OBJECTIVE: The purpose of this study was to perform a survival analysis of patients with high-grade multicentric gliomas and to assess the influence of various prognostic factors on overall survival (OS).

METHODS: A literature search on PubMed and Web of Science was performed for literature in English published from 1880 to October 2017. Detailed information including demographics, clinical characteristics, treatments, critical events, and time to events for survival analysis were extracted from the included articles.

RESULTS: A total of 73 cases from 25 published articles were selected for analysis. Univariate analysis showed the surgery (SB/SR), age (<54/≥54 years), radiotherapy (Y/N), and suprainfratentorial gliomas (Y/N) had significant correlations with OS. Multivariate analysis showed that age, surgery, and radiotherapy were independent prognostic factors. Univariate and multivariate analysis revealed radiotherapy and radiotherapy combined with chemotherapy were independent prognostic factors for surgical patients' OS.

CONCLUSIONS: This comprehensive analysis of multicentric glioma patients revealed that age younger than 54 years, surgical resection, and radiotherapy were significantly associated with improved survival and were independent prognostic factors for OS. Radiotherapy and radiotherapy combined with chemotherapy were independent prognostic factors for surgical patients' OS as well.

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KEYWORDS: High-grade multicentric gliomas; Overall survival; Prognosis; Surgical resection

PMID: 29337167 DOI: 10.1016/j.wneu.2018.01.035