The interventional effect of new drugs combined with the Stupp protocol on glioblastoma: A network meta-analysis.

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Abstract

OBJECTIVE: New therapeutic agents in combination with the standard Stupp protocol (a protocol about the temozolomide combined with radiotherapy treatment with glioblastoma was research by Stupp R in 2005) were assessed to evaluate whether they were superior to the Stupp protocol alone, to determine the optimum treatment regimen for patients with newly diagnosed glioblastoma.

PATIENTS AND METHODS: We implemented a search strategy to identify studies in the following databases: PubMed, Cochrane Library, EMBASE, CNKI, CBM, Wanfang, and VIP, and assessed the quality of extracted data from the trials included. Statistical software was used to perform network meta-analysis.

RESULTS: The use of novel therapeutic agents in combination with the Stupp protocol were all shown to be superior than the Stupp protocol alone for the treatment of newly diagnosed glioblastoma, ranked as follows: cilengitide 2000mg/5/week, bevacizumab in combination with irinotecan, nimotuzumab, bevacizumab, cilengitide 2000mg/2/week, cytokine-induced killer cell immunotherapy, and the Stupp protocol. In terms of serious adverse effects, the intervention group showed a 29% increase in the incidence of adverse events compared with the control group (patients treated only with Stupp protocol) with a statistically significant difference (RR=1.29; 95%CI 1.17-1.43; P<0.001). The most common adverse events were thrombocytopenia, lymphopenia, neutropenia, pneumonia, nausea, and vomiting, none of which were significantly different between the groups except for neutropenia, pneumonia, and embolism.

CONCLUSIONS: All intervention drugs evaluated in our study were superior to the Stupp protocol alone when used in combination with it. However, we could not conclusively confirm whether cilengitide 2000mg/5/week was the optimum regime, as only one trial using this protocol was included in our study.

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