Conclusion

The maturation of the long bones and short bones of the hand differs from the carpal bones. We aimed to determine role of GH. Bone maturation and outcome in 9 patients with HP and PHP seen over a period of 3 y. RU, C and S advanced by a mean 3.1 'y', (p = 0.058). In GHD over 3 y of GH treatment, RU advanced by a mean 3.1 'y' (p < 0.01), and S bones 2.9 'y' (p < 0.001). These results suggest that GH strongly regulates and GHD interferes with bone maturation by inhibiting chondral osteogenesis and less so through delayed enchondroplasia, observed by RU and S maturation. These profiles help in the diagnosis of GHD.

Background

The current study examined the hypothesis that Cyproheptadine can enhance linear growth and increase weight velocity in children with idiopathic GH deficiency.

Method

10 children with idiopathic GH deficiency received Cyproheptadine 0.3mg/kg three times per week plus GH 0.6U/kg/day for six days a week for 1-year period, alternatively (GH plus Cyproheptadine for first and third trimesters, and GH plus placebo for second and fourth trimesters). Weight velocity and linear growth were assessed at baseline and at end of every trimester.

Result

The repeated measure ANOVA test showed significant differences in weight velocity across the study trimesters so that the increase in weight velocity within first and third trimesters were significantly higher than other time intervals (ΔWW for first trimester 1.51±0.61kg; second trimester 1.3±0.46 kg; third trimester 1.67±0.65kg; and fourth trimester 0.74±0.34 kg, p = 0.026). Similar trend was also observed regarding changes in linear growth in the increase in children height was significantly higher in first and third trimesters as compared with other trimesters (ΔLG: for first trimester 2.40±0.39cm; second trimester 1.65±0.41cm; third trimester 2.00±0.88kg; and fourth trimester 1.30±0.48 kg, p = 0.029). The standard deviation of linear growth was gradually decreased during the study trimesters (4.75, 4.50, 4.25, and 3.88 cm, respectively, however the changes in this parameter was not different between the two drug regimens.

Conclusion

Our study showed improved linear growth and weight velocity following administration of Cyproheptadine in children given GH because of their GH deficiency.

ENHANCEMENT OF LINEAR GROWTH AND WEIGHT VELOCITY BY CYPROHEPTADINE IN CHILDREN WITH IDIOPATHIC GROWTH HORMONE DEFICIENCY RECEIVING THIS HORMONE

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Background

The first study examined in late puberty regardless of gender. More pronounced features of laboratory thyrotoxicosis in boys can say about late diagnostic. Normalization of free T4 was after 6 months treatment in 66.7% children.

THE ROLE OF GROWTH HORMONE IN BONE MATURATION: EVALUATION BY HAND X-RAY

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The maturation of the long bones and short bones of the hand differs from the carpal bones. We aimed to determine role of GH. Bone age x-ray was performed in 12 children with GHD, 19 ISS children age 5.5±0.9 (m±sd) during 3 y of hGH treatment and 12 untreated ISS children. Individual bones were evaluated by a single blinded observer according to Greulich and Pyle, and are expressed as ‘years’ (y) of delay relative to chronological age.

In ISS, maturation was delayed by 1.87±0.3, 2.07±0.25 and 1.75±0.2 'y' for RU, C and S bones, resp. In GHD, maturation was delayed by 3.1±0.4, 4.5±0.2 and 2.9±0.4 'y' for RU, C and S bones, resp. In ISS over 3 y of GH treatment, RU advanced by a mean 3.5±0.4 'y', as compared with untreated 3.3±0.7 'y' (p < 0.10), C advanced by a mean 4.2±0.7 'y' on hGH and 3.3±0.6 'y', in control (p < 0.001), and S bones by a mean 3.5±0.9 'y' on hGH and 3.15±0.7 'y' in control (p < 0.05). In GHD over 3 y of GH treatment, RU advanced by a mean 3.1±0.4 'y' , (p < 0.10). C advanced by a mean 4.3±0.2 'y' (p < 0.001), and S bones 2.9±1.0 (p < 0.001).

These results suggest that GH strongly regulates and GHD interferes with bone maturation by inhibiting chondral osteogenesis and less so through delayed enchondroplasia, observed by RU and S maturation. These profiles help in the diagnosis of GHD.