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Incidence and risk factors of post-operative delirium in glioma patients: A prospective cohort study in general wards

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Abstract

Aims: Glioma patients are at high risk for postoperative delirium (POD), yet studies focusing on this population in general neurosurgical ward settings are limited. This paper investigates the incidence of POD and related risk factors in glioma patients hospitalized in general wards.

Design: Prospective observational study.

Methods: This prospective study included 133 adult glioma patients hospitalized in the general neurosurgery ward. In addition to collecting routine perioperative general clinical data, patients' psychological status was assessed preoperatively using the Hospital Anxiety and Depression Scale (HADS). POD was assessed within 3 days postoperatively using the Confusion of Consciousness Assessment method, twice daily. The incidence of POD was calculated, and risk factors were identified using logistic regression analysis.

Results: The incidence of POD in glioma patients admitted to the general ward was 31.6% (40/133). Multivariate regression revealed advanced age (age > 50 years), frontal lobe tumour, presence of preoperative anxiety or depression, retention of a luminal drain, postoperative pain, indwelling catheter these six factors were independent risk factors for the development of delirium in patients after surgery.

Conclusion: In general ward settings, supratentorial glioma patients exhibit a high risk of POD. Critical risk factors include preoperative psychological conditions, as well as postoperative pain, drainage and catheterization. Rigorous preoperative evaluations, effective pain management strategies and the integration of humanistic care principles are essential in mitigating the risk of POD for glioma patients.

Relevance to clinical practice: In general ward settings, this study reveals the high occurrence of POD in glioma patients and identifies preoperative psychological states, age, tumour location and several postoperative factors as significant risk factors for POD, which provides a framework for targeted interventions. By integrating these insights into clinical practice, healthcare teams can better identify glioma patients at risk for POD and implement preventive measures, thereby enhancing recovery and overall care quality for glioma patients in general neurosurgical wards.

Reporting method: This study adheres to the STROBE guidelines, ensuring a transparent and comprehensive reporting of the observational research methodology and results.

Patient or public contribution: Patients involvement was limited to the provision of data through their participation in the study's assessments and the collection of clinical information. The study did not involve a direct patient or public contribution in the design, conduct, analysis, or interpretation of the data, nor in the preparation of the manuscript.

Keywords: general ward; glioma; neurosurgery, risk factors; perioperative care; postoperative

delirium; preoperative anxiety and depression.

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