

## RADIOTHERAPY OF GERM CELL TUMOR IN BASAL GANGLION: CASE REPORT AND REVIEW OF LITERATURE

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A 15 year-old boy was sent to our Neurologic Department because of severe headache and sudden onset of right hemiparesis. Neurologic examination showed motor dysfunction of right upper limb, bilateral temporal visual field deficits and impaired visual acuity. Computer tomographic scan and magnetic resonance imaging showed a mass lesion in the left basal ganglion region. He received craniotomy for partial resection of the tumor and the nature of the tumor was proved to be germinoma, histologically. He was then treated by radiotherapy with a mean dose of 21 Gy to the whole brain and an additional boosting dose of 20 Gy to the tumor bed by three-dimensional conformal radiotherapy. There was an elevation in the serum concentration of beta-human chorionic gonadotropin (B-HCG) and alfa-fetoprotein (AFP) after the operation which suggested the possibility of other germ cell components in the tumor. However, the response of radiotherapy was good. No obvious residual tumor was found from the CT scan followed up after the irradiation. Both serum level of HCG and AFP returned to nearly normal level after radiotherapy. No acute radiation toxicity was noted during irradiation and the muscle power of his right arm improved after follow-up for one year until the present. Long-term follow-up and further clinical studies are needed to determine the benefit of this moderate dose radiotherapy.

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### INTRODUCTION

Germ cell tumor is a rare neoplasm in the central nervous system of children and young adults. The incidence is about 0.2-1% in the USA and other Western countries. However in Japan, these tumors are more common, comprising 2-6% of all central nervous system neoplasms. In Taiwan, the incidence is about 11.1% in the pediatric group of a reported series [4]. Intracranial germ cell tumor develops frequently

in 10- to 15-year-old adolescents and young adults. Most of the intracranial germ cell tumors are located at the pineal region (60%), and some are located at the suprasellar region (30-50%). Multiple midline tumors can occur but are rare. Approximately 60% of intracranial germ cell tumors are classified as germinoma, 15-20% are marker-secreting types (i.e., embryonal carcinoma, endodermal sinus or yolk sac tumor, choriocarcinoma), and 15-20% are teratoma. Pure germinoma can be cured by radiation therapy alone

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