HYPOTHALAMIC-HYPOPHYSEAL ABNORMALITIES STUDIED BY MAGNETIC RESONANCE IMAGE IN PATIENTS WITH GROWTH RETARDATION (Abstract)*. **Thesis. São Paulo, 1995.**

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The anatomy of the hypothalamic-hypophyseal region was analyzed by magnetic resonance image (MRI) in 31 growth retardation patients, between 7.9 and 18.5 years old, all of whom had been diagnosed and treated for endocrinological problems, to determine: the presence and prevalence of anatomic alterations in patients with constitutional short stature, with isolated growth hormone deficiency, and with multiple pituitary hormone deficiency; the relationship between the anatomic alterations and the isolated growth hormone deficiency and multiple hormone deficiency; the MRI diagnostic performance in growth retardation; and the possible implications of these anatomic findings.

The qualitative analysis of the images consisted of evaluation of the location of the posterior lobe, morphology of the pituitary gland, and enhancement of the infundibulum and the anterior lobe.The quantitative analyses included evaluations of the appearance of the infundibulum, classified as normal (Type I), thin (Type II) or absent (Type III), and the dimensions of the pituitary gland.The results were compared with the endocrinological diagnoses of constitutional short stature, isolated growth hormone deficiency and multiple hormone deficiency.

All cases of thin or absent infundibulum were associated with ectopy of the posterior lobe (94.5%), and small pituitary glands. All the patients with infundibular alterations had pituitary endocrine disease.

Analysis of growth retardation patients, using MRI, showed statiscally significant infundibular alterations in the cases with endocrine disease, though it was not possible to predict simple or multiple hormone deficiency, and the utilization of contrast medium did not aid in this prediction.

These findings demonstrate that MRI has a high degree of sensibility (89.48%) and specificity (100%) in the presence of growth hormone deficiency,showing that it is useful in the investigation of growth retardation patients. The normal anatomy of the hypothalamic-hypophyseal region in two siblings with multiple hormone deficiencies suggested the possibility of genetic disorder.

The anatomic alterations of the hypothalamic-hypophyseal region in MRI can be helpful in the investigation of the growth hormone deficiency etiology.

KEY WORDS: **pituitary gland, posterior pituitary gland, hypothalamic-hypophyseal axis, growth hormone deficiency, magnetic resonance image (MRI).**

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