

Growth of patients with Turner syndrome of different age group and karyotypes by the Ukrainian national register



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Abstract

Turner Syndrome (TS) is the most well-known and common chromosomal disorder accompanied by delayed growth. According to the national register of children with dwarfism in Ukrainian there are 527 girls with TS 0.1-24 y.o. Growth retardation in varying degrees is a common feature for TS.

Objectives and hypotheses

The aim of the study was to determine the growth parameters of native TS girls in different age groups and variants of karyotype before rGH treatment.

Methods

We analyzed the database of the Ukrainian National Registry of children with dwarfism (2005-2015 y.y.), that include girls with TS. The Register contains information on the age of first diagnostic of TS, the age at the start of GH therapy, the results of basic clinical examination: height, weight, pubertal stage by Tanner, karyotype, the results of hormonal, instrumental and radiological studies, the results of rGH therapy.

It was provided a retrospective analysis in 2005-2014 years of growth parameters at 502 girls with TS aged 1-18 y.o. before growth hormone treatment.

Results

The degree of growth delay (SD) in untreated girls with TS progresses with age: from (-) $1,6 \pm 1,3$ SD (children aged 1 y.o.) to (-) $3,5 \pm 1,2$ SD (age >17 y.o.). There was no significant difference in growth in TS girls with different karyotype (monosomy X, mosaic and structural anomalies of chromosome X ($p > 0,05$)).

Average final degree growth delay in girls with TS:

45,X	(-) $3,5 \pm 0,8$ SD
Mosaic	(-) $3,0 \pm 2,9$ SD
Structural anomalies X	(-) $3,3 \pm 0,7$ SD

