

## Failure to Improve Height Prediction in Short Stature Pubertal Adolescents by Inhibiting Puberty With Luteinizing Hormone-Releasing Hormone Analogue

Treatment with long-acting D-Trp6-luteinizing hormone-releasing hormone at a dose of 3.75 mg IM monthly was given for 24 months to 17 endocrinologically normal adolescents of short stature (9 females ages  $11.8 \pm 1.5$  years; 8 males ages  $13.2 \pm 1.1$  years). The patients were referred at pubertal stages II-III according to Tanner, with a height prediction below -2.5 SD according to Bayley and Pinneau tables.

Pubertal progression was suppressed during the 2 years of analogue therapy, but then resumed shortly after the end of treatment. Annual growth rate remained in the prepubertal range during the treatment period and did not increase with the resumption of sexual development. A reduced rate of bone maturation was observed during the 2 years of analogue treatment, but there was no clear-cut increase of the height to bone age relationship at the end of treatment nor after the post-treatment observation period of 12 to 14 months. Thus, after approximately 3 years of study, no significant improvement of predicted adult stature was obtained. There were no side effects, but psychological problems occurred mainly related to the failure to increase height.

The authors conclude that even if methods for predicting adult height are not accurate, the data suggest that use of LHRHa in endocrinologically normal short subjects entering puberty at normal age with a poor height prognosis does not offer enough possible advantages on growth to offset the psychological drawbacks, and this approach cannot be considered as routine treatment in this situation.

Linder D, et al. *Eur J Pediat.* 1993;152:393-396.

**Editor's comment:** *Further studies which are undertaken under rigid protocol are needed to answer the question whether LHRH analogues can be effective in normal short individuals. I suspect that the results of such studies will confirm the data presented here as GH production falls significantly when LHRHa is given. This article is abstracted because it is one of the first to report attempts to increase growth in normal length and intrauterine growth retarded children by using LHRHa. Ten of the subjects had a birth length >-2SDs below the mean height.*

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