

Endoscopic Endonasal Transsphenoidal Surgery for Pituitary Adenoma: Report of 578 Cases in a Single Pituitary Center

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Introduction

To evaluate the efficacy, safety and perioperative management of endoscopic endonasal transsphenoidal surgery for pituitary adenoma.

Methods

A retrospective review of clinical data were assessed in 578 patients with pituitary adenomas who underwent 593 procedures performed by a single team between September 2002 and December 2013. Pre-operative evaluation consisted of CT scan, MRI, endocrinologic examination, and visual function. Tumor removal rate, endocrinologic outcome, and complications were retrospectively analyzed.

Results

The mean follow up was 4.2 years (range 4 months to 11.5 years); 72 patients were lost to follow up. Forty-five harbored recurrent adenomas. There were 389 nonfunctioning adenomas, 96 growth hormone-secreting, 61 prolactin-secreting, 3 adrenocorticotrophic hormone-secreting, 2 thyroid-stimulating hormone-secreting and 28 mixed hormone-secreting adenomas. Of the 284 patients presenting with visual function, 235 improved, 39 remained unchanged and 10 experienced visual deterioration due to postoperative apoplexy. The most frequent complications were temporary and permanent diabetes insipidus, CSF leaks and anterior pituitary deficiency.

Conclusions

The endoscopic endonasal transsphenoidal surgery for pituitary adenoma is a safe and effective method, especially for the complete removal of recurrent, supra-sellar extension or cavernous sinus invasive tumors. Pseudocapsular resection and extended endoscopic approach were attributed to the promise of increased rates of surgical cure.

Learning Objectives

1)Pseudocapsular resection and extended endoscopic approach were attributed to the promise of increased rates of surgical cure.

2)The endoscopic endonasal transsphenoidal surgery for pituitary adenoma is a safe and effective method comparative to the microsurgery

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