September 2006 Volume 105 Number 3

Clinical Articles

Phase II study of nimustine, carboplatin, vincristine, and interferon-β with radiotherapy for glioblastoma multiforme: experience of the Kyoto Neuro-Oncology Group.

Clinical Articles

Tomokazu Aoki, Jun A. Takahashi, Tetsuya Ueba, Natsuo Oya, Masahiro Hiraoka, Kunihiko Matsui, Tsugiya Fukui, Yasuaki Nakashima, Masatsune Ishikawa and Nobuo Hasimoto

Department of Neurosurgery, Kitano Hospital Medical Research Institute, Osaka; and Departments of Neurosurgery, Radiation Oncology, Pathology, and Clinical Epidemiology, Faculty of Medicine, Kyoto University, Kyoto, Japan

OBJECT. This Phase II study was performed to determine the safety, tolerability, and efficacy of combining nimustine (ACNU)–carboplatin-vincristine-Interferon-ß (IFNß) chemotherapy.

METHODS. Ninety-seven patients with Karnofsky Performance Scale scores of 50 or greater were enrolled in the study. Nimustine (60 mg/m^2), carboplatin (110 mg/m^2), vincristine (0.6 mg/m^2), and IFNß (10 µg) were administered on Day 1 concomitant with radiotherapy (63 Gy); vincristine (0.6 mg/m^2) and IFNß (10 µg) on Days 8 and 15; and IFNß alone (10 µg) three times per week throughout the course of radiotherapy. Fifty-six days after radiotherapy ended, the time schedule for chemotherapy was reset and ACNU, carboplatin, vincristine, and IFNß were again administered on the new Day 1 and vincristine and IFNß on the new Days 8 and 15. This course was repeated every 56 days. Instances of nonhematological toxicity were rare and mild. During the course of radiotherapy, the percentages of patients who experienced Grade 3 toxicity were 14% with neurocytopenia and 7% with thrombocytopenia. Seven percent of all adjuvant chemotherapy cycles following radiotherapy were associated with Grade 3 toxicity, as manifested in neurocytopenia or thrombocytopenia. No instance of Grade 4 toxicity was observed. The median duration of progression-free survival was 10 months (95% confidence interval [CI] 8–12 months) and the median duration of overall survival was 16 months

(95% CI 13–20 months).

CONCLUSIONS. The combination of ACNU-carboplatin-vincristine-IFNß chemotherapy and radiotherapy is safe and well tolerated, and may prolong survival in patients with glioblastoma multiforme.

KEYWORDS: glioblastoma multiforme, chemotherapy, nimustine, carboplatin, vincristine, interferon-ß

JNS Search Author Index Subject Index General Info Contact Us Subscribe/ Register Notices Forums

Copyright, 1990-2006, by American Association of Neurological Surgeons Feedback