Favorable Final Height Prognosis in a Patient with Congenital Panhypopituitarism Diagnosed After the Age of 25 Years

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This case report concerns a prepubertal patient (height 148.7 cm) with congenital anterior panhypopituitarism diagnosed at the chronological age of 25.2 years (bone age 12.5). The institution of replacement therapy with human growth hormone (hGH), hydrocortisone and thyroxine was followed within 6 months by advancement of both height (5.1 cm) and bone age (9 months) and by regression of hypothyroid symptoms and hypoglycemic attacks. At the age of 25.7 years the inclusion of depotestosterone in the treatment schedule induced a further growth acceleration. Target height and adult height (172.8 cm i.e. 106 % of target height) were reached respectively at the age of 26.6 and 29.8 years. Pubertal growth duration and pubertal height gain were 4.1 years and 19.0 cm respectively. Owing to the abnormally long prepubertal growth, his adult proportions remained eunuchoid (sitting height / height ratio 0.493). Both perinatal history (breech delivery) and MRI findings (pituitary stalk interruption) of this patient were typical, but his clinical course was unusual in that he achieved an adult stature exceeding those of his parents (father 159 cm, mother 155.3 cm) and brothers (from 162.2 to 172.0 cm) in spite of the very late initiation of GH treatment. Due to the severe bone age delay our patient was not short with respect to bone age at the start of GH substitution. This allowed him to reach his full growth potential. Moreover, because of the lacking spontaneous puberty, our patient had already reached a stature corresponding to 94.4 % of target height at induction of puberty. His next pubertal height gain was not great, as commonly observed in subjects with delayed puberty; nevertheless, it was sufficient for him to attain an appropriate final height. To sum up, the favorable final height prognosis even in a very uncommon case like this confirms that adult height in hypopituitarism is mainly related to both height at onset of puberty and height with respect to bone age, but not chronological age at initiation of GH therapy.