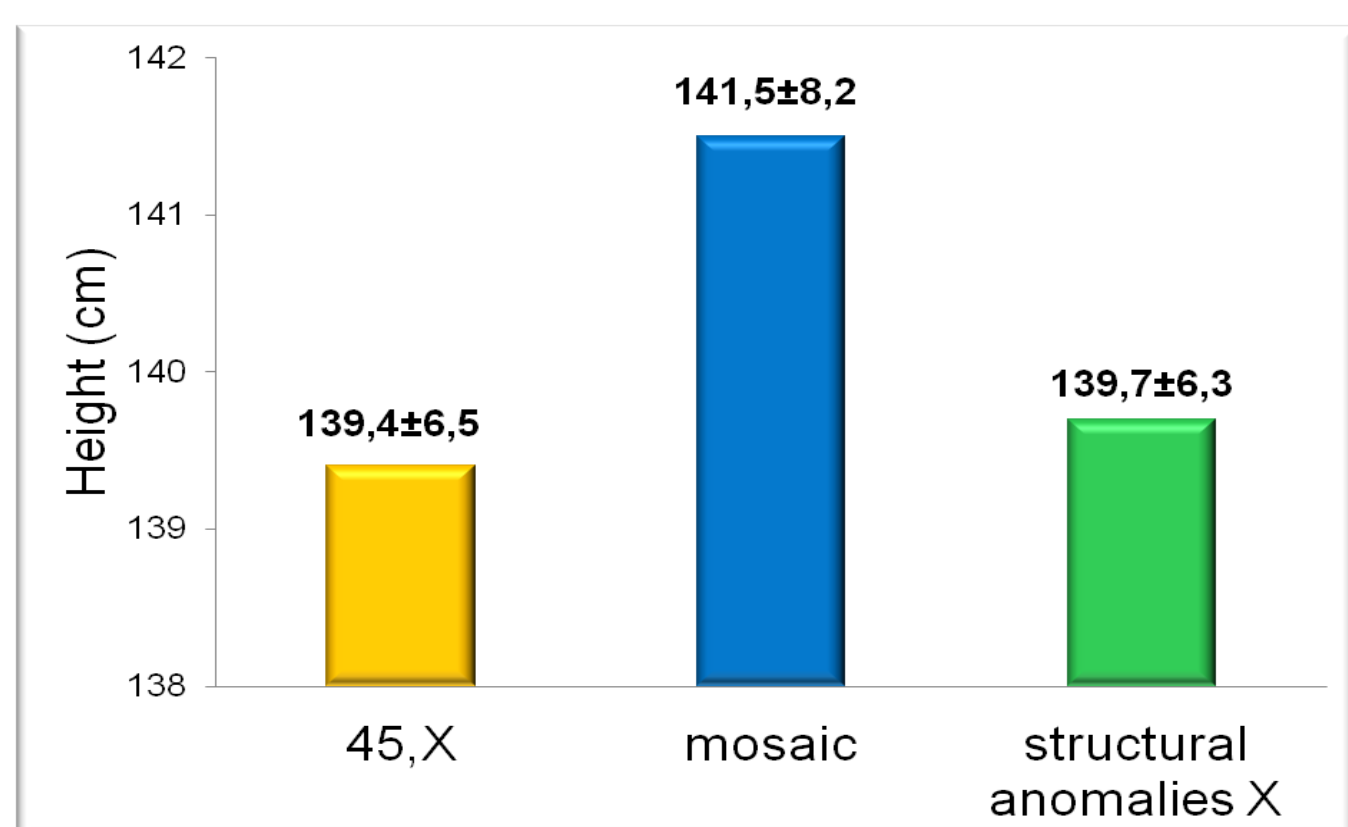


Fig 1. The final height and degree of growth delay of girls with TS and different karyotype

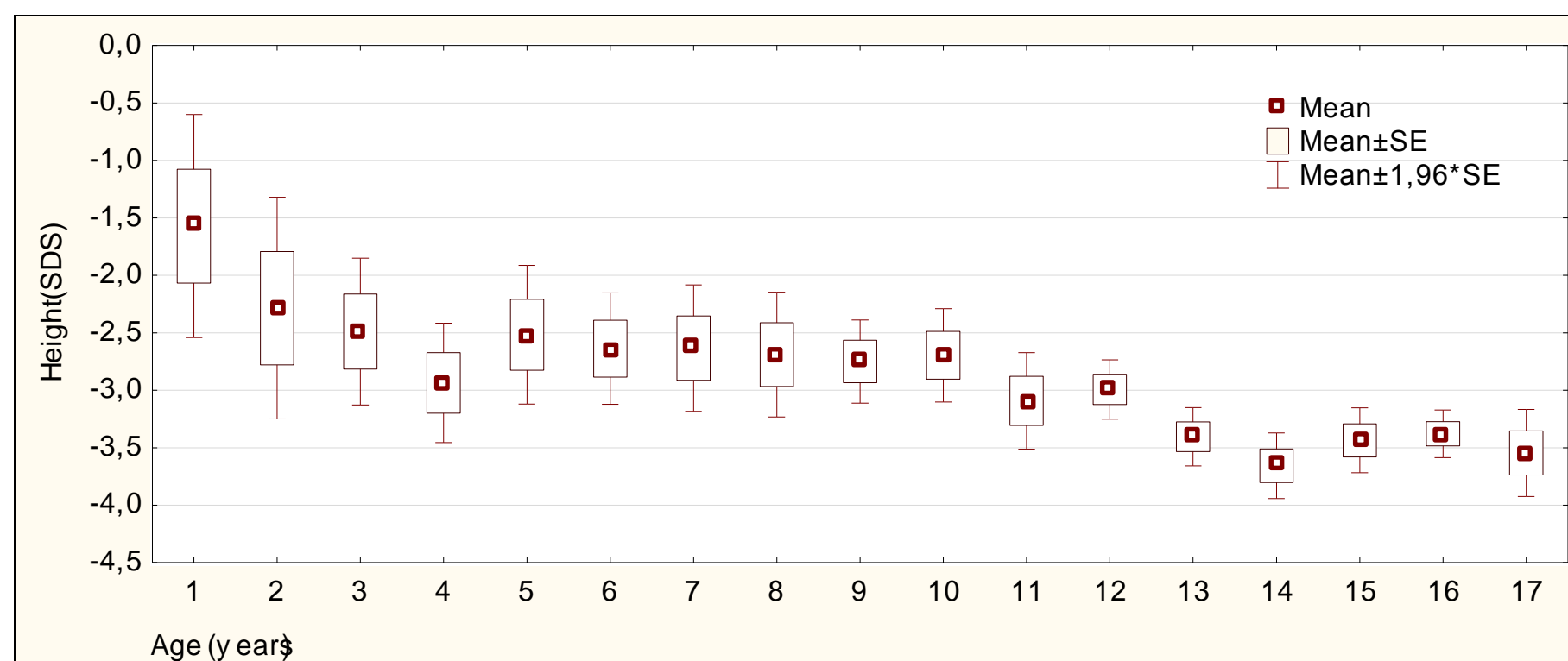


Fig 2. Degree of growth delay in girls with TS of different ages group.

