

Enormous, LH secreting gonadotroph adenoma in a male patient

Gogali F¹, Chatzidakis E², Fratzoglou M², Proikaki S¹, Prokovas I¹, Tsentidis C¹

1. Department of Endocrinology & Diabetes 2. Department of Neurosurgery
Nikaea-Piraeus General Hospital "Agios Panteleimon"

INTRODUCTION

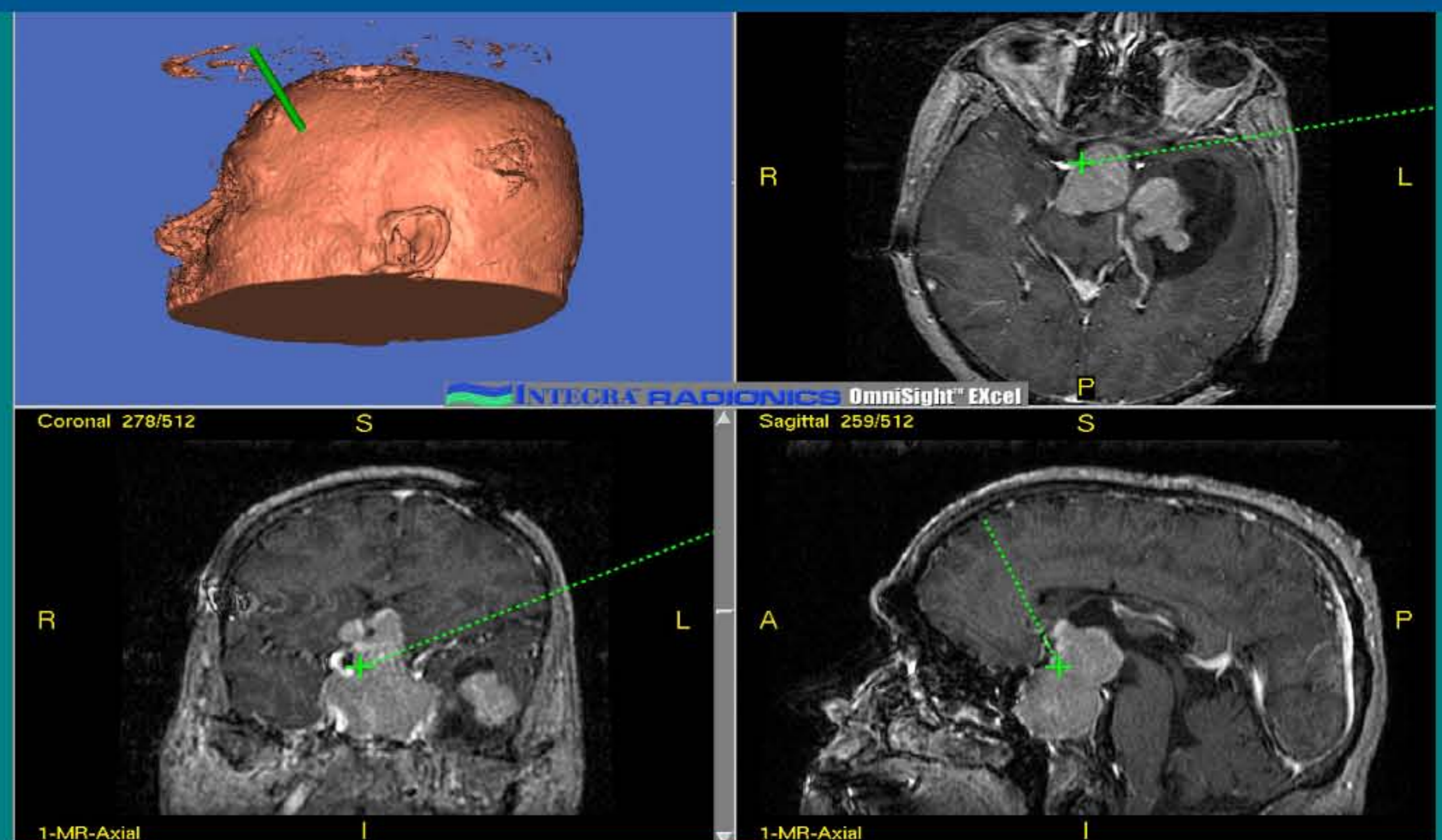
Gonadotrophin producing pituitary adenomas are usually non-functioning masses, and are not associated with elevated serum gonadotrophins. Functioning LH-producing gonadotroph pituitary adenomas are exceedingly rare in males, causing elevation of serum testosterone.

