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Bevacizumab and dose-intense temozolomide in recurrent high-grade glioma.

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BACKGROUND: Angiogenesis inhibition is a rational treatment strategy for high-grade glioma (HGG). Combined antiangiogenic therapy and chemotherapy could be beneficial, taking advantage of different mechanisms of antitumour activity of both therapies. We carried out a phase I-II clinical trial with the combination of bevacizumab and continuous dose-intense temozolomide (TMZ) for patients with a recurrent HGG after first- or second-line treatment. **PATIENTS AND METHODS:** Twenty-three HGG patients were treated with bevacizumab (10 mg/kg i.v. every 3 weeks) and TMZ (daily 50 mg/m²), until clinical or radiological progression. Conventional and dynamic magnetic resonance imaging (MRI) were carried out on days -4, 3 and 21 and until clinical or radiological progression. **RESULTS:** Overall response rate (20%), 6-month progression-free survival (PFS6) (17.4%), median progression-free survival (13.9 weeks) and median overall survival (OS) (17.1 weeks) were considerably lower compared with most other studies with bevacizumab-containing regimens. The dynamic MRI parameters contrast transfer coefficient and relative cerebral blood volume decreased rapidly during the early phases of treatment, reflecting changes in vascularisation and vessel permeability but not in tumour activity. In addition, >50% of patients showed oedema reduction and a reduced shift on T1 images. **CONCLUSION:** Treatment with bevacizumab and TMZ is feasible and well tolerated but did not improve PFS6 and median OS.

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