



## Endoscopic Endonasal Surgery for Craniopharyngiomas

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### Introduction

The proximity of craniopharyngiomas to vital neurovascular structures and their high recurrence rates make them one of the most challenging and controversial management dilemmas in neurosurgery. Endoscopic endonasal surgery (EES) has recently been introduced with good results.

### Methods

We retrospectively reviewed the medical files and imaging studies of 64 patients with craniopharyngiomas who underwent EES since June 1999 in our Department.

**Gross total resection of a craniopharyngioma with EES**

A

B

Preop (A) and postop (B) MRI with contrast demonstrating a GTR of a suprasellar craniopharyngioma

### Results

Forty seven patients presented with primary craniopharyngiomas and 17 with recurrent. The median age was 44.5 years (range 4-82). Total or near total (>95% of tumor) resection was achieved in 46 cases (72%), subtotal (>80%) in 13 (20.3%) and partial in 5 (7.8%). Among patients who presented with pituitary insufficiency (n=41), pituitary function remained unchanged in 23 (56.1%), improved in 4 (9.8%) and worsened in 14 (34.1%). In patients with normal pituitary function (n=23), new pituitary deficit occurred in 13 (56.5%). Twenty patients suffered from diabetes insipidus (DI) at presentation and 21 developed DI after treatment. Forty four patients presented with impaired vision; in 38 (86.4%) vision was improved or even normalized after surgery, in 5 remained unchanged and it was temporarily worsened in 1. Another patient without visual problems preoperatively showed temporary visual deterioration.

The mean follow-up was 38 months (range 1-135). Recurrence after EEA occurred in 21 patients (32.8%) and they were treated with repeated surgery (n=6) or combined surgery with radiation therapy (n=8).

Surgical complications included 14 cases (21.9%) with cerebrospinal fluid leakage which were treated with surgical reexploration (n=12) or lumbar drainage alone (n=2) and resulted in meningitis in 2 cases. Postoperative hydrocephalus occurred in 8 patients and was treated with shunt. Five patients experienced transient cranial nerve palsies. There was no operative mortality.

### Conclusions

EEA for the treatment of craniopharyngiomas provides acceptable results, comparable to traditional craniotomies.



### Learning Objectives

By the conclusion of this session, participants should be able to: 1) Describe the importance of EES in the treatment of craniopharyngiomas. 2) Discuss the advent of endoscopic technologies and techniques that facilitates tumor resection via a minimally invasive approach. 3) Identify an effective treatment in the management of craniopharyngiomas.