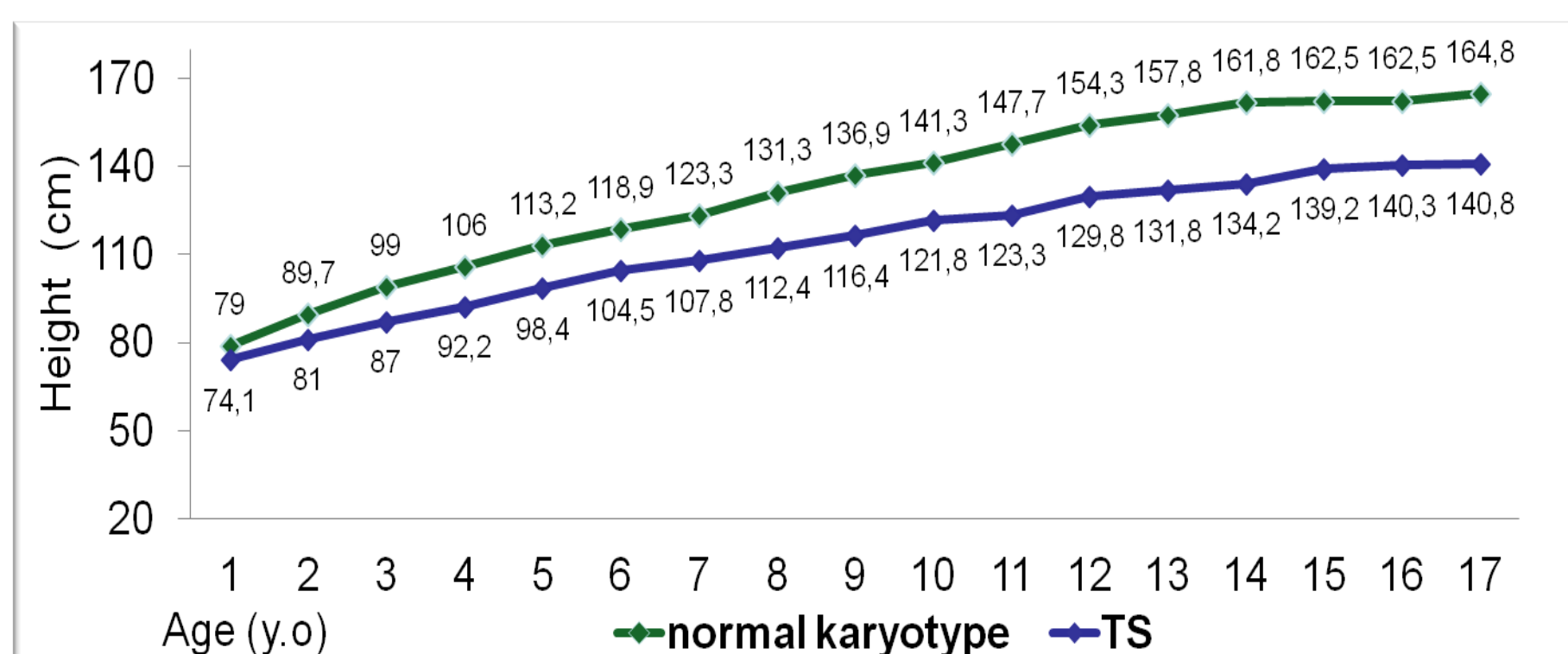


Fig 3. The average height of girls with TS and control group

Conclusions

1. There is no difference in degree of growth retardation at TS girls with different karyotype.
2. Growth delayed in TS girls is noticeable from the first year of life, increases with age, and is a greatest in the pubertal age.
3. The mean growth delay in TS girls is $-3,1 \pm 1,1$ SD and is greatest in the age of 14 years.

References

1. Bondy C. A. Care of girls and women with Turner syndrome: a guideline of the Turner Syndrome Consensus Study Group // J. Clin. Endocrin. Metab. – 2007. – Vol. 92 (1). – P. 10-25.