

The effect of 3 years of Gonadotropin-Suppressive Therapy in Girls with Early Puberty: Height Z Score in Relation to Mid-Parental height Z score.

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Introduction

Early and fast puberty (EFP) in girls, defined as pubertal onset at age 8-9 yr., with an accelerated course, may compromise final adult height (FAHt).

Treatment with a gonadotropin-suppressive agent is still controversial because the improvement in FAHt is equivocal and there may be a risk of overweight.

Aim of the study :

We analysed the data of 24 girls with the diagnosis of EFP who were treated with GnRH analogue (GnRH) when they present (Tanner stage 2-3) for 3 years; and measured their clinical, hormonal and skeletal maturation for the period of treatment.

Results

- **Before GnRH therapy**
- Their height SDS (HtSDS) = 0.75 +/- 1
- The bone age was advanced by 2 +/- 1 yr. compared to their chronological age.
- The difference between their HtSDS and their mid-parental HtSDS (MPhtSDS) = 1.5 +/- 0.9.

Results

After 3 years of using GnRH 3.75 mg IM monthly:

- The HtSDS = 0.43 +/- 1.6 and
- The bone age advanced by 0.8 +/- 1 yr. compared to their chronological age.
- The difference between their HtSDS and their MPhtSDS = 1.1 +/- 1.3.
- Their breast Tanner stage was similar to that at the beginning of therapy.
- The BMI SDS increased from 1.25 +/- 1 before treatment to 1.65 +/- 1 after 3 years of treatment.

Table1: Auxological data for girls with EFP at presentation and after 3 years of GnRH therapy:

	At presentation	3 years
Age (years)	7.5 +/- 1.8	10.9 +/- 1.5
HtSD	0.75 +/- 1	0.43 +/- 1.6
Growth Velocity	8.3 +/- 1.5	5.3 +/- 1.5
HtSD- MPHSD	1.5 +/- 0.9	1.1 +/- 1.3
MPHt (cm)	160 +/- 4	
Predicted FAHt (cm)	154.5 +/- 8	158.9 +/- 9
BA -CA	2 +/- 1	0.8 +/- 1
BMI SDS	1.25 +/- 1	1.65 +/- 1

Conclusion

- GnRH therapy for 3 years was successful in
1. delaying the onset of a pubertal growth spurt,
 2. decreasing the rapid progress of their skeletal maturation and
 3. increasing the potential for attaining final adult height comparable to or higher than their mid parental height.
 4. Treatment was associated with a mild increase in the BMI SDS.

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