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CASE STUDIES

Critical care management of post-craniotomy tumor removal in a patient with frontal lobe syndrome: A case report

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Abstract

Meningiomas commonly occur in women of reproductive age, for whom craniotomy and surgical resection represent the primary treatment modality. Despite this, detailed case reports outlining the core principles of nursing care post-resection are sparse. To address this gap, this report presents the nursing management of frontal lobe syndrome in a patient following craniotomy for meningioma removal. This article used case report design to overview the clinical findings of the patient. A 39-year-old female was admitted to the High Care Unit (HCU) following a craniotomy for surgical resection of a right frontal meningioma. Upon admission, the patient exhibited postoperative headache, marked agitation, hypomanic behaviour, sleep disturbance, and right-sided visual loss. Following a comprehensive clinical assessment, the prioritized nursing diagnoses were identified as: risk for ineffective cerebral tissue perfusion, impaired thought processes, acute pain, impaired skin integrity secondary to the surgical incision, and risk for falls. Nursing interventions were implemented across several domains, encompassing intracranial pressure (ICP) monitoring, serial neurological assessments, cognitive-behavioural management for thought processes, acute pain management, surgical wound care, and fall prevention strategies. These interventions were executed in close collaboration with the neurosurgical and psychiatric teams. Over a five-day stay in the hospital, the patient demonstrated marked clinical improvement: orientation and communication enhanced, agitation attenuated, pain was effectively controlled, and the surgical site exhibited primary intention healing without signs of infection. No secondary complications, such as elevated ICP or falls, were observed. This case highlights the pivotal role of interprofessional nursing care for patients presenting with post-craniotomy frontal lobe syndrome. In high-dependency care environments, early identification of neuropsychiatric sequelae remains essential to optimizing clinical recovery.

Keywords: Frontal lobe syndrome, high-care unit, meningioma, nurses, patient, surgery

Introduction

Meningiomas develop from meningotheelial cells and approximately account for more than 30 percent of central nervous system (CNS) tumors (Bailo et al., 2023). The incidence of meningioma is higher in women, which may be associated with hormonal factors such as progesterone receptor expression (Reuter et al., 2025). Women should discuss the risks and benefits of hormonal therapies, particularly progestogen-containing treatments, with their healthcare providers before receiving therapies. Although there is no strategy to prevent meningioma, women with risk factors should avoid long-term exposure to high-dose progestogens and seek medical evaluation if neurological symptoms develop (Elsamadicy et al., 2023). In Indonesia, meningioma represents intracranial tumor, with evidence from the National Brain Center Hospital in Jakarta showing an increasing number of cases between 2020 and 2022. In a retrospective study of 325 patients, women predominated with a female-to-male ratio of 4:1, and World Health Organization (WHO) Grade I tumors were the most common histological grade (Felistia et al., 2025). In many cases, patients present with neurological deficits depending on tumor location, including seizures, visual disturbances, cognitive impairment, and psychiatric symptoms (Chieffo et

al., 2023). Although brain tumors typically present with focal or lateralized neurological deficits, many patients instead exhibit signs of multifocal, global, or nonspecific cerebral dysfunction (Borde et al., 2021; Coomans et al., 2019). The broad spectrum of presenting symptoms illustrates how brain tumors can induce both direct structural damage and indirect, widespread functional impairment (Samman et al., 2024; Ullah et al., 2023). Approximately 90% of meningiomas are benign and can cause seizures, visual disturbances, cognitive impairment, psychiatric disorders, and neuropathy (Amoo et al., 2023). Even though these lesions are benign, healthcare providers must maintain continuous assessment over all presenting symptoms, given their potential to induce unexpected clinical deterioration. Meningiomas induce pathological changes primarily by compressing and displacing adjacent neural tissue (Whittle et al., 2004). At the cellular level, these direct mass effects disrupt localized neuronal networks giving rise to specific focal neurological deficits. The expansion and potential invasion of meningiomas into adjacent intracranial structures can precipitate severe secondary complications such as cerebral infarction, venous sinus thrombosis, elevated intracranial pressure (ICP), and obstructive hydrocephalus (Stonkutė et al., 2025). Finally, the clinical presentation of meningioma is dictated by a dynamic interplay among tumor location, volume, and growth velocity (Strømsnes et al., 2022). Larger lesions disrupt a broader neuroanatomical area correlating with symptom severity and diversity (Juncà et al., 2026). Meanwhile, slower-growing tumors allow for gradual cerebral accommodation and compensatory mechanisms resulting in attenuated clinical manifestations (Hashimoto et al., 2012; Desmurget et al., 2007).