CASE REPORT

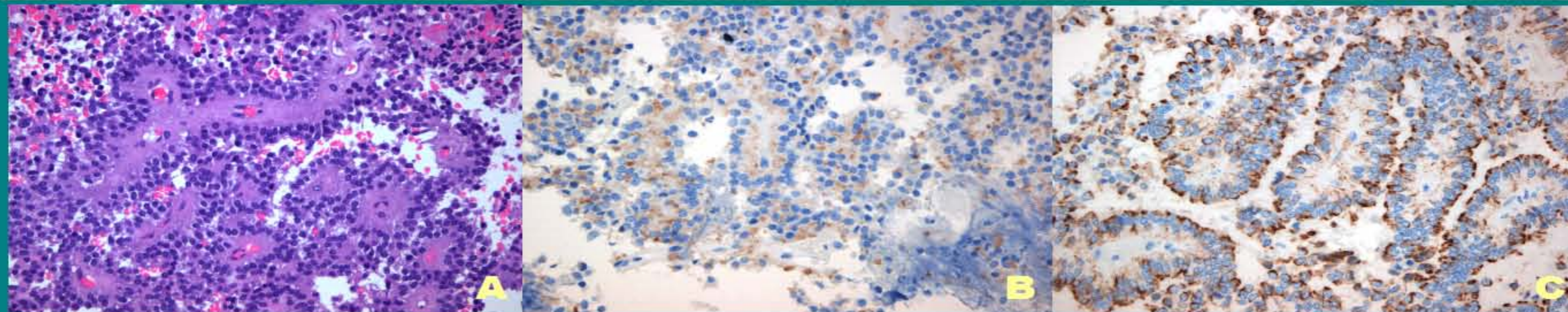
We present an adult male who has been admitted to the emergency department a comatose state. Brain MRI revealed a large, lobulated mass of 6cm caudal and 7.8cm latero-lateral diameter. The tumor extended from the hypophyseal fossa to the suprasellar cistern, into the ventricular system compressing and dislocating the optic chiasm, causing bitemporal hemianopsia. The mass projected

bilaterally to the cavernous sinus without compression of the internal carotid arteries. Ventriculoperitoneal shunting was carried out to relief symptoms. Biopsy of the tumor was obtained and the pathologic analysis confirmed gonadotroph pituitary adenoma with total expression of LH b-subunit, synaptophysin and chromogranin and intense expression of cytokines 8.18, AF1, AF3 and Ki-67<1%. Hormonal profile showed: PRL 12ng/ml (2.5-17), LH 11mIU/ml (0.8-7.6), FSH 4mIU/ml (0.7-11.1), testo 826ng/dl (250-840), SHBG 47nmol/l (18-114), TSH 0.074IU/ml (0.4-46m), FT4 0.52ng/dl (0.8-2), FT3 2.92pg/ml (1.8-4.6), GH 0.05ng/ml (0.06-5), IGF-1 103ng/ml (94-252), ACTH 1pg/ml (7-50) while SST for cortisol was 1, 3 and 4µg/dl at

Neurosurgery navigation of the adenoma (axial, coronal, sagittal)



0, 30, 60min respectively. Extensive tumor excision was achieved through both left pterional and transnasal, transsphenoidal approach. The patient received replacement therapy with hydrocortisone and levothyroxine and was advised for radiotherapy.



- A. H&E, 600x, Polar cells arranged in perivascular pseudorosettes
- B. LH immunostaining, X600x, Diffuse cytoplasmic expression of β -LH in the majority of cells
- C. CK 8-18 immunostaining, Apical expression of low molecular weight cytokeratin X

CONCLUSION

Large LH-producing gonadotroph adenomas are rare tumors and sex hormone levels are not always markedly elevated. Gonadotroph macroadenomas are usually treated by surgery and external beam radiation while GnRH antagonists and somatostatin analogues have been used in order to shrink tumor size.