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## A clinical trial of bevacizumab, temozolomide, and radiation for newly diagnosed glioblastoma.

[Narayana A](#), [Gruber D](#), [Kunnakkat S](#), [Golfinos JG](#), [Parker E](#), [Raza S](#), [Zagzag D](#), [Eagan P](#), [Gruber ML](#).

Departments of Radiation Oncology.

### Abstract

**Object** The presence of angiogenesis is a hallmark of glioblastoma (GBM). Vascular endothelial growth factor (VEGF), which drives angiogenesis, provides an additional target for conventional therapy. The authors conducted a prospective clinical trial to test the effectiveness of bevacizumab, an inhibitor of VEGF, in newly diagnosed GBM. **Methods** From 2006 through 2010, 51 eligible patients with newly diagnosed GBM were treated with involved-field radiation therapy and concomitant temozolomide (75 mg/m<sup>2</sup>) daily for 42 days) along with bevacizumab (10 mg/kg every 2 weeks), starting 29 days after surgery. This was followed by 6 cycles of adjuvant temozolomide therapy (150 mg/m<sup>2</sup>) on Days 1-7 of a 28-day cycle) with bevacizumab administered at 10 mg/kg on Days 8 and 22 of each 28-day cycle. **Results** The 6- and 12-month progression-free survival (PFS) rates were 85.1% and 51%, respectively. The 12- and 24-month overall survival (OS) rates were 85.1% and 42.5%, respectively. Grade III/IV toxicities were noted in 10 patients (19.6%). No treatment-related deaths were observed. Asymptomatic intracranial bleeding was noted in 5 patients. **Conclusions** The addition of bevacizumab to conventional therapy in newly diagnosed GBM appears to improve both PFS and OS in patients with newly diagnosed GBM, with acceptable morbidity. A shift toward diffuse relapse was noted in a significant number of patients. Ongoing Phase III clinical trials will show the true benefit of this antiangiogenic approach.

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