

# PUBERTY DELAY IN GIRLS: ANALYSES OF DISEASE STRUCTURE DEPENDING ON CLINICAL CHARACTERISTICS

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## OBJECTIVE

To evaluate the structure of puberty delay in girls according to clinical characteristics.

## METHODS

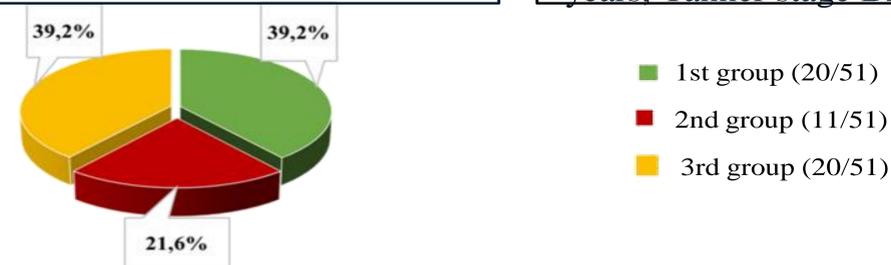
We included 51 girls with puberty delay (mean age  $14.2 \pm 0.82$  years) into the study. Inclusion criteria: no secondary sex characteristics by the age of 13 years; or no menstruation by age 15 years or no menarche during 3 years or more from the onset of estrogen-dependent signs of puberty development. Exclusion criteria: age 18 years or more, ambiguous genitalia.

According to clinical characteristics girls were divided into 3 groups:

1st group included girls with absence of secondary sex characteristics by age 13 years (mean age  $\pm$  SD  $13.6 \pm 0.7$  years, Tanner stage B1)

2nd group included girls with no signs of further puberty progression by age 14 years or more (mean age  $\pm$  SD  $15.1 \pm 0.8$  years, Tanner stage B2-3).

3rd group included girls with absence of menarche onset by age 15 years or more (mean age  $\pm$  SD  $15.5 \pm 0.5$  years, Tanner stage B4-5).

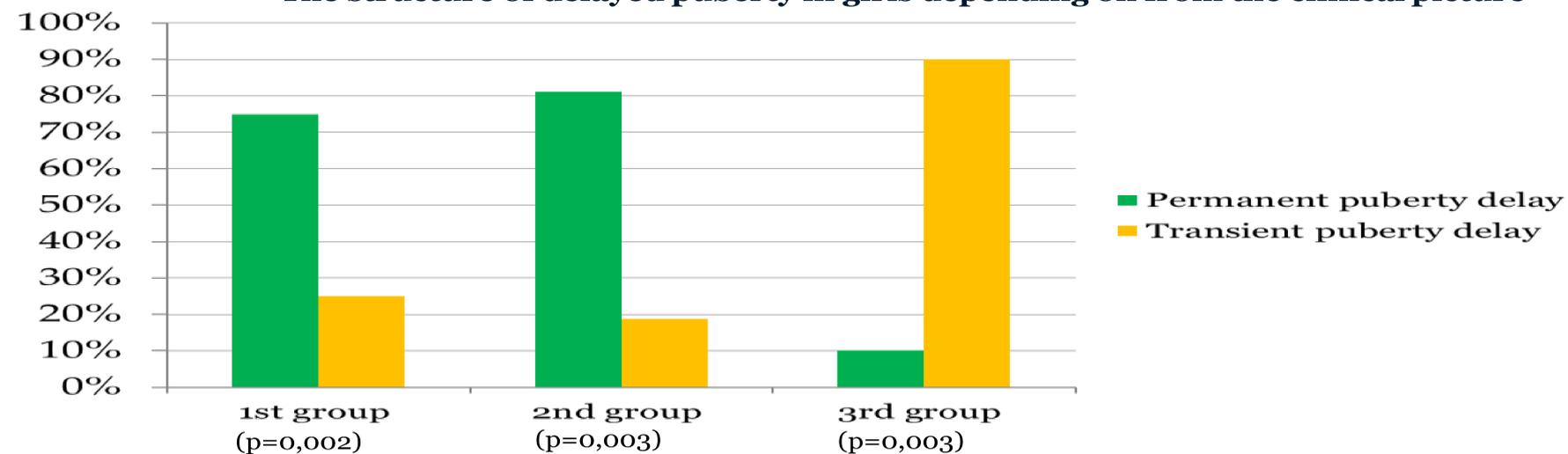


Tanner stage, antropometric data, bone age, genitometric characteristics, LH,FSH, prolactin, estradiol, testosterone, DHEA, inhibin B, anti-Mullerian hormone serum levels were evaluated in all the girls. Gonadotropin stimulation test (GnRH), (n=24), cytogenetic (n=45), molecular genetic tests (n=7) and brain MRI with contrast agent were provided (n=5).

According to the study design we analyzed girls with permanent puberty delay including hypogonadotropic and hypergonadotropic hypogonadism and girls with transient puberty delay caused functional hypogonadism and constitutional puberty delay.

## RESULTS

### The structure of delayed puberty in girls depending on from the clinical picture



## CONCLUSION

Such clinical features of puberty delay as primary amenorrhoea and complete lack of pubertal development were twice as frequent as the absence of puberty progression signs in girls in proper age. We revealed the association between permanent or transient puberty delay in girls and clinical signs of illness. Permanent puberty delay was observed more often among girls with the absence of secondary sex characteristics or puberty progression while transient puberty delay was observed more often among patients with primary amenorrhoea.

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