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Bevacizumab and irinotecan therapy in glioblastoma multiforme: a series of 13 cases

Sheikh A. Ali, M.D.¹, Wassim M. McHayleh, M.D.², Asif Ahmad, M.D.³, Rajesh Sehgal, M.D.², Molly Braffett, P.A.-C.³, Mohsin Rahman, M.D.³, Ghassan Bejjani, M.D.⁴, and David M. Friedland, M.D.²

¹Department of Medicine, Division of Hematology Oncology, Temple University, Philadelphia; and ²Departments of Hematology/Oncology, ³Radiology, and ⁴Neurosurgery, University of Pittsburgh Cancer Institute, Pittsburgh, Pennsylvania

Abbreviations used in this paper: ECOG = Eastern Cooperative Oncology Group; GBM = glioblastoma multiforme.

Address correspondence to: Wassim McHayleh, M.D., 5150 Centre Avenue, Pittsburgh, Pennsylvania 15232. email: Mchaylehw@upmc.edu.

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Object

Endothelial proliferation has been recognized as a marker of high-grade or aggressive glioma. Bevacizumab is a humanized immunoglobulin G1 monoclonal antibody to vascular endothelial growth factor that has been shown to have activity in malignant gliomas when combined with irinotecan. The authors report on a case series of 13 patients with recurrent heavily pretreated malignant glioma that was treated with the combination of bevacizumab and irinotecan.

Methods

Standard therapy with primary resection followed by adjuvant chemotherapy and radiation had failed in all patients. The median number of therapies applied, including initial surgery, was 5 (range 3–7 therapies). Nine patients were started on bevacizumab at a dose of 5 mg/m² every 2 weeks. Four patients received bevacizumab at a dose of 10 mg/m²; irinotecan was given at a dose of 125 mg/m² every week for 3 weeks.

Results

Of the 13 treated patients, 10 (77%) had a radiologically demonstrated partial response and 3 (23%) had stable disease. Six patients (46%) had a clinical response. The median time to disease progression while on treatment was 24 weeks. The median overall survival was 27 weeks. The disease progressed in 8 patients, despite an initial response. Five patients are still responding to therapy. Six of the 8 patients whose disease progressed have died. Bevacizumab was discontinued in 2 patients because of nonfatal intracranial bleeding.

Conclusions

The combination of bevacizumab and irinotecan is safe and has excellent activity even in this relapsed, heavily pretreated population of patients with high-grade malignant glioma, most of whom would not be candidates for clinical trials.

KEYWORDS: bevacizumab; glioblastoma multiforme; irinotecan; vascular endothelial growth factor.

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