

Toxicities and associated factors in patients receiving temozolomide-containing regimens: a 12-year analysis of hospital data

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October 14, 2020

Abstract

Background: Although temozolomide has been extensively used to treat various tumors, there is a lack of large-cohort studies on temozolomide's toxicity profile. Objective: To analyze the toxicity profiles and associated factors in patients treated with temozolomide-containing regimens. Setting: The Union Hospital of Tongji Medical College, Huazhong University of Science and Technology. Methods: A retrospective analysis of the clinical data of patients treated with temozolomide-containing regimens from January 2008 to December 2019. Univariate chi-square test and multivariate logistic regression analysis were employed to identify factors associated with the occurrence of toxicities. Main outcome measure: The rate of toxicity occurrence and the characteristics of the toxicities. Results: Among the 1,057 patients received temozolomide-containing regimens, 922 patients were included in our analyses. Of the 922 patients, 484 patients (52.5%) experienced toxicities. Univariate analysis revealed that radiotherapy, chemotherapy cycle, chemotherapy regimen, and clinical stage were significantly associated with the toxicity during temozolomide treatment ($P < 0.05$). The chemotherapy regimen, chemotherapy cycle, and clinical stage were significantly associated with the overall occurrence of toxicities ($P < 0.05$). A chemotherapy regimen, chemotherapy cycle, and clinical stage were associated with the hematological system's toxicities, whereas gender, age, clinical diagnosis, and clinical stage were related to gastrointestinal toxicities ($P < 0.05$). Clinical diagnosis, chemotherapy regimen, and age were associated with liver toxicity ($P < 0.05$). Conclusion: Toxicities are common among patients receiving temozolomide-containing regimens. Clinicians should be aware of factors associated with toxicities to minimize the impact of the toxicity.

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