

## Short-Term Testosterone Treatment at Bone Age 12-13 Years Does Not Reduce Adult Height in Boys with Constitutional Delay of Growth and Adolescence

Zachmann, Studer, and Prader retrospectively compared the adult heights of two groups of males with constitutional delay of growth and adolescence (CDGA). The first group (22 patients) had received no therapy. The second group (19 patients) had been treated with long-acting testosterone, at a dose of 100-250 mg/month for periods of 2-45 months. Target height calculations (mid-parental heights) and predicted heights (calculated by three methods) were used.

The mean adult height was not compromised in the treated group, but was comparable with or exceeded the predicted heights for both groups. The authors conclude that there was no correlation of the total testosterone dose (absolute and corrected for surface area) with adult height and with the differences between the three height predictions and adult height. The authors also state that the fear that testosterone treatment might later impair gonad function and fertility is not warranted.

Zachmann M, Studer S, and Prader A. *Helv Paediatr Acta* 1987;42:21.

**Editor's comment**—*These analyses are for groups and not individuals, which limits their value somewhat. One must be cautious in using mean data for groups and applying the interpretation of those data to treatment of individuals. For example, a minority of patients may grow markedly and a majority grow moderately less than the mean for the group. This can be interpreted to mean that treatment may be contraindicated for most*

## Does Growth Hormone Cause Relapse of Brain Tumors?

This report compares tumor relapse rates in two groups of patients: 31 growth hormone (GH)-treated patients with brain tumors distant from the hypothalamic-pituitary axis and all patients with similar tumors in the North-West Tumor Registry between 1972 and 1982. Those in the latter group did not receive GH.

Patients treated with GH for growth failure secondary to cranial irradiation included 14 with medulloblastoma, eight with glioma, two with ependymoma, six with leukemia, and one with T-cell lymphoma. Five relapses occurred: one optic nerve glioma, two medulloblastomas, and two ependymomas. Three relapses occurred during GH therapy, and two occurred after GH therapy was completed. The relapse and survival rates, which were presented according to tumor type, indicated that GH therapy did not increase the risk of tumor relapse. Patients treated with GH did not have more relapses, either during or after discontinuation of therapy, than those who did not receive GH. Patients who relapsed tended to be older at

patients with the condition under consideration. Therefore, caution is urged in using mean data of groups to determine therapeutic approaches. I invite the authors to write to Growth, Genetics, and Hormones and supply data on individuals and/or comment more fully on their study findings.

The authors' statement regarding the absence of long-term effects of testosterone therapy is related not to patients in this study but to data published elsewhere by Zachmann et al (*J Pediatr* 1976;88:116).

The authors' findings may be in accord with those of Martin et al [published in *Illig R*, ed: *Pediatr Endocrinol*, and Visser HKA, ed: *Acta Endocrinol* (1986;Suppl:279)].

diagnosis and have slightly later onset of puberty.

Clayton PE, Gattamaneni HR, Shalet SM, et al. *Lancet* 1987;1: 711-713.

**Editor's comment**—*This paper presents important information for physicians caring for children who have received cranial irradiation and have subsequently developed growth failure. Although a significant number of patients with central nervous system (CNS) tumors will experience relapse, it is reassuring that those treated with GH do not appear to be at increased risk. However, as the prognosis for patients with CNS tumors begins to improve, it is important to identify the long-term sequelae associated with either the tumor or GH treatment of growth failure. For those receiving craniospinal irradiation, hypothalamic pituitary dysfunction is common. There is often a reluctance to begin GH therapy in these patients, since it has been considered by some to contribute to tumor regrowth or relapse. The findings of the present study suggest that GH treatment does not increase this risk.*

William L. Clarke, M.D.

Martin et al examined individual data and group data. They concluded that a monthly dose of 50 or 100 mg of testosterone cypionate for approximately 9-12 months did not diminish predicted height, although a dose of 200 mg/month was associated with a trend toward stature that was lower than predicted.

My approach to therapy for patients with CDGA is to use a monthly dose of only 50-100 mg of testosterone enanthate for 6-12 months and only in boys 14 years of age and older. Younger boys are better treated with oxandrolone ( $\leq 0.1$  mg/kg body weight/day).

Robert M. Blizzard, M.D.