

Documents

Alexopoulou, O.^a , Everard, V.^a , Etoa, M.^b , Fomekong, E.^c , Gaillard, S.^d , Parker, F.^e , Raftopoulos, C.^c , Chanson, P.^{b f} , Maiter, D.^a

Outcome of pituitary hormone deficits after surgical treatment of nonfunctioning pituitary macroadenomas
(2021) *Endocrine*, 73 (1), pp. 166-176. Cited 2 times.

DOI: 10.1007/s12020-021-02701-5

^a Department of Endocrinology and Nutrition, Cliniques Universitaires Saint-Luc, Université Catholique de Louvain, Brussels, Belgium

^b Assistance Publique-Hôpitaux de Paris, Hôpital Bicêtre, Service d'Endocrinologie et des Maladies de la Reproduction, Centre de Référence des Maladies Rares de l'Hypophyse, Le Kremlin-Bicêtre, France

^c Department of Neurosurgery, Cliniques Universitaires Saint-Luc, Université Catholique de Louvain, Brussels, Belgium

^d Service de Neurochirurgie, Hopital Foch, Suresnes, France

^e Assistance Publique-Hôpitaux de Paris, Service de Neurochirurgie, Hopital Bicêtre, Le Kremlin-Bicêtre, France

^f Inserm, Physiologie et Physiopathologie Endocriniennes, Université Paris-Saclay, Le Kremlin- Bicêtre, France

Abstract

Objectives: Nonfunctioning pituitary macroadenomas (NFPMA) are benign tumors that cause symptoms of mass effects including hypopituitarism. Their primary treatment is transsphenoidal surgery. We aimed to determine the outcome of pituitary hormone deficits after surgical treatment of NFPMA and to identify factors predicting hormonal recovery. **Design:** We retrospectively included 246 patients with NFPMA diagnosed and operated in one of the two participating centers. All hormonal axes were evaluated except growth hormone (GH). Postoperative improvement of pituitary endocrine function was considered if at least one hormonal deficit had recovered and a lower total number of deficits was observed 1 year after surgery. **Results:** 80% (n = 197) of patients had one or more pituitary deficits and 28% had complete anterior hypopituitarism. Besides GH, the gonadotropic and thyrotropic axes were the most commonly affected (68% and 62%, respectively). The number of hypopituitary patients dropped significantly to 61% at 1 year (p < 0.001) and a significant improvement was observed for all hormonal axes, except central diabetes insipidus. Among patients with preoperative hypopituitarism, 88/175 (50%) showed improved pituitary function at 1 year. Both hyperprolactinemia at diagnosis and a lower tumor diameter independently predicted favorable endocrine outcome. **Conclusions:** Hypopituitarism is present in 80% of patients with NFPMA and nearly half of them will benefit from sustained improvement after surgery. Hyperprolactinaemia at diagnosis and lower tumor dimensions are associated with favorable endocrine prognosis. This supports the option of early surgery in NFPMA patients with pituitary deficits independent of the presence of visual disturbances. © 2021, The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature.

Author Keywords

Hypopituitarism recovery; Nonfunctioning pituitary macroadenomas; Pituitary deficiency; Transsphenoidal surgery

Index Keywords

gonadotropin, growth hormone, hypophysis hormone, thyrotropin, hypophysis hormone; adult, Article, cancer prognosis, cohort analysis, controlled study, diabetes insipidus, endocrine function, female, hormone deficiency, human, hyperprolactinemia, hypophysis function, hypopituitarism, immunohistochemistry, major clinical study, male, middle aged, nonfunctioning pituitary adenoma, patient volume, pituitary surgery, postoperative period, prediction, preoperative period, prevalence, retrospective study, risk factor, sample size, social participation, treatment outcome, tumor volume, visual disorder, adenoma, complication, hypophysis tumor, hypopituitarism, treatment outcome; Adenoma, Humans, Hypopituitarism, Pituitary Hormones, Pituitary Neoplasms, Retrospective Studies, Treatment Outcome

Correspondence Address

Alexopoulou O.; Department of Endocrinology and Nutrition, Belgium; email: orsalia.alexopoulou@uclouvain.be

Publisher: Springer

ISSN: 1355008X

CODEN: EOCRE

PubMed ID: 33852154

Language of Original Document: English

Abbreviated Source Title: *Endocrine*

2-s2.0-85104576141

Document Type: Article

Publication Stage: Final

Source: Scopus

ELSEVIER

Copyright © 2022 Elsevier B.V. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.

 RELX Group™