Giant macroprolactinoma in a female adolescent—case report

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Background:
Known to be the most common pituitary tumour in adults, prolactinoma is rare in children and adolescent with an evolution that tends to be controversial.

Case presentation:
Female, 12 years-old, complaining of headaches and progressive visual loss

Diagnostic
Clinical:
- Headache
- Sudden bitemporal hemianopsia and bilateral ambliopia

Homone evaluation:
- TSH=1,31uUI/ml, FT4=0,94ug/dl
- Cortisol=358,3 nnm/l (N=171-536 nmol)
- Prolactin=169 164 uUI/ml (N=210)
- hGH=0,06 (0,14-4,79 nmol)

Imaging
- MRI showed a pituitary macroadenoma, 6,6 X 7,3 X 6,1 cm with compression of the optic chiasm and bilateral cavernous sinuses invasion

Visual field evaluation:
- Papillary edema to both eyes

Treatment:
- Surgical debulking via classic approach with partial resection of the pituitary mass

The 6 months follow-up
Clinical:
- Improvement of sight
- Adequate weight and height
- Tanner stage - PI BI

Hormone evaluation:
- TSH=1,4uUI/ml, FT4=0,8 ug/ml
- Prolactin= 9340 ng/ml
- Cortisol=1,56 ng (<7 ng)

Histopathological examination and immunohistochemistry
- Highly positive for synaptophysine and PRL, LH and TSH in isolated cells
- Prolactinoma with a high proliferative activity Ki67 ~15%

Imaging
- Persistent pituitary mass of 56/34/35 mm with suprasellar extension
- Visual field examination
  - Persistent bitemporal hemianopsia to the LE
  - Temporal quadranopsia to the RE

Monitoring of the treatment with Cabergoline doses ranging from 1 mg to 2.5 mg/week between 2013-2014

Follow-up
Clinical:
- No headaches
- Weight gain

Hormone evaluation:
- TSH=0,06 (0,14-20 ng/ml)
- Prolactin= 9340 ng/ml
- Cortisol=1,56 ng (<7 ng)

Histopathological examination and immunohistochemistry
- Highly positive for synaptophysine and PRL, LH and TSH in isolated cells
- Prolactinoma with a high proliferative activity Ki67 ~15%

Imaging
- MRI revealed a persistent sellar and suprasellar mass (48/30/33 mm) with discreet extension to the cavernous sinuses, but with no general mass effect

Visual field examination:
- Bitemporal hemianopsia
- Partial optic atrophy

Treatment:
- Cabergoline 3 mg/week
- LT4= 50 ug/daily

Follow-up
Clinical:
- Weight gain

Hormone evaluation:
- PRL= 9340 ng/ml
- TSH=2,25uUI/ml, cortisol=10,5 ug/dl

Hormone evaluation:
- PRL = 303 ng/ml
- TSH=2,25uUI/ml, cortisol=10,5 ug/dl

Follow-up
Clinical:
- Weight gain

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Conclusions
- Being this fairly rare tumor in children, there is a lack of treatment guidelines. In spite of the prompt debut of the medical treatment, the control of the disease was also difficult to achieve because of low medical adherence.
- The postoperative management of this case proves to be provoking, both in the control of the secretion of this large sellar mass, but as well in the ensuring of growth and puberty installation.