

## Dermoid and Epidermoid Tumors of the Cranial Base: Surgical Outcomes and Comparison Between Endoscopic Endonasal and Retrosigmoid Approaches

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#### Introduction

Dermoid and epidermoid tumors are congenital lesions representing about 1% of all intracranial tumors. Surgical resection is the only effective treatment. Nonetheless, it may be challenging given the propensity of these lesions to adhere to neurovascular structures. The goal of this study is to review our experience in managing these lesions, comparing endoscopic endonasal with retrosigmoid approaches and emphasizing outcomes and complications.

#### **Methods**

The patient database of the Center for Cranial Base Surgery at our institution was searched for surgical procedures involving intracranial dermoid and epidermoid tumors. Retrospective chart review and updated clinical consultations were performed for data collection.

#### Results

From January 2001 to January 2013, 30 patients (16 male, 14 female) with a mean age of 30.5 years (2-69) underwent surgery at our Center. 17 retrosigmoid (5 for tumor recurrences) and 20 endonasal approaches (two staged procedures) were performed for resection of 21 epidermoid and 9 dermoid tumors. Headache was the most prevalent symptom (11 patients). Operative time, hospital stay and cyst volume was similar in both groups. Postoperatively, four patients developed cranial nerve deficits; CSF leak was observed in six (4 endonasal, 2 retrosigmoid) and infection in seven (4 endonasal, 3 retrosigmoid). Complete resection was achieved in eleven cases (36.67%), 7 endonasal and 4 retrosigmoid. Extradural location and smaller size were associated with complete resection. There was a trend associating incomplete resection and infection (p=0.07). The mean followup period was 42 months (3-128). The shorter follow-up (mean 12 months, ranging from 3-67) in the endoscopic group may explain, partially, the lack of recurrences.

#### **Conclusions**

The treatment of dermoid and epidermoid tumors of the cranial base may be challenging. Surgical outcome and complication rates are comparable between the endoscopic endonasal and the retrosigmoid approaches. Incomplete resection may be associated with postoperative infection regardless of the approach.

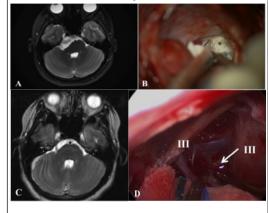
#### **Learning Objectives**

By the conclusion of this session, participants should be able to recognize the factors that may affect the surgical outcome and the complication rate following the resection of cranial base dermoid and epidermoid tumors. They should also be able to understand the role of the endoscopic endonasal approaches in their management and recognize that the occurrence of postoperative infection is not related to endonasal approach.

#### References

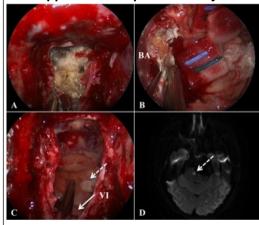
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# Cerebellopontine Angle Epidermoid Cyst



A: preoperative MRI; B: intraoperative picture (microscopic view); C: postoperative MRI showing the complete resection of the cyst; D: intraoperative picture (endoscopic view). III = oculomotor nerve; \* cyst

### Endoscopic Endonasal Transclival Approach for Epidermoid Cyst



A-C: intraoperative pictures; D: postoperative MR showing a small residual attached to the brainstem. VI - abducens nerve; BA = basilar artery