

## Effect of GH-Releasing Factor on GH Release in Children With Radiation-Induced GH Deficiency

Lustig and co-workers report five male children who had received cranial irradiation for extrahypothalamic intracranial neoplasms or for leukemia, and subsequently developed severe growth hormone (GH) deficiency. Each was challenged with supramaximal amounts of growth hormone-releasing factor (GHRF). Mean peak GH levels after GHRF rose to values higher than those evoked by levodopa or arginine ( $6.4 \pm 1.3$  ng/ml v  $1.5 \pm 0.4$  ng/ml,  $P < 0.05$ ). The responses to GHRF were similar to those obtained in children with severe GH deficiency due to other etiologies. The results support the hypothesis that cranial irradiation in children can lead to hypothalamic GHRF deficiency secondary to GHRF-neuronal injury.

Lustig RH, Schriock E, Kaplan SL, et al: *Pediatrics* 1985;76:274.

**Editor's comment**—These data are consistent with previous reports of diminished GH secretion after cranial irradiation for neoplastic disease. However, they show pituitary responsiveness to GHRF and point toward the hypothalamus as the site of injury. The five patients with severe GH deficiency represent a rather small subset of those who have had cranial irradiation. It would be of interest to test a large number of long-term surviving children who had received cranial irradiation with submaximal amounts of GHRF to determine sensitivity as well as efficacy. Additional data—such as those from Blatt and co-workers (*J Peds* 1984;104:182) assessing the intrinsic secretory pattern of GH—would round out this study to define the neurosecretory system alteration for the GH "system" following a single protocol of cranial irradiation.