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### **Radiation-induced astrocytoma with rapid malignant transformation.**

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#### **Abstract**

A 23-year-old man was admitted with a rare case of radiation-induced astrocytoma manifesting as 3-month history of unstable gait. He had received 50 Gy of irradiation therapy for a germ cell tumor in the right basal ganglia 13 years earlier. Magnetic resonance (MR) imaging on admission showed a non-enhanced mass lesion in the right cerebellar hemisphere with expansion to the vermis. The histological diagnosis of the stereotaxic biopsy specimen was grade II astrocytoma. Two months later, he developed drowsiness, and MR imaging demonstrated that the tumor had enlarged and was enhanced after gadolinium injection. The clinical diagnosis was high-grade glioma resulting from malignant transformation. The tumor had compressed the mesencephalic aqueduct, leading to obstructive hydrocephalus. Endoscopic third ventriculostomy was performed to improve the cerebrospinal fluid circulation. He underwent chemotherapy with temozolomide postoperatively, but died 8 months after the initial diagnosis of astrocytoma. The clinical course of radiation-induced astrocytoma is not benign. The potential for malignant transformation necessitates careful postoperative follow up for patients with this tumor.

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