PUBERTY DELAY IN GIRLS: ETIOLOGICAL STRUCTURE OF THE DISEASE

K. Kabolova, O. Latyshev L. Samsonova G. Okminyan E. Kiseleva, D. Romaykina, E.Kasatkina
Russian Medical Academy of Continuous Professional Education
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OBJECTIVE

To analyze the structure of puberty delay in girls depending on the etiology of the disease.

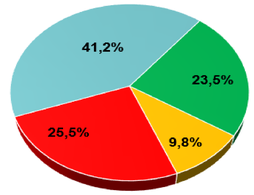
METHODS

51 girls with puberty delay (14.2±0.82) were examined. Inclusion criteria: absence of secondary sex characteristics at 13; or absence of menarche by age 15 years or the absence of menarche during 3 years from the onset of estrogen-dependent puberty signs development. Exclusion criteria: age ≥18, ambiguous genitalia.

Tanner stage, antropometric data, bone ages, genitometric parameters, LH, FSH, estradiol, testosterone, DHEA, inhibin B, AMH were provided. Stimulation tests using gonadotropin analog (n=24), cytogenetic (n=45), molecular genetic tests (n=7) and brain MRI with contrast agent were provided (n=5).

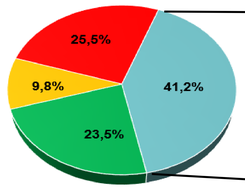
RESULTS

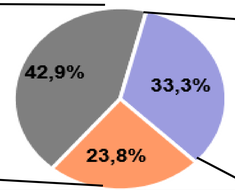
The structure of delayed puberty in girls



- **Hypergonadotropic hypogonadism**
- **Constitutional delay of puberty**
- **Hypogonadotropic hypogonadism**
- **Functional hypogonadism**

The structure of hypergonadotropic hypogonadism



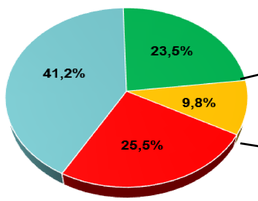


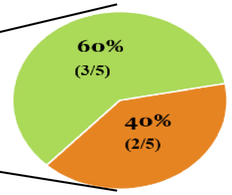
Included pure gonadal dysgenesis **46,XY- 57.1% (4/7)**

Androgen insensitivity syndrome (complete form) - **42.9% (3/7)**

- **Turner syndrome**
- **disorders of sex development 46,XY**
- **disorders of sex development 46, XX**

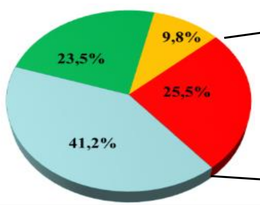
The structure of hypogonadotropic hypogonadism

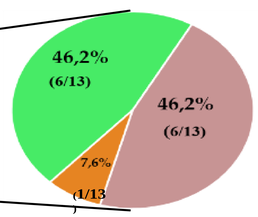




- **isolated hypogonadotropic hypogonadism**
- **hypogonadotropic hypogonadism as a manifestation of hypopituitarism**

The structure of functional hypogonadism





- **type 1 diabetes mellitus**
- **protein-energy malnutrition**
- **celiac disease**

CONCLUSION

Puberty delay structure in girls includes the equal proportions of transient and permanent hypogonadism cases. Hypergonadotropic hypogonadism is more often associated with permanent puberty delay (Turner syndrome, disorders of sex development, pure gonadal dysgenesis 46, XX, pure gonadal dysgenesis 46, XY, androgen insensitivity syndrome, while hypogonadotropic hypogonadism (isolated gonadotropin deficiency and hypopituitarism) is diagnosed in 1 out of 10 cases. Transient puberty delay as a result of constitutional delay of puberty in girls is observed as often as when it caused by functional hypogonadism due to somatogenic pathology (type 1 diabetes mellitus, protein – energy malnutrition, celiac disease).

CONTACTS elvkasatkina@yandex.ru