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Letter to the Editor

Factors influencing survival in patients with glioblastoma: A risk assessment

I read with great interest the article by Shieh et al., who evaluated factors associated with the survival in 48 patients with glioblastoma (GBM) by Cox regression analysis.[1] Adjusted hazard ratio (HR) (95% confidence interval [CI]) of multiple GBMs against single GBM for mortality was 3.57 (1.26–10.13). In addition, HR (95% C) of radiotherapy for mortality was 0.47 (0.23–0.96). I have two queris about their study.

First, the authors handled a small number of patients and prognostic events and described it as a study limitation. Peduzzi et al. evaluated the effect of events per independent variable (EPV) in Cox regression analysis, and EPV values less than 10 related to unstable estimates.[2,3] The authors presented wide ranges of 95% CIs in some independent variables and caution should be paid for keeping enough number of events.

Second, Marton et al. conducted a prospective study to determine factors influencing survival time in patients with GBM.[4] HRs (95% CIs) of younger age at presentation (<50 years) and MGMT promoter methylation for mortality in very long-term survivors were 0.36 (0.21–0.67) and 0.57 (0.34–0.96), respectively. In addition, HR (95% CI) of the combination of younger age, Ki-67 < 10%, and the coexistence of telomerase reverse transcriptase gene promoter not mutated, O6-methylguanine-DNA methyltransferase (MGMT) promoter methylated, and isocitrate dehydrogenase genes mutated for mortality was 0.10 (0.01–0.74). This report presented evidence that many factors were additionally contributed to subsequent prognosis in patients with GBM, and mechanism of progression in multiple GBMs should be verified by further studies.

Regarding MGMT promoter methylation, Zhao et al. conducted a meta-analysis to evaluate this genetic factor for prognosis in patients with GBM.[5] The summarized HRs (95% CI) of methylated-positive patients for overall mortality and for disease progression/mortality were 0.50 (0.35–0.66) and 0.56 (0.32–0.80), respectively. They used standardized pyrosequencing assay for the evaluation and recognized MGMT promoter methylation as an important prognostic biomarker. I think that genetic factors might closely relate to the progressions and mortality risk of multiple GBMs should be evaluated in combination with genetic factors.

Conflict of interest

There is no conflict of interest in this study.

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