

CLINICAL MANIFESTATIONS OF CHEMORADIOTHERAPY-INDUCED PARKINSONISM

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[Objectives]

Parkinsonism is a rare complication of chemoradiotherapy for high-grade gliomas, but the clinical manifestations were not fully understood. We examined cases of severe Parkinsonism after chemoradiotherapy for high-grade gliomas.

[Methods]

Chemoradiotherapy-induced Parkinsonism was defined as Parkinsonism occurring after chemoradiotherapy in glioma patients without initial presentation of Parkinsonism.

Two hundred forty-three patients with high-grade gliomas have been treated in our hospital from 2006 until 2015. Our basic protocol for high-grade gliomas consists of maximum safe resection and chemoradiotherapy with temozolomide. Age, tumor location, histology, initial symptoms, KPS, treatment, radiation dose, and chemotherapy for each patient were reviewed from clinical records.

[Results]

Two hundred forty-three patients with high-grade glioma were treated in our center using temozolomide-based chemoradiotherapy. Ten patients without any hemiparesis were diagnosed with severe Parkinsonism with Yahr stage IV. The median age at initial treatment was 62.0 years, and the male:female ratio was 7:3. The median time from initial treatment to the diagnosis of Yahr stage IV was 23.8 months. Five patients (50%) presented severe Parkinsonism within 2 years from the initial treatment, whereas 2 patients presented it 3 years after the initial treatment. Among 173 patients who survived more than one year, 10 patients (5.8%) presented severe Parkinsonism. Five patients had frontal tumors, and 4 patients had parietal tumors. Three of them received dopamine therapy, but their symptoms were not completely relieved.

[Conclusions]

Severe Parkinsonism after chemoradiotherapy is more common than expected and there is no effective treatment. Further examination is necessary to elucidate these clinical manifestations.