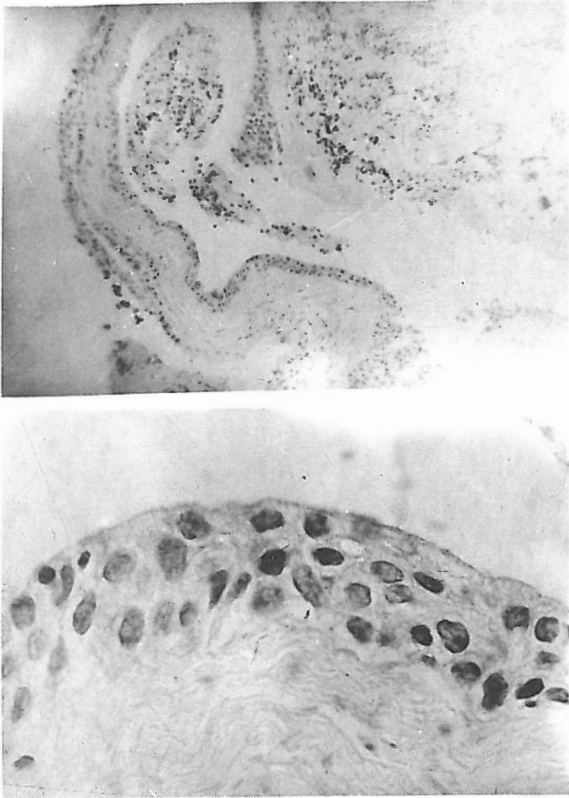


Fig. 2. Histologic picture demonstrating columnar epithelium (b) of the cyst wall (a).

Parasellar cysts such as RCC, mucocele and arachnoid cyst should be differentiated by imaging studies preoperatively. CT scans performed for RCC demonstrate a hypodense intra- and suprasellar cyst with enhancement of the wall. MRI has shown these cysts to possess the same intensity of CSF in a number of cases.<sup>14</sup>

The size of these cysts have been reported so far to be between 8-20 mm.<sup>15</sup> Our case had a large cyst, 50 mm in largest diameter. The cyst was marsupialized into the sphenoid sinus in order to prevent its recollection.

