**Abstract**

TITLE: EARLY OUTCOME AFTER TRANSPHENOIDAL SURGERY FOR MANAGEMENT OF HORMONE SECRETING PITUITARY ADENOMA: A SINGLE-CENTRE EXPERIENCE IN HONG KONG

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Background: Transsphenoidal surgery has been used to treat hormone secreting pituitary adenoma (including GH secreting, ACTH secreting, TSH secreting, FSH secreting adenoma and prolactinoma that presented with apoplexy). In this retrospective study, we aim to evaluate the clinical, hormonal and radiological outcomes of hormonal secreting pituitary adenoma that treated with transsphenoidal surgery in our center in July 2016 to June 2021. We would also review peri-operative complications including craniospinal fluid leakage and diabetes insipidus in these patients.

Methods: We reviewed medical records of patients who underwent transsphenoidal surgery for pituitary adenoma in Princess Margaret Hospital of HK from 7/2016 to 6/2021. Pituitary adenoma with abnormal hormonal secretion and with post-operative hormonal blood test are included in this study. The hormonal control rate for acromegaly and Cushing disease with and without medication are calculated. The peri-operative complications including craniospinal fluid leakage and diabetes insipidus are calculated. The timing from surgery to hormonal control, need of second operation and need of adjuvant therapy are also reviewed. The post-op MRI are reviewed for any residual tumor.

*Results:*

*There are 100 transsphenoidal surgery for pituitary adenoma, 19 for hormonal secreting pituitary adenoma.*

*These including 11 for acromegaly, 4 for Cushing disease, 2 for prolactinoma with apoplexy, 1 for TSH secreting adenoma and 1 for FSH secreting adenoma.*

*For acromegaly patients, 82% achieved hormonal control without medication, the remaining achieved hormonal control with bromocriptine. For Cushing disease patients, all of them achieved hormonal control without medication. For prolactinoma patients, they have persistent high prolactin level that need medication. The TSH secreting adenoma patient has normal TSH level but increased free T4 level, offered re-operation but patient refused. The FSH secreting adenoma patient has normal FSH level post-op.*

*Conclusion:*

*Hormonal control can be achieved after surgery in most patient with acromegaly and Cushing disease.*