

Topotecan in combination with radiotherapy in unresectable glioblastoma: a phase 2 study

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Abstract Improving glioblastoma multiforme (GBM) treatment with radio-chemotherapy remains a challenge. Topotecan is an attractive option as it exhibits growth inhibition of human glioma as well as brain penetration. The present study assessed the combination of radiotherapy (60 Gy/30 fractions/40 days) and topotecan (0.9 mg/m²/day on days 1–5 on weeks 1, 3 and 5) in 50 adults with histologically proven and untreated GBM. The incidence of non-hematological toxicities was low and grade 3–4 hematological toxicities were reported in 20 patients (mainly lymphopenia and neutropenia). Partial response and stabilization rates were 2% and 32%, respectively, with an overall time to progression of 12 weeks. One-year overall survival (OS) rate was 42%, with a median OS of 40 weeks. Topotecan in combination with radiotherapy was well tolerated. However, while response and stabilization

concerned one-third of the patients, the study did not show increased benefits in terms of survival in patients with unresectable GBM.

Keywords Glioblastoma · Topotecan · Chemotherapy · Radiotherapy

In adults, the treatment of glioblastoma, sometimes still labeled “multiforme” (GBM), is based on surgery followed by radiotherapy. However, adjuvant radiotherapy alone is associated with a poor prognosis and a median survival not exceeding 10 to 12 months [1], depending on key prognostic factors including age, performance status and type of surgery (total, partial or biopsy) [1–3]. Since the reports of benefits in patients with GBM treated by

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