



Outcome of Transsphenoidal Surgery for Cushing's Disease: A Single Center Experience Over 32 Years

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Introduction

Transsphenoidal surgery is the standard approach for treating Cushing's disease. Evidence is needed to document effectiveness.

Methods

Our objective was to analyze results of transsphenoidal surgery in 276 consecutive patients, including 19 children. Medical records were reviewed for patients treated initially with surgery for Cushing's disease for the period 1980-2012. Radiographic features, pathology, remissions, recurrences, and complications were recorded. Patients were categorized for statistical analysis based on tumor size (microadenomas, macroadenomas, and negative imaging) and remission type (Type 1=morning cortisol = 3 µg/dl; Type 2=morning cortisol normal).

Results

Females comprised 78% of patients and were older than men. Imaging showed 50% microadenomas, 13% macroadenomas, and 37% negative for tumor. Remission rates for microadenomas, macroadenomas, and negative imaging were 89%, 66%, and 71%, respectively. Patients with microadenomas were more likely to have Type 1 remission. Pathology showed ACTH-secreting adenomas in 82% of microadenomas, 100% of macroadenomas, and 43% of negative imaging. Incidence of hyperplasia was 8%. The finding of hyperplasia or no tumor on pathology predicted treatment failure. Recurrence rate was 17%, with average time to recurrence of 4.0 years. Patients with Type 1 remission had a lower rate of recurrence (13% Type 1 vs. 50% Type 2) and a longer time to recurrence. Children had similar imaging findings, remission rates, and pathology. There were no operative deaths.

Conclusions

Transsphenoidal surgery provides a safe and effective treatment for Cushing's disease. For both adults and children, the best outcomes occurred in patients with microadenomas and/or those with Type 1 remission.

Learning Objectives

By the conclusion of this session, participants should be able to 1) recognize transsphenoidal surgery as safe and effective for treatment of Cushing's disease and 2) that the best outcomes occur in patients with microadenomas and those with Type 1 remissions following transsphenoidal surgery.

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