

Long-term outcome of conventional radiation therapy for central neurocytoma

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Abstract The authors report the long-term outcome of conventional radiation therapy (RT) in six cases of central neurocytoma (CN). Between 1985 and 1992, six patients were treated with RT for residual tumors or for prevention of recurrence after surgery. The median follow-up period of radiological and clinical status were 171 (range: 128–229) and 202 months (range: 165–227), respectively. Tumors disappeared in three and reduced in three patients at the last follow-up. One-mortality case due to radiation necrosis and one radiation-induced malignancy occurred. White matter degeneration and cortical atrophy were noticed with slow progression of performance deterioration in two patients. Conventional RT seemed to effectively control residual CN after surgery. However, more sophisticated radiation techniques should be applied to minimize the late sequela.

Keywords Central neurocytoma · Conventional radiation therapy · Long-term outcome

Introduction

Central neurocytoma (CN) is a rare neuronal tumor of the lateral ventricle and characteristically occurs in young adults, and mainly presents with symptoms and signs of increased intracranial pressure caused by CSF pathway obstruction [1]. Given its benign biological behavior, complete resection of the tumor usually leads to cure and long-term survival [2]. However, there have been reports of recurrence after complete resection [3]. Regarding the long-term results of radiation therapy (RT) for CN, there have been limited sources of reports until now [3–7]. Thus, to document the safety and the efficacy of irradiation for CNs, the authors retrospectively analyzed the long-term outcomes of six CN patients treated with RT as an adjuvant treatment. This paper reports results from long-term follow-up for another 10 years in continuation of a previous study of the six patients which was reported in 1997 [4].

Case studies

Between 1985 and 1992, six patients underwent adjuvant RT after gross total resection (three) or subtotal resection (three) as initial treatment. The initial histological diagnosis was intraventricular oligodendroglioma in three and CN in three. Review of pathologic slides was retrospectively undertaken for all using light microscopy, immunohistochemical staining, and/or electron microscopy, later [2]. Finally, all tumors were diagnosed as CN. No patient received adjuvant chemotherapy. The medical

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