Managing these complex conditions demands coordinated interprofessional care with critical care and medical-surgical nurses serving at the frontline of patient management (Jeon et al., 2025). Nurses play an important role in early symptom recognition, utilizing systematic neurological assessments (such as monitoring for subtle alterations in Glasgow Coma Scale (GCS) scores, pupillary changes, or cognitive-behavioral shifts) to detect early indicators of rising ICP or acute ischemic events (Tokunaga et al., 2025; Hernandez et al., 2021). In close collaboration with neurosurgeons, neuro-oncologists, and neuroradiologists, the nursing staff ensures precise titration of osmotic therapies, optimal head-of-bed positioning, and continuous hemodynamic monitoring to preserve cerebral perfusion pressure. Furthermore, nurses coordinate with neuropsychiatrists, occupational therapists, and physical therapists to implement cognitive rehabilitation strategies as behavioral sequelae like frontal lobe syndrome emerge. Tumors located in the frontal lobe may produce neuropsychiatric manifestations known as frontal lobe syndrome, which includes symptoms such as personality changes, impaired judgment, emotional instability, disinhibition, hypomania, and cognitive dysfunction (Davis et al., 2021). These symptoms may mimic psychiatric disorders, which can delay diagnosis and appropriate treatment. Frontal meningiomas can present only with psychological symptoms resembling depression, anxiety, hypomania, and schizophrenia called frontal lobe syndrome (Lally & Galarneau, 2023; Hussin et al., 2018). Although it is impractical for a psychiatrist to refer every patient presenting with a psychological or psychiatric problem for neuroradiological examination. Certain clinical features may indicate an underlying organic brain disorder and warrant further neurological assessment and neuroimaging such as new-onset or rapidly progressive symptoms, neurological abnormalities, seizures, cognitive impairment, atypical age at onset, or a significant change in clinical presentation, (Morosan et al., 2024). Surgical intervention therefore constitutes the primary therapeutic approach for meningiomas. Nonetheless, altering neuroanatomical structures and functional pathways during surgery can significantly influence the patient's post-operative cognitive status.

In Indonesia, brain tumors represent a challenge due to increasing incidence, limited awareness of early symptoms, and variations in access to neurosurgical services. However, the previous case study was limited to the short-term postoperative nursing management of a single patient and did not address the continuity of care, self-management, or family support needs during the transition from hospital to home, which are the primary focus of the present study (Kariasa et al., 2026). At the same time, limited literature discusses nursing management of postoperative meningioma patients experiencing frontal lobe syndrome, particularly in critical care settings. Understanding the nursing process in these patients is essential to aid in early identification of neuropsychiatric manifestations and appropriate management. Therefore, this case report aims to describe the nursing management of a postoperative meningioma patient with frontal lobe syndrome treated in a high care unit. This case is distinctive because it combines postoperative neurosurgical complications with neurobehavioral manifestations of frontal lobe syndrome. This unique presentation highlights the critical importance of continuous neurological and behavioral assessment by nurses. Unlike case reports focusing on surgical or neurological outcomes, this report emphasizes nursing management and interprofessional collaboration in recognizing and managing atypical postoperative behavioral changes. It is expected to provide practical insights for nurses and other healthcare professionals caring for postoperative brain tumor patients. North American Nursing Diagnosis Association International-Nursing Interventions Classification-Nursing Outcomes Classification (NANDA I-NIC-NOC) was used because it provides an internationally standardized language linking nursing diagnoses,

