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Evidence-based recommendations for adult high-grade glioma therapy: a critical appraisal of clinical practice guidelines

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Abstract

To evaluate the quality of domestic and international clinical practice guidelines for adult high-grade glioma, provide evidence-based recommendations for treatment, and contribute to the development of clinical guidelines. A systematic search was conducted to identify Clinical Practice Guidelines (CPGs) related to adult high-grade glioma published between January 1, 2016, and February 5, 2025. The quality of the guidelines was evaluated using the Appraisal of Guidelines for Research and Evaluation II (AGREE II) tool. Key recommendations from these guidelines were summarized and analyzed for comparative insights. A total of 19 guidelines from various countries and regions were included. Two guidelines from the US were identified as high quality. Most guidelines demonstrated strong clarity, editorial independence, and well-defined scope and purpose but scored lower in stakeholder involvement, methodological rigor, and applicability. Treatment recommendations for primary high-grade gliomas were largely consistent, emphasizing maximal safe resection, radiotherapy, and chemotherapy. However, variations existed in the prioritization of chemotherapy regimens and the application of tumor-treating fields. In contrast, recommendations for recurrent gliomas showed greater variability, with some guidelines favoring novel targeted therapies while others preferred conventional treatments, such as repeat surgery or re-irradiation. While there is broad consensus on the treatment of primary adult high-grade gliomas, recurrent glioma management varies due to limited research and lack of proven survival benefits. There is a critical need for more rigorous, inclusive, and regularly updated guidelines to improve clinical decision-making.

Keywords: AGREE II; Clinical practice; Guidelines; High-grade glioma.

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