

Paediatric Prolactinomas

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Introduction:

In children and adolescents pituitary adenomas are considered as rare, representing 2 to 3% of intracranial tumours. As in adults prolactinomas are the most common type accounting for about 50% of all pituitary adenomas. In paediatric subjects prolactinomas may have great repercussions on growth and sexual development

Aim of our study:

In this study we want to:

- Analyse clinical, biological and neuroradiological features of paediatric prolactinomas.
- Assess consequences of these tumours

Subjects and Methods:

Patients with paediatric prolactinoma are included. Diagnosis of prolactinoma is made when there is a pituitary tumour with elevated prolactin which is either responsive to dopamine analogs or positive for prolactin at immunohistochemistry for patients who have undergone surgical treatment.

Patients should have their first symptom beginning before 20 years to be included in this study.

In this group we undertake assessment of clinical history, physical examination, radiological exploration, visual and hormonal evaluation.

Results:

Between 1984 and 2014, 46 patients aged 20 years or less at the onset of disease were reported, they were 32 females and 14 males. Mean age at diagnosis was 18 years. Gonadal abnormalities were the main presenting symptom in girls whereas visual and neurological abnormalities were the most frequent presenting symptom in boys. Presenting complaints are depicted in table 1.

At clinical examination growth arrest was present in 15%, pubertal retardation was noticed in 42.8% in boys and 34.4% in girls.

Hormonal assessment revealed that mean prolactin level was 2639 ng/ml. Hypogonadotroph hypogonadism was present in all patients. Deficiency of one or more pituitary functions other than gonadotroph function was present in 28% and diabetes insipidus was present in 4.3%.

At radiological evaluation the mean tumour diameter was 25.3 mm in boys and 11 mm in girls. Cystic component was present in 37% and calcifications were noted in 2.1% raising sometimes the differential diagnosis with craniopharyngioma at this age.

Conclusions:

From this study we conclude that:

- Prolactinomas are rare in children and adolescent as only 46 cases were observed in 30 years, incidence is approximately 1.5 case/year
- As reported in adults, prolactinomas occurred mostly in females (2.3 F/1 M)
- The most presenting symptoms in girls are represented by gonadal abnormalities as in female adults, whereas in males as in male adults visual impairment and neurological symptoms are the most frequent presenting symptoms
- Tumours were larger in male despite a similar age at diagnosis which suggests that prolactinomas have a more rapid growth and are more aggressive in male children compared to female children as is the case in adults.

Signs	Girls	Boys
Visual defects	3.1%	42.8%
Neurological signs	0%	28.6%
Gonadal abnormalities	96.9%	14.3%
Growth arrest	0%	14.3%



Figure 1: Macroprolactinoma in a 15 years girl