Growth Hormone Therapy in Five Patients with Malignant Intracranial Tumors

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Abstract

Objective: Growth hormone deficiency (GHD) is one of the most commonly observed hormonal disorders in intracranial tumor survivors. Contemporary regimens of growth hormone (GH) replacement therapy are effective in restoring linear growth and improving the adult height outcomes of children with GHD. The aim of this study was to investigate the efficacy and safety of human GH therapy in survivors of some pediatric intracranial tumors.

Methods: The medical files of patients were reviewed for background, disease-related and treatment-related data. We analyzed the efficacy of GH therapy in five intracranial tumor patients who presented with short stature and GHD.

Results: The study group included 5 patients with median age of 7.5 years. Median age at tumor diagnosis was 3.3 years. The subjects were evaluated for growth retardation after 1.8 and 8 years from tumor diagnosis. Two patients had astrocytoma, one ependymoblastoma, one rabdomyosarcoma and one had PNET. Treatment consisted of chemotherapy or radiotherapy following surgery. Height SDS increased significantly following GH therapy. GH therapy was interrupted for nine months in one patient for suspicion of relapse which was not verified in retrospect, and treatment was continued thereafter (case 3). Also in another patient, therapy was stopped due to increased seizure frequency, but there was no change in seizure frequency after cessation of GH therapy (case 5).

Conclusion: GH therapy may be considered safe in most intracranial tumors following cure. Multidisciplinary approach with careful assessment is essential in the follow-up of GH treatment in childhood survivors of intracranial tumors. The follow-up should be carried out by radiologist, oncologist, neurosurgeon, neuro-ophthalmologist, radiooncologist and endocrinologist specialized in the management of brain tumors.