

One year use of Anastrozole improves the Predicted Adult Height of male adolescents with and without associated GH therapy



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INTRODUCTION

- Estrogen is an essential regulator of bone maturation, growth plate fusion, and cessation of longitudinal growth.
- Aromatase inhibitors (AI) block the conversion of androgens to estrogens, and can be used to delay bone maturation in males.
- We sought to determine whether the blockage of estrogen biosynthesis due to the use of the AI Anastrozole increases the Predicted Adult Height (PAH) in boys with short stature with and without associated Growth Hormone (GH) therapy.

PATIENTS & METHODS

- 28 boys with short PAH used oral Anastrozole 1mg/day for one year.
- 18 received GH therapy for GH deficiency or Intrauterine Growth Retardation ("GH" group).
- 10 were diagnosed with Idiopathic Short Stature and did not receive GH ("ØGH" group).
- PAH was calculated based on Bayley/Pinneau formula.
- Clinical parameters were assessed every 3 months, Hormonal data were collected twice a year.
- Statistic Analysis: CI 95%, significance level ($p \leq 0.05$)

RESULTS

- The medium age at the beginning of treatment was 13,6 years. We observed no major side effects.
- After one year of Anastrozole use we observed statistically significant increases in PAH, compared to TH and basal PAH in both group.

The authors have no conflict of interest

RESULTS

- The results are summarized in Table 01 and Figure 01.

Table 01 – Comparison between TH, Basal PAH and PAH after 1 year of 1 mg/day oral Anastrozole use.

Group	TH (cm)	Basal PAH (cm)	PAH (cm)	p^*	PAH - TH	PAH - Basal PAH
"ØGH"	173.7 ± 4.39	170.62 ± 3.9	176.8 ± 3.89	0.003	+3,1	+6,2
"GH"	171.48 ± 4.48	168.77 ± 4.1	175.11 ± 4.46	<0.001	+3,6	+6,3
Total	172.28 ± 4.50	169.43 ± 4.06	175.71 ± 4.27	<0.001	+3,4	+6,3

TH = Target Height; PAH = Predicted Adult Height; "ØGH" = Group that did not receive Growth Hormone; "GH" = Group that received Growth Hormone.

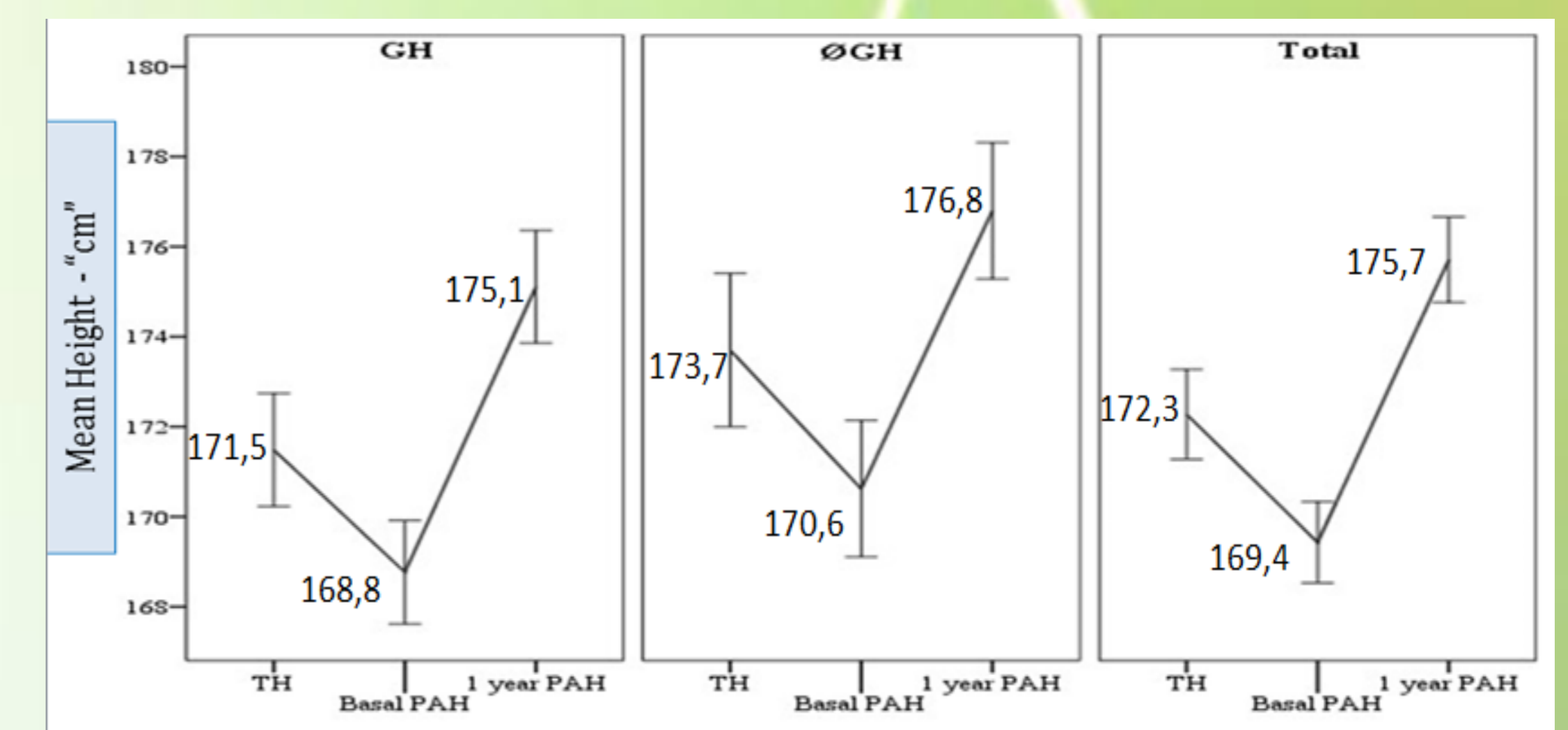


Figure 01 – Comparison between TH, Basal PAH and PAH after 1 year of 1 mg/day oral Anastrozole use.

CONCLUSIONS

- One year use of Anastrozole in boys with short PAH can improve the PAH in "GH" and "ØGH" groups. The complete follow up until adulthood will determine if this increase in PAH will reflect in better final adult height.

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