



Evaluation of pituitary/cranial imaging results of central-puberty precocious cases

Havva Nur Peltek Kendirci¹, İlknur Kaba², Nurdan Fidan³

¹Hitit University, Faculty of Medicine, Pediatric Endocrinology Clinic, Çorum, Turkey;

²Hitit University Erol Elcok Training and Research Hospital, Department of Pediatrics, Çorum, Turkey;

³Hitit University, Faculty of Medicine, Radiology Clinic, Çorum, Turkey

INTRODUCTION

The activation of the GnRH pulse generator before the age of 8 years in girls and 9 years in boys results in central precocious puberty (CPP). The majority of cases of CPP in girls are defined as idiopathic since no organic lesion is found, whereas intracranial lesions are common in boys with CPP. Previous studies have shown that the height of the pituitary gland in the CPP cases is higher than in the normal children..

AIM

We aimed to evaluate the pituitary gland volume by MRI in CPP children, and explore the intracranial lesions among children with CPP

METHOD

The study was performed with 50 patients (41 girls, 9 boys) children who had been diagnosed with CPP and receiving treatment with a GnRH analogue. The data of the patients recorded in the hospital's information administration system were retrospectively analyzed. Pituitary MRI was performed in every patient after the diagnosis of CPP.

RESULTS

The mean chronological age at diagnosis was 7.1 ± 1.0 (2.4-7.9) years in girls and 7.4 ± 1.7 (3.7-8.8) years in boys.

Both genders median puberty stage was determined as Tanner stage 2 (2-3)

CNS imaging showed pathological findings in 17% (7/41) of the girl cases, and 55.5% (5/9) of the boy cases.

While there was no difference between girl patients with normal and abnormal MRI in terms of age at diagnosis, height-SDS and BMI-SDS, it was found that bone age and bone age/chronological age ratio was higher in the group with abnormal MRI. No difference was found between the two groups in terms of estradiol levels, however, basal LH and FSH levels were higher in girls with abnormal MRI.

There was no statistical difference between male cases with normal MRI and abnormal MRI in terms of auxological and laboratory parameters.

Pituitary volumes of girls aged 6-7.9 years and boys aged 8-8.9 years were found to be increased compared to the control group.

CONCLUSIONS

In this study, we found that CNS imaging showed pathological findings in 17% of the girl cases, and 55.5% of the boy cases.

Pituitary volumes of girls aged 6-7.9 years and boys aged 8-8.9 years were found to be increased compared to the control group.

REFERENCES

- Alikasifoglu A, Vuralli D, Gonc EN, Ozon A, Kandemir N. Changing Etiological Trends in Male Precocious Puberty: Evaluation of 100 Cases with Central Precocious Puberty over the Last Decade. *Horm Res Paediatr* 2015;83(5):340-4.
- Sari S, Sari E, Akgun V, Ozcan E, Ince S, Saldır M, et al. Measures of pituitary gland and stalk: from neonate to adolescence. *J Pediatr Endocrinol Metab* 2014;27(11-12):1071-6.

CONTACT INFORMATION

drhnpeltek@yahoo.com

