

## **EFFECT OF GLUCOCORTICOID DOSE AND LABORATORY MONITORING ON GROWTH IN CHILDREN WITH 21-HYDROXYLASE DEFICIENCY**

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We studied growth pattern and height outcome in 47 patients of 21-hydroxylase deficiency (30 with salt wasting and 17 with simple virilizing form) to evaluate factors influencing outcome with special emphasis on effect of glucocorticoid dose and laboratory monitoring during different age groups and on final height.

Final height SDS was significantly lower than target height SDS ( $p = 0.002$ ). Corrected final height SDS significantly correlated with height SDS at each of the age groups after the age of 2 years (with an exception at 8 years) suggesting that significant height compromise had occurred by the age of 2 years. Corrected final height SDS was not influenced by gender, age at diagnosis and steroid formulation (hydrocortisone or prednisolone). Multivariate analysis revealed significant influence of higher glucocorticoid dose during 6-12 months of age on corrected final height SDS ( $r = -0.82$ , 95% CI  $-1.53$ - $-0.11$ ,  $p = 0.02$ ) and a trend of influence for lack of laboratory monitoring ( $r = -0.53$ , 95% CI  $-1.2$  -  $0.18$ ,  $p = 0.14$ ). Laboratory monitoring significantly influenced age specific height SDS during 1-2 years, 4-5 years and 10-12 years with a trend of continued gain in height SDS from 3-4 years to 5-6 years. Trend of lower corrected age specific height SDS with higher glucocorticoid doses was noted between the age of 6-12 months and 8-10 years.

Our study emphasizes the need for improving management of 21-hydroxylase deficiency with the use of low doses of steroids during infancy and between 8 and 10 years along with regular laboratory monitoring.

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