

## Congenital Idiopathic Growth Hormone Deficiency Associated With Prenatal and Early Postnatal Growth Failure

The authors identified 52 infants with presumed congenital growth hormone deficiency (CGHD) in whom therapy with GH was initiated before 2 years of age. Seven infants had septo-optic dysplasia, and the remainder had idiopathic CGHD (although imaging studies of the CNS are not reported). Delivery was normal in 67%, assisted in 10%, and by cesarean section in 23%. Two thirds of these infants were males. Mean birth length ( $48.3 \pm 2.8$  cm) and mean birth weight ( $3.14 \pm 0.61$  kg) were below published normal data ( $P < 0.05$ ); the mean birth length was more than 2 standard deviations (SD) below the mean normal birth length. Infants with idiopathic CGHD were relatively obese at birth. Serum GH concentrations (determined in random or stimulated specimens) were less than 5 ng/mL in 85% of infants and between 5 to 10 ng/mL in the remaining 15%. GH deficiency was isolated in 42% of infants. Postnatally, growth velocity was slow in infants with CGHD. Seventy percent of subjects measured at 6 months, and 91% of these measured again at 12 months, had reported lengths falling below 2 SD from the norm. The investigators concluded that GH deficiency may impair in utero and postnatal growth, and

that GH is an important factor for human fetal and infantile growth.

Gluckman PD, Gunn AJ, Wray A, et al. *J Pediatr* 1992;121:920-923.

**Editor's comment:** *There has been uncertainty about the role of GH in fetal and early postnatal growth. However, neonates with GH insensitivity (Laron syndrome) and with isolated GH deficiency due to abnormalities of the GH gene are short at birth and have poor postnatal growth. These observations, and the current data from a large group of infants with CGHD, indicate that GH is a growth factor for the human fetus and infant, although the mechanism(s) through which it exerts these growth-promoting effects (idiopathic growth factor 1, idiopathic growth factor 2, or other growth factor) is unknown. It is also of interest that 15% of infants with CGHD had serum GH concentrations between 5 to 10 ng/mL at diagnosis; however, the nonuniformity of collection and assay of GH specimens makes interpretation of this observation less certain.*

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