interventions, and outcomes, facilitating clear documentation and international communication; this does not imply superiority over Indonesia's 3S framework *Standar Diagnosis Keperawatan Indonesia*, *Standar Luaran Keperawatan Indonesia*, and *Standar Luaran Keperawatan Indonesia* (SDKI, SLKI, and SIKI). The diagnoses, interventions, and outcomes were based on NANDA-I 2024–2026 (13th edition) (Herdman et al., 2024), NIC 8th edition (2024) (Wagner et al., 2024), and NOC 7th edition (2024) (Moorhead et al., 2024), respectively.

Case presentation

A 39-year-old female was admitted to the High Care Unit (HCU) following a craniotomy for brain tumor resection. The prior health history was prominent for long-term use of injectable hormonal contraceptives exceeding five years. Five months prior to admission, the patient initially reported progressive blurring of vision in her right eye, which culminated in complete right-sided vision loss one month prior to hospitalization. These ocular manifestations were accompanied by intermittent headaches and two documented seizure episodes. Preoperative cranial computed tomography (CT) revealed a solid mass occupying the right frontoparietal region with extension into the left frontal lobe, producing a significant midline shift exceeding 5 mm to the left. Consequently, the patient was hospitalized and underwent elective craniotomy for surgical tumor removal. Following surgical intervention, the patient was transferred to the HCU for post-operative management. Upon initial nursing assessment, the patient was conscious and reported surgical wound pain rated at 3 on a 10-point scale. However, the patient exhibited marked restlessness, sleep disturbance, and body image distress—frequently inspecting herself in a mirror while expressing feelings of sadness and altered self-perception regarding her appearance. In addition, the patient demonstrated fluctuating neurobehavioral symptoms, characterized by intermittent giggling and incoherent speech. By the second post-operative day, the patient's clinical state transitioned into hypoactive behavior marked by hypersomnia, anorexia, and resistance to arousal.

Neurological examination revealed round, isochoric pupils with prompt light reflexes, absence of nuchal rigidity, intact somatic sensation, and preserved physiological reflexes; however, central left facial (CN VII) and hypoglossal (CN XII) nerve weaknesses were present. Serial vital signs remained within normal limits (blood pressure: 126/78 mmHg, heart rate: 88 beats/min, respiratory rate: 18 breaths/min, and afebrile). Initial post-operative laboratory parameters demonstrated mild normocytic anemia (hemoglobin: 9.9 g/dL, hematocrit: 29.9%, erythrocytes: 3.43 million/ μ L) with normal platelet counts (195,000/ μ L) and serum electrolytes (sodium: 137 mEq/L, potassium: 3.5 mEq/L). Repeat laboratory evaluation during the period of decreased responsiveness on post-operative day two revealed hemoglobin (9.8 g/dL), hematocrit (30.0%), erythrocytes (3.35 million/ μ L), platelets (288,000/ μ L), random blood glucose (89 mg/dL), serum albumin (3.3 g/dL), sodium (139 mEq/L), and potassium (4.0 mEq/L). Post-operative pharmacotherapy comprised intravenous phenytoin (100 mg three times daily), osmotic therapy with mannitol (50 cc four times daily), intravenous ceftriaxone (1 g twice daily), intravenous paracetamol (1 g three times daily), and PRN alprazolam for acute behavioral distress. To manage these neurological and neuropsychiatric challenges, a coordinated interprofessional care strategy was implemented involving neurosurgeons, psychiatrists, and HCU critical care nurses. Synthesizing these clinical findings led to the formulation of the following primary nursing diagnoses: Intracranial pressure instability (00024) related to disruption of the blood-brain barrier and development of vasogenic edema, impaired thought process (00130) related to the impairment of frontal lobe function, acute pain (00133) related to physical injury, impaired skin integrity (00043) related to disruption of tissue continuity, and risk for falls (00155) related to agitated. The nursing diagnoses and care were based on NANDA-I 2024–2026 (13th edition) (Herdman et al., 2024), NIC 8th edition (2024) (Wagner et al., 2024), and NOC 7th edition (2024) (Moorhead et al., 2024). The comprehensive nursing care plan and intervention strategies are summarized in the table (**Table 1**).

