



INTRODUCTION

Leydig cell tumors are the most common testicular sex cord stromal tumors. The most frequent clinical presentation is a testicular mass. However, they can present with endocrine manifestations, and gynecomastia is the most common presentation. Hyperprolactinemia can cause hypogonadotropic hypogonadism, and in males, is also a cause of gynecomastia.

CLINICAL CASE

A 24-years-old male was referred to our Endocrinology department due to hyperprolactinemia and increasing bilateral breast volume with a year of evolution, without galactorrhoea, libido changes or erectile dysfunction.

He had irrelevant medical past history, without medication, smoking, alcohol or illicit drug use.

On physical examination, bilateral painful gynecomastia, without palpable nodules, skin changes or nipple retraction or galactorrhea. Testes were present, with no palpable nodules.

Laboratory exams revealed normal testosterone and FSH, slightly low LH, high estradiol (although normal in its first evaluation) and high prolactin levels. TSH was normal and testicular tumour markers were normal. (table 1)

Breast ultrasound showed increased bilateral mammary glands, compatible with gynecomastia.

The initial pituitary MRI showed an area of low uptake which could correspond to a microadenoma.

He started bromocriptine 2.5mg/day.

In the scrotal ultrasound an isoechogenic nodule with 12 mm in the right testicle was observed.

Referred to urology consultation

Scrotal MRI confirmed the nodule in the right testicle (image 1).

He was submitted to right partial orchiectomy guided by ultrasound, and histological examination revealed a Leydig cell tumor.

After surgery, we stopped bromocriptine use and pituitary MRI was normal (image 2). Currently, he has normal prolactin levels (table 2).

He was oriented to plastic surgery to bilateral mastectomy.

Table 1	Results	N
FSH (mUI/mL)	1,44	1.4 - 18.1
LH (mUI/mL)	1,43	1.5-9.3
Testosterone (ng/dL)	263,46	241 - 827
Estradiol (pmol/L)	206,02 ↑	< 146.1
TSH (uUI/mL)	1,90	0.358-3.74
FT4 (ng/dL)	1,12	0.76-1.46
Prolactin 0'/15'/30' (ng/mL)	27,08/ 35,49/ 30,30 ↑	2.1-17.7
Creatinine (mg/dl)	0,6	0,70-1,20
AST (U/L)	14	15-37
ALT (U/L)	28	12-78
GGT (U/L)	12	15-85
Alkaline phosphatase (u/L)	56	50-136
Bilirubin (mg/dl)	0,43	0,1-1,0
B-hCG	<0,1	

Table 2	Results - 4 months after bromocriptine suspension - 16 months after surgery	Results - 4 months after surgery - on bromocriptine	Results - on bromocriptine	N
LH (mUI/mL)	3,36	7,09	1,58	1.5-9.3
Testosterone (ng/dL)	547,46	596,93	296,06	241 - 827
Estradiol (pmol/L)	109,51	120,90	202,35 ↑	< 146.1
Prolactin (ng/mL)	14,75	7,43	7,91	2.1-17.7

