

**COMPARATIVE CHARACTERISTICS OF CLINICAL AND HORMONAL CHARACTERISTICS IN ADOLESCENTS WITH CONSTITUTIONAL GROWTH RETARDATION AND PUBERTY AND WITH SOMATOTROPIC INSUFFICIENCY**

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**ABSTRACT**

***Purpose of the Study**– To perform a comparative characteristic of clinical and hormonal characteristics in adolescent boys with constitutional growth retardation and puberty (CGRP) and somatotropic insufficiency (HF).*

***Material and Research Methods***

*We have examined and examined 45 adolescents (boys) with CGRP, aged 11 to 17 years. In addition, we studied 20 children with HF.20 healthy boys of the same age made up the control group of the corresponding age*

*All adolescents underwent all anthropometric studies based on the international Tanner-Whitehouse height-weight map, assessment of the stage of puberty according to J. Tanner, if necessary, patients were sent for further examination - x-ray (X-ray of the hand, CT / MRI of the Turkish saddle), ultrasound of the genital organs, karyotype, consultation of a surgeon, genetics and other research.*

*All patients underwent a range of studies, including the study of the endocrine status, general clinical, biochemical, hormonal (STH, IGF-1, LH, FSH, prolactin, TSH, testosterone, cortisol, free*

*thyroxine, etc.) in the laboratory of hormonal studies of the RSNPMC Endocrinology of the Ministry of Health of the Republic of Uzbekistan. )*

### **Research Results**

*In patients with CGRP there was an unreliable decrease in basal values of LH, FSH ( $p > 0.05$ ) compared with the control group, as well as unreliably low levels of free testosterone (FT) in blood plasma ( $p > 0.05$ ) against the background of moderate hyperprolactinemia. While in patients with HF, the basal values of LH, FSH, STH, IGF-1 and free testosterone were significantly low ( $p < 0.05$ )*

*These disorders correspond to the presence of functional disorders of the hypothalamic-pituitary-gonadal axis.*

*In the 2nd group of patients with HF was most characteristic of a significant and pronounced decrease in the basal values of STH, LH, FSH ( $p < 0.05$ ) compared with the control group, as well as significantly low levels of FT in blood plasma ( $p < 0.05$ ) against the background of moderate hyperprolactinemia and normal GH values. These disorders also correspond to the presence of hypogonadotropic (secondary) hypogonadism.*

### **Conclusions**

*1) In all age periods of sexual development, the examined patients had hypogonadotropic hypogonadism: there was a significant decrease in the average levels of LH, FSH, total testosterone ( $p < 0.05$ ). Only 1 (0.9%) patient had hypergonadotropic hypogonadism.*

*2) When comparing the stages of puberty and hormonal data, it was found that as the age increases, the average values of LH, FSH, and total testosterone also increase, although they remain significantly reduced.*

*3) 3 degrees of severity of hypogonadotropic hypogonadism were established: mild (11.3%), moderate (16.04%) and severe (72.6%). This category of patients needs further examination (magnetic resonance imaging of the pituitary gland, ultrasound of the genital organs, etc.) and treatment.*

**KEYWORDS:** *Delay Puberty, Growth, Constitutional.*

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