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Intractable vomiting as an early clinical symptom of cerebrospinal fluid seeding to the fourth ventricle in patients with high-grade astrocytoma.

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Abstract

OBJECT: Cerebrospinal fluid (CSF) seeding of high-grade astrocytoma is common, but the early clinical symptoms are not well characterized. Here, we report five patients with disseminated high-grade astrocytoma in the fourth ventricle region who presented with intractable vomiting prior to the detection of the metastatic deposits with enhancement. **PATIENTS AND METHODS:** From 1994 to 2000, 133 patients of high-grade astrocytoma were treated in our institute and were followed up until December 2002. Follow-up magnetic resonance (MR) imaging was performed in all patients every 2-3 months. The CSF seeding was defined as leptomeningeal enhancement. Signs and symptoms of CSF seeding were checked at the monthly outpatient examination. **RESULTS:** Among them, 5 patients aged from 27 to 58 years (mean 43.8 years) with one anaplastic astrocytoma and four glioblastomas showed intractable vomiting without signs of high intracranial pressure as evaluated by MR imaging or ocular fundus examination prior to the detection of the fourth ventricle dissemination. Fourth ventricle dissemination appeared 1-3 months after vomiting in five patients. One patient with glioblastoma received gamma knife radiotherapy for a fourth ventricle lesion appearing as a high intensity area on T2-weighted imaging before the appearance of the enhanced nodule, and this lesion was cured. Four patients died of progression of the fourth ventricle lesion. **CONCLUSION:** Intractable vomiting may be an early clinical symptom of CSF seeding to the fourth ventricle in patients with high-grade astrocytoma. Early detection and immediate radiotherapy for this lesion are recommended to control fourth ventricle dissemination.

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