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Bevacizumab as a last-line treatment for glioblastoma following failure of radiotherapy, temozolomide and lomustine.

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Abstract

In previous trials, bevacizumab failed to prolong the overall survival time in newly diagnosed glioblastoma and at the first recurrence. Randomized clinical trials at the second or further recurrence following the failure of radiotherapy, temozolomide and lomustine, and retrospective analyses focusing on this specific cohort, are not yet available. A total of 62 patients with glioblastoma who received bevacizumab after the failure of standard care, including radiotherapy, temozolomide and lomustine, were retrospectively identified. Patient characteristics, previous treatment details, concomitant therapy, response based on the Response Assessment in Neuro-Oncology criteria, and progression-free survival (PFS) and overall survival (OS) times and rates were evaluated. Furthermore, the PFS and OS times and rates were analyzed for responders and non-responders. Of the patients, 54.8% (n=34) responded to treatment [complete response (CR) 3.2%, n=2; partial response (PR) 51.6%, n=32]. The median PFS time was 3.5 months and the median OS time was 7.5 months. The PFS rate at 6 months was 21.5% and the OS rate at 12 months was 11.5%. Responders (CR or PR) experienced a superior median PFS time compared with non-responders (i.e. stable or progressive disease; 5.4 vs. 1.9 months; P<0.0001) and a superior PFS rate at 6 months (34.9 vs. 7.1%; P<0.0001). The median OS time (8.6 vs. 6.4 months; P<0.0001) and OS rate at 12 months (21.3 vs. 0%; P<0.0001) were also superior in patients who exhibited a response to bevacizumab treatment. In conclusion, the objective response rate and the PFS and OS times and rates indicate that bevacizumab has activity in patients with glioblastoma following the failure of radiotherapy, temozolomide, and lomustine. A randomized trial comparing bevacizumab with best supportive care in these patients is advised.

KEYWORDS: bevacizumab; glioblastoma; last-line therapy; overall survival; progression-free survival; response rate; third-line therapy

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