Enhanced antitumor effects of radiotherapy combined local nimustine delivery rendezvousing with oral temozolomide chemotherapy in glioblastoma patients.

Yang DY, Bu XY, Zhou ZL, Yan ZY, Ma CX, Qu MQ, Zhao YW, Kong LF, Wang YW, Luo JC.

Department of Neurosurgery, Zhengzhou University People's Hospital, Zhengzhou, China.

BACKGROUND: Glioblastoma (GBM) is one of the worst cancers with bad prognosis despite systemic chemotherapy and radiotherapy after surgery.

METHODS: In this study, 71 patients with GBM were enrolled and randomly assigned to two groups: Receiving radiotherapy with concomitant and adjuvant temozolomide (TMZ) (TMZ, standard therapy) after surgery, or receiving radiotherapy with concomitant and adjuvant local delivery of nimustine (ACNU) rendezvousing with oral TMZ (rendezvous therapy). In the follow-up of all patients and the progression-free survival (PFS), overall survival (OS), Karnofsky performance score (KPS) and toxicities were recorded.

RESULTS: For the whole cohort, the median OS was 18.0 months, and the median PFS was 7.8 months. A significantly longer OS was observed in patients received rendezvous therapy than those who receiving standard therapy (18.5 months vs. 16.0 months; P = 0.014), as well as PFS (8.8 months vs. 7.0 months; P = 0.008). The KPS ≥70 rates were 81.8%, 40.9%, 20.5% in 1, 2, and 3 years for the rendezvous therapy group, significantly superior to standard therapy group. The most common toxicities were tolerable gastrointestinal reaction, liver dysfunction, and hematological toxicities, which were relieved with symptomatic treatment. Grade 3 or 4 toxicity was documented in 8 (18.3%) patients in rendezvous therapy group, while it was observed in 6 (22.2%) patients in standard therapy group during whole treatment process.

CONCLUSIONS: Compared to standard therapy, the antitumor effects of rendezvous therapy were more effective in GBM patients without increasing the toxicities.

KEYWORDS: Antitumor effects; glioblastoma standard therapy; rendezvous therapy

PMID: 29516964 DOI: 10.4103/jcrt.JCRT_844_17