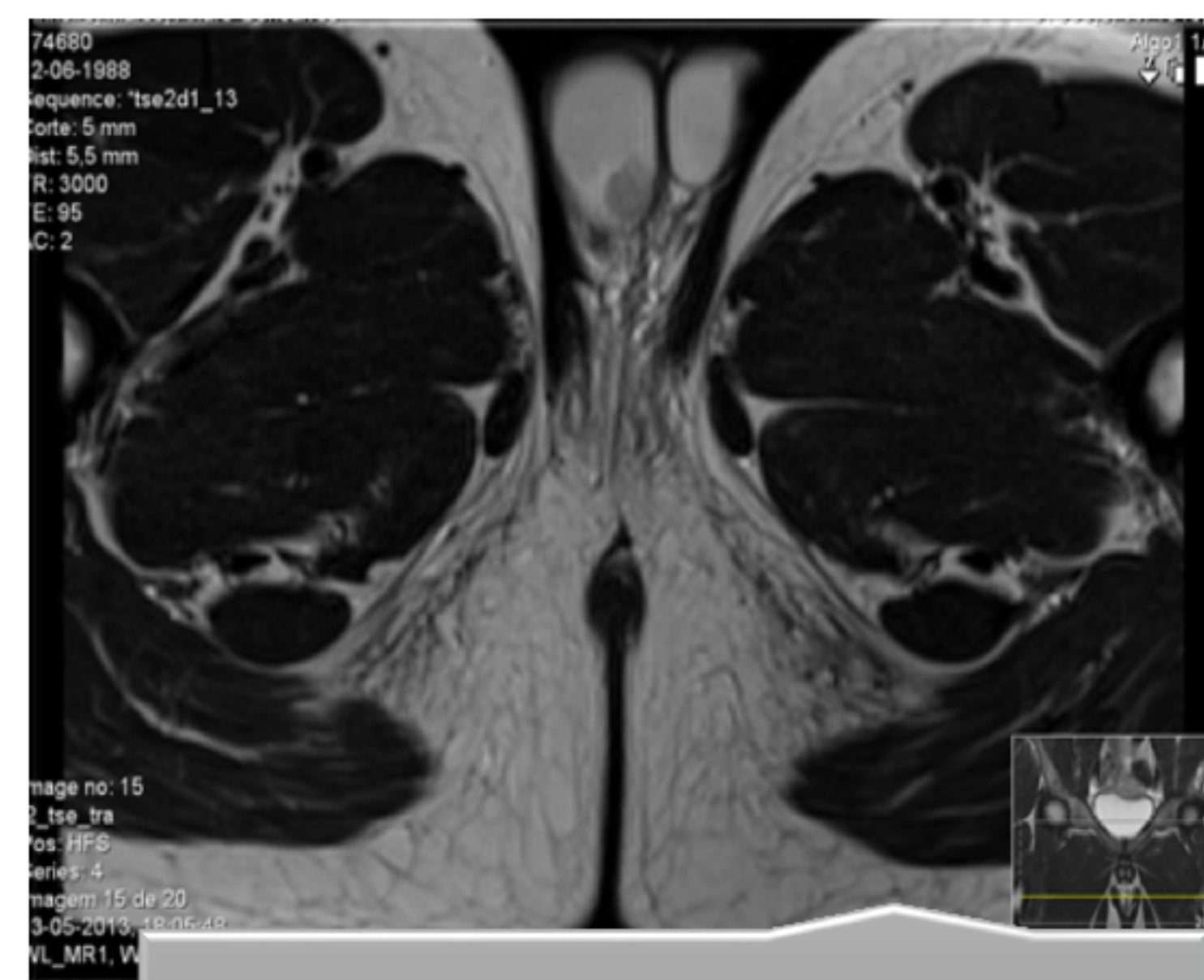


Image 1: scrotal MRI

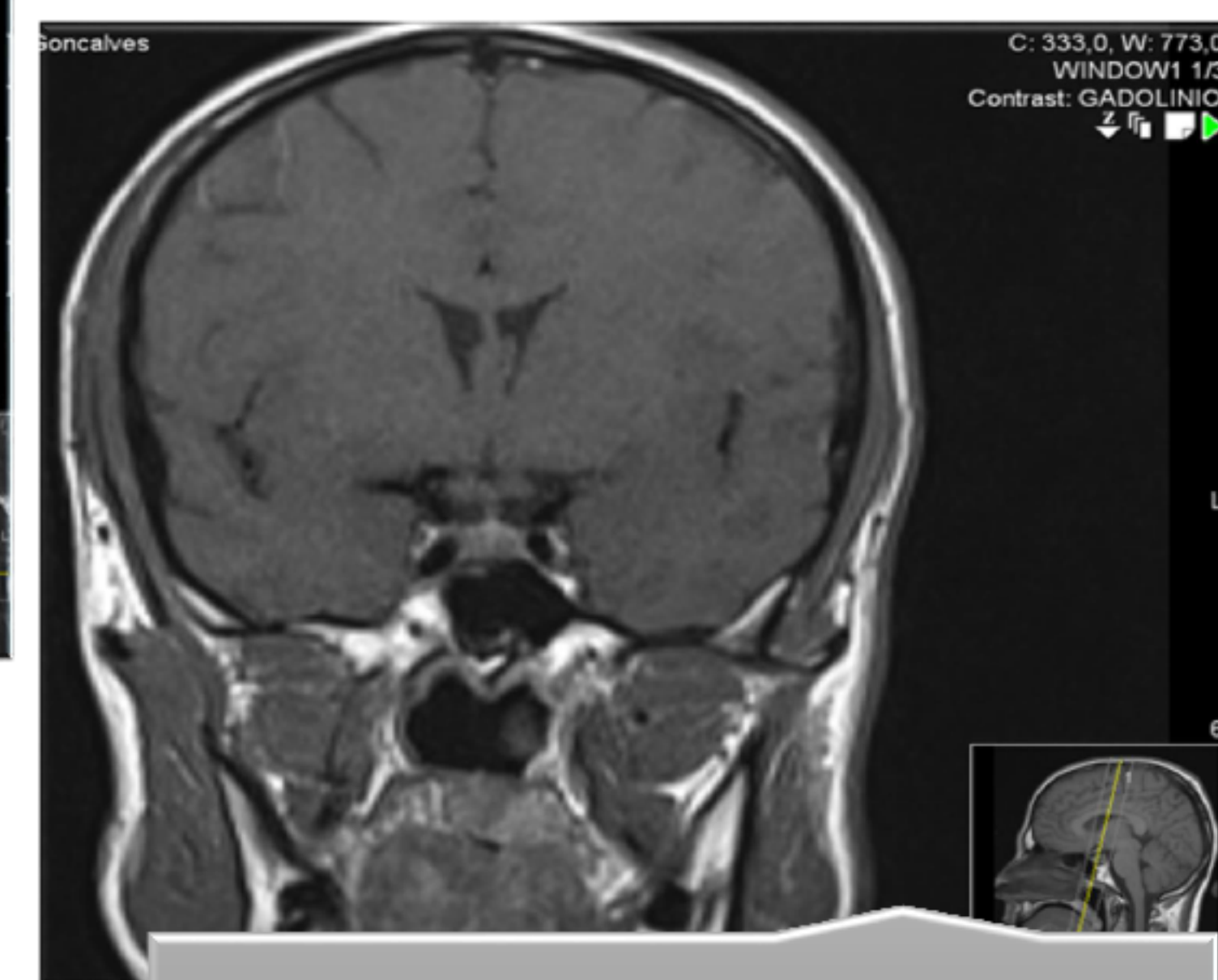


Image 2: Pituitary MRI

DISCUSSION

Prolactinomas and Leydig cells tumors are possible causes of gynecomastia and hyperprolactinemia (in the last because of hyperestrogenism) making it sometimes a challenge the evaluation of prolactin levels in this context.

REFERENCES

- Braunstein, G.D., Epidemiology, pathophysiology, and causes of gynecomastia, Uptodate, last updated: Jul 02, 2014; Narula, H. S. and Carlson, H. E., Gynaecomastia—pathophysiology, diagnosis and treatment, Nat. Rev. Endocrinol. 10, 684–698; 2014
Hirsch, M. S., Anatomy and pathology of testicular tumors, Uptodate, last updated: Jan 28, 2014; Taplin M., Testicular sex cord stromal tumors, Uptodate, last updated: Aug 02, 2013;
Melmed, S. et al, Diagnosis and Treatment of Hyperprolactinemia: An Endocrine Society Clinical Practice Guideline, J Clin Endocrinol Metab 96: 273–288, 2011; Johnson, R.E. and Murad, M.H., Gynecomastia: Pathophysiology, Evaluation, and Management, Mayo Clin Proc.;84(11):1010-1015, 2009
Braunstein, G.D., Gynecomastia, N Engl J Med;357:1229-37, 2007; Hassan, H.C., et al, Gynaecomastia: an endocrine manifestation of testicular cancer, Andrologia 40, 152–157, 2007; Narula, H. S. and Carlson, H. E., Gynecomastia, Endocrinol Metab Clin N Am, 36:497–519; 2007
Foppiani, L. et al, Leydig cell tumour-induced bilateral gynecomastia in a young man: endocrine abnormalities, Andrologia, 37; 36–39, 2005

