

Mononostril Endoscopic Transsphenoidal Approach for Pituitary Adenomas and How it Compares to the Binostril Approach

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Introduction

Though not all sellar and parasellar tumors are amenable to a TNTS approach, the benefits of the endoscopic approach include wider exposure, reduced complication rates and faster recovery. Choosing a binostril versus mononostril approach is mostly surgeon dependent. Based on our experience, we believe the mononostril approach to be more patient friendly.

Methods

A systematic PubMed literature review researching the differences in indications, techniques and outcomes for both approaches. The mononostril surgical technique is described in detail.

Results

We identified 521 pituitary adenoma cases. 512 were resected using a mononostril approach, 5 a binostril approach and 4 were converted to open craniotomies. The average mononostril operating time was 105 minutes. The most prevalent surgical complications in our cohort were CSF leak (4.1%), diabetes insipidus (3.7%) and cacosmia (2.1%). 433 patients demonstrated visual field deficits, 89% improved, 10% remained stable, and 0.5% worsened. Length of stay was 1 -2 days for 89%, with 13 ICU admissions (average one day). 88% had signs of recurrence at follow up (range 1-10 years).

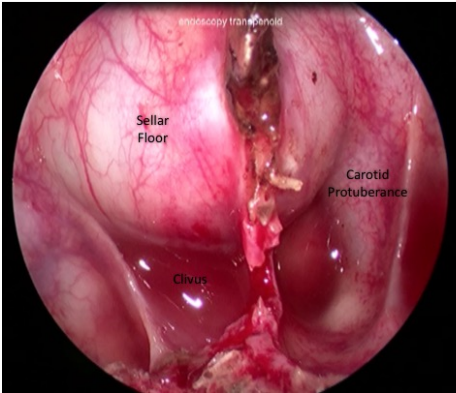
Conclusions

The literature remains scarce comparing both approaches. Binostril TNTS surgeries have longer operative time and higher risk of epistaxis. According to our experience, post-operative patient comfort and satisfaction are higher with the monostril approach. Furthermore, the technique is easily teachable, the learning curve steep, and ENT assistance unnecessary. It’s more universal and applicable in developing countries. No specific contraindication exists against the mononostril approach only. The extent of exposure can be more limited with a mononostril approach, though only challenging for tumors extending laterally. Our series had a low rate of CSF leak, though randomized prospective studies should be done to better evaluate differences in CSF leak and tumor recurrence between both approaches. From our experience, it would seem that tumor consistency is more predictable of extent of resection then surgical approach.

Learning Objectives

By the conclusion of this session, participants should be able to: 1) Identify the pros and cons of each approach based on the current, though scarce, data as well as our case series results, 2) Recognize when it would be appropriate to use one approach versus the other, 3) Be familiar with the surgical steps and technique of a mononostril approach and how it compares to the binostril surgical approach

Endoscopic View After Adequate Exposure with Single Nostril Approach



Endoscopic View After Adequate Exposure with Single Nostril Approach

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