Pituitary Adenoma Apoplexy: Outcomes Following Transsphenoidal Surgery at a Single Center

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Introduction

Pituitary apoplexy is a rare clinical entity caused by acute hemorrhage or infarct of the pituitary gland most commonly seen in the presence of a pituitary adenoma. To further elucidate clinical characteristics and postoperative outcomes of this rare condition, we retrospectively analyzed the clinical features of patients who underwent transsphenoidal surgery for pituitary apoplexy at LAC+USC and Keck Hospital of USC. We report data on clinical presentation, surgical management, and postoperative outcomes of these patients.

Methods

Forty-four consecutive patients who underwent transsphenoidal surgery for clinically diagnosed pituitary tumor apoplexy were retrospectively analyzed for preoperative symptoms, endocrine deficits, imaging, complications, postoperative resolution of symptoms and follow-up details. Apoplexy was defined clinically and confirmed through examination of imaging, intraoperative findings, and histopathologic review.

Results

The mean patient age at surgery was 53.7 years. Sixty-six percent of patients were male and thirty-four percent of patients were female. The most common preoperative clinical symptoms were headache (36 patients, 81.8%), visual loss (23, 52.3%) and cranial nerve palsy (18, 40.9%). Out of the eighteen patients who presented with a cranial nerve palsy, 13 patients had CN III palsy, 6 had a CN

Clinical Symptoms		
	No. Pts	Percentage
Headache	36	81.82%
Vision Loss	23	52.27%
Hypopituitarism	9	20.45%
Decreased Libido	8	18.18%
Amenorrhea	2	4.55%
Galactorrhea	0	0.00%
Fatigue	9	20.45%
CN Palsy	18	40.91%
Dizziness	5	11.36%
Acromegaly	0	0.00%
Cushings	0	0.00%
Incidental	0	0.00%
Altered Mental Status	3	6.82%

Follow-Up		
Mean Follow Up (mo)		77.6
Median Follow Up (mo)		33.2
	No. Pts	Percentage
Progression	5/36	13.89%
No evidence of disease	14/36	38.89%
Stable	17/36	47.22%
Improvement in chief complaint	23/28	82.14%
Mean time to resolution from surgery (days)		3.9 (n=16)
Median time to resolution from surgery (days)		1 (n=16)

Results continued

Complications included 7 CSF leaks (17.5%), 4 transient DIs (10%), 1 meningitis (2.5%), 1 sinusitis (2.5%), and 1 abdominal hematoma (2.5%). Postoperative resolution of symptoms was achieved in 93% of patients with vision loss and 54% of patients with headache. Resolution of chief complaint was achieved in a mean 3.9 days. Fifteen percent of patients displayed tumor recurrence or progression over a mean follow-up time of 77.6 months (range 3.7 months-10.5 years).

Conclusions

Transsphenoidal surgery for pituitary tumor apoplexy is particularly effective when neuroophthalamic deficits are present. Apoplexy patients may be at an increased risk for tumor recurrence or progression and should be monitored accordingly.

Learning Objectives

1.Discuss the current literature on the clinical presentation of Pituitary Apoplexy and describe the most common presenting symptoms.

2.Describe the clinical presentations of patients with pituitary apoplexy within the LAC+USC and Keck Hospital of USC patient population and explain how these signs differ or support the literature.

3. Analyze the safety of transphenoidal surgery for pituitary adenoma with apoplexy within our patient population and how our series contributes to the existing pituitary apoplexy