Acromegaly caused by atypical pituitary adenoma

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INTRODUCTION

- Diagnostic criteria for an atypical adenoma include invasive growth, elevated mitotic index, Ki-67 labeling index greater than 3% and extensive p53 immunoreactivity.
- Atypical pituitary adenomas have higher risk of aggressive behavior in particular by the higher growth, local invasion and high risk of recurrence after surgery.
- In acromegaly the resistance to somatostatin analogues may be another manifestation of these adenomas since higher levels of Ki-67 are associated with poor response to therapy.
- Radiotherapy is reserved for when surgery and medical therapy fails to control the disease. The experience of the use of temozolomide in aggressive adenomas is extremely limited.

CASE REPORT

Identification

- 41 year-old, woman

Past medical history

- Carpal tunnel syndrome
- Thyroid nodule
- Arthralgia

Therapy: trazodone 100mg/day, bromazepam 6mg/day

History

- Headaches with 8 years of evolution
- Growth of the hands
- Hyperhidrosis
- Enlargement of the lips with 3 years of evolution
- Episode of visual change that reversed spontaneously

↓ Was referred to the Endocrine team

Physical examination

- W= 66.5 Kg, H= 1.57m, BMI= 27Kg/m2
- Visual field examination normal

Exam already carried out

- Pituitary CT: Pituitary mass lesion hourglass-shaped. The lesion appears to invade the tank Meckel

Table 1. Hormonal study

Parameter	Result	Reference range
GH	25.6ng/mL	<8
IGF-1	1689ng/mL	64-336
PTH	50.2pg/mL	10.0-65.0
T4L	0.95 ng/dL	0.70-1.48
TSH	0.88uUI/mL	0.35-4.94
Prolactin	21.2 ng/mL	4.8-23.3
Cortisol	10.9 ug/dL	6.2-19.4

Oral Glucose Tolerance Test

Time (min)	Glucose (mg/dL)	Insulin (uU/mL)	GH (ng/mL)
0	106	32.6	24.1
30´	199	186.2	17.3
60´	197	199.8	15.8
90´	207	330.8	14.7
120´	204	431.9	12.7

Pituitary MRI – december 2013

Pituitary lesion with 24mm craniocaudal diameter and 5 mm transverse diameter with invasion of the cavernous sinus.

Thyroid FNA → Colloid nodule

Colonoscopy → Hyperplastic polyps

She was submitted to transphenoidal resection in august 2014

Clinical pathology report:

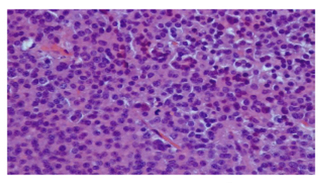


Fig.1 – Presence of mitosis

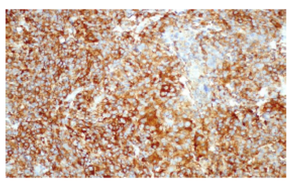


Fig.2 – GH: diffuse expression

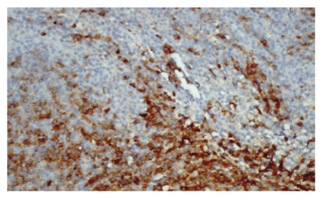


Fig.3 – PRL: multifocal expression

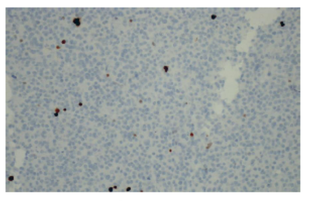
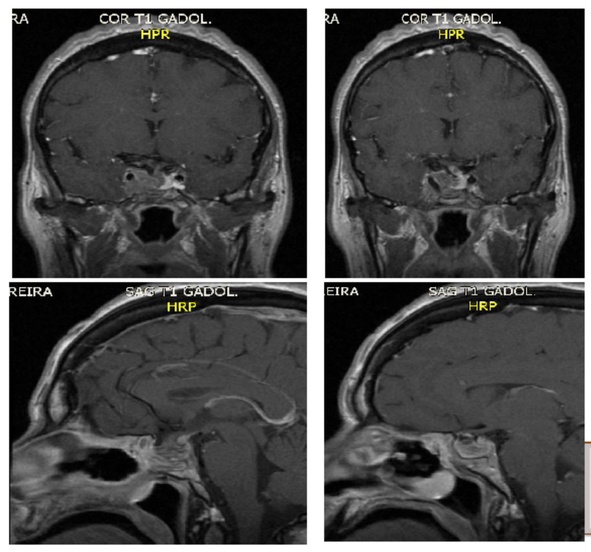


Fig.4 – **Ki67** labelling index was **8%**



There is no longer compression of the optic chiasm. Persistence of tissue attributable to residual tumor invading the right cavernous sinus.

Fig. 5 - Pituitary MRI – november 2014

Table 2. Oral Glucose Tolerance Test – november 2014

Tempo (min)	Glucose (mg/dL)	Insulin (uU/mL)	GH (ng/mL)
0	86	32.8	21.8
30	129	80.7	17.4
60	171	75.5	13.9
90	154	217.5	12.8
120	126	188.6	11.1

The patient began treatment with somatostatin analogs - octreotide

CONCLUSIONS

➢ This is a case of acromegaly with several predictors of a possible failure of response to somatostatin analogues: young age, elevated levels of GH and IGF-1 at diagnosis, macroadenoma with invasive growth and Ki-67 labeling index of 8%. In the presence of cases of atypical adenomas a multidisciplinary team of endocrinologists, neurosurgeons, pathologists and oncologists must work together in attentive and personalized follow-up of the patient in order to prevent disease progression.

References: Katznelson L, Laws ER Jr, Melmed S, Molitch ME, Murad MH, Utz A, Wass JA.Acromegaly: and endocrine society clinical practice guidelines. J Clin Endocrinol Metab. 2014 Nov;99(11):3933-51; Carracasco CA, Gadelha M, Manavela M, Bruno OD. Agressive tumors and difficult choices in acromegaly. Pituitary. 2014 Jan;17 Suppl 1:S24-9

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Clinical Cases Pituitary/Adrenal

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