



IGF-1 RELATIONSHIP WITH GROWTH VELOCITY IN PRECOCIOUS PUBERTY WITH GnRHa TREATMENT



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BACKGROUND

Although it is reported that central precocious puberty (CPP) GnRH analogue (GnRHa) treatment decreases the growth velocity, its relation with IGF-1 is controversial. We aimed to investigate the effects of GnRHa treatment on IGF-1 level and the relationship between IGF-1 level and growth velocity (GV) in our study.

METHOD

Forty-four girls with CPP, who started breast development before the age of 8 years, were enrolled in the study. IGF-1 level was measured at the onset of treatment and at sixth month of treatment. The first year growth velocities of the patients were evaluated.

RESULTS

At Diagnosis	Mean± SD
Chronologic age (CA)	8,18±1,25
Bone age (BA)	9,75±1,64
IGF-1 level	317,7±127,4
IGF-1 SDS according to CA	1,41±1,56
IGF-1 SDS according to BA	0,41±1,05
Growth velocity (GV) SDS	1,24±2,23
At 6. months of the treatment	
IGF-1 level	319,1±129,6
IGF-1 SDS according to CA	1,12±1,30

Growth velocity is is neatively correlated with level of LH at diagnosis (p:0,008)

There was a positive correlation between	
ΔIGF-1 SDS according to CA vs	Height SDS at diagnosis
	Weight SDS at diagnosis
	First year height
	First year height SDS
	First year weight
	First year weight SDS
(p<0,05)	

There was a positive correlation between	
Level of IGF-1 at diagnosis vs Level of IGF-1 at 6th month vs	At diagnosis
	CA
	Height
	Weight
	Breast stage
	Pubic hair stage
	BA
	BA-CA
	FSH
	LH
	Estradiol
	Uterin length
Over volume	
(p<0,05)	

There was a positive correlation between	
IGF-1 SDS according to CA vs	At diagnosis
	Height SDS
	Weight
	Weight SDS
	BA-CA
(p<0,05)	

There was no correlation between IGF-1 and GV SDS but there was a positive correlation between IGF-1 level and GV in patients whose IGF-1 level was decreased by treatment. (p<0,05)

We found that the patients whose IGF-1 level was decreased by treatment, have lower height SDS, CA-IGF-1 SDS and BA-IGF-1 SDS (p<0.05).

CONCLUSION

In our study, there was a positive correlation between IGF-1 level and GV in patients whose IGF-1 level was decreased by treatment. It suggests that starting the treatment at the beginning of puberty increases risk of the IGF-1 and growth velocity's decrease because the patients whose IGF-1 level was decreased by treatment have lower height SDS and IGF-1 SDS. However, it should be considered that the decreased GV in patients with no IGF-1 decrease may be due to excessive suppression of sex steroids.

