

ENDOSCOPIC ENDONASAL APPROACH FOR PITUITARY ADENOMAS: A SERIES OF 555 PATIENTS

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Introduction

The purpose of this study was to report the results of a consecutive series of patients who underwent an endoscopic endonasal approach (EEA) for resection of pituitary adenoma and to compare them to previous series of microscopic and endoscopic approaches.

Methods

Clinical outcomes of a consecutive series of patients operated at our Cranial Base Center between 2002 and 2011.

Results

555 patients underwent an EEA for removal of a pituitary adenoma, 36 of which were lost to follow up. The mean follow up was 3.1 years (range 3 months to 9.5 years). Ninety-one patients (17.5%) were recurrent adenomas. Fifty-five patients (10.6%) had a microadenoma and 464 patients (89.4%) had a macroadenoma. The mean tumor volume was 8.7cm³. Reconstruction with a nasal septal flap was used in 238 cases (65.6%).

The rate of gross total resection was 65.3% in the 359 patients with non-functioning adenomas. The remission rates with EEA alone were 81% in the 58 ACTH-secreting adenomas, 65.3% in the 49 GH-secreting adenomas and 54.7% in the prolactinomas.

Of the 237 patients presenting with visual loss, 190 (80.2%) improved or completely resolved, 47 (19.8%) remained unchanged and none of them worsened permanently following EEA.

The CSF leak rate was 5% and this improved from 11.5% before the introduction of the nasal septal flap to 3.3% after. Perioperative complications included meningitis (0.9%), tumor bed hematoma (1.1%), ICA injury (0.3%) and SIADH (0.7%). The rate of permanent DI was 2.5% and new anterior pituitary insufficiency 3.1%. Nasal morbidity included epistaxis (1%), sinusitis (0.8%) and anosmia (2.1%).

Conclusions

The EEA is a safe and effective way to surgically approach pituitary adenomas, particularly in those with supra-sellar extension, cavernous sinus invasion and in recurrent adenomas. The remission rates and complication rates were comparable to the ones reported in previous series of microscopic and endoscopic approaches.

Learning Objectives

To appreciate the advantages and the indications of the endoscopic endonasal approach for the removal of pituitary adenoma

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