Effective long-term treatment with bevacizumab for relapsed glioblastoma: case report and review of the literature.

Glioblastoma multiforme (GBM) is the most common malignant primary brain tumor in adults. Despite the use of optimized first-line therapy, GBM is still associated with a poor prognosis and an effective second-line therapy remains an important challenge in this patient population. In 2009, the US Food and Drug Administration (FDA) approved the monoclonal anti-VEGF-antibody bevacizumab for the treatment of relapsed GBM after two phase-II studies showed its efficacy and safety, alone or in combination with irinotecan, in relapsed GBM. In contrast, the European Medicines Agency (EMA) concluded from the same published data that a clear benefit in terms of overall survival was not shown and subsequently did not grant approval for bevacizumab in this setting. Here, we report on a 53-year old patient with relapsed GBM who was treated with bevacizumab as single agent. After three months, the tumor volume was reduced and the Karnofsky performance status was substantially improved compared to the baseline at the time of relapse. After continued long-term treatment for 26 months, the patient remains in an excellent general condition. Moreover, the measurement of the tumor volume using multiple imaging modalities shows a sustained treatment response. In conclusion, this
case supports the notion that individual patients respond exceptionally well to treatment with anti-VEGF therapy and suggests that future trials are needed to better identify the patient population that responds to bevacizumab.