For the primary nursing diagnosis, healthcare professionals conducted continuous neurological assessment, which encompassed monitoring vital signs, pupillary dimensions, acuity, symmetry, and light reactivity, alongside assessing consciousness levels via the GCS. Furthermore, clinicians evaluated the patient's level of confusion, orientation, and subtle indicators of elevated ICP or deteriorating neurological function. In parallel, nursing staff systematically documented patient responsiveness to external stimuli, tracked fluid balance, monitored serum electrolytes and blood glucose, and positioned the patient's head at a 30-degree elevation. Finally, interprofessional collaboration with the medical team guided the administration of osmotic and anticonvulsant therapies, comprising intravenous mannitol (50 cc four times daily) and phenytoin (100 mg three times daily). In managing the secondary nursing diagnosis, therapeutic nursing interventions focused on addressing psychological distress and supporting nutritional rehabilitation. Clinicians worked to identify unresolved psychological conflicts and assisted the patient in formulating adaptive problem-solving strategies. To address compromised nutritional intake, nursing staff provided a balanced diet incorporating patient preferences, actively encouraged oral intake, and established a conducive dining

environment with ample time for meals. Simultaneously, neurobehavioral and therapeutic communication strategies were employed. Touch interventions were applied with caution, particularly during episodes characterized by persecutory thoughts. The patient was encouraged to verbalize her genuine emotional distress, while nursing staff maintained therapeutic neutrality by avoiding defensive responses. Furthermore, cognitive-behavioral techniques, including thought-stopping strategies for managing irrational or intrusive negative thoughts, were taught to the patient, alongside active encouragement to participate in daily activities.

Table 1. Nursing care delivered to the patient.

Nursing diagnosis*		Intervention	Outcomes
1	Intracranial monitoring combined with medication		Cerebral tissue perfusion improvement
2	Thought process management		Thought process improvement
3	Pain management		Decreased pain level
4	Skin integrity care		Skin and tissue integrity improved
5	Fall prevention measures		Fall rate decreased

*1=Intracranial pressure instability (00024) related to disruption of the blood-brain barrier and development of vasogenic edema, 2=impaired thought process (00130) related to the impairment of frontal lobe function, 3=acute pain (00133) related to physical injury, 4=impaired skin integrity (00043) related to disruption of tissue continuity, 5=risk for falls (00155) related to agitated.

Addressing the third nursing diagnosis involved pain assessment, non-pharmacological modalities, and collaborative pharmacotherapy. Nursing staff initiated a detailed pain evaluation, identifying the location, characteristics, duration, intensity, scale, frequency, and qualitative nature of the patient's pain. This was supplemented by tracking non-verbal pain indicators, identifying aggravating and relieving factors, and accounting for cultural influences on pain perception. Physiological and safety assessment included monitoring the efficacy of complementary therapies alongside tracking potential adverse effects from analgesic administration. To non-pharmacologically mitigate pain, nurses implemented deep-breathing relaxation techniques, optimized the environmental climate (regulating room temperature, lighting, and ambient noise levels), and facilitated adequate rest and sleep. Interprofessional collaboration guided the administration of intravenous paracetamol (1 g three times daily) for analgesic control. To address the fourth nursing diagnosis, nursing staff and the interprofessional healthcare team promoted wound healing and safeguard skin integrity. Initial management focused on identifying underlying etiology and factors contributing to skin integrity impairment. Nutritional optimization was prioritized by advising adequate oral hydration and recommending increased overall caloric and micronutrient intake, specifically emphasizing fruit and vegetable consumption to support tissue repair. At the same time, specialized wound care was performed under strict aseptic and sterile conditions. Nursing interventions encompassed serial monitoring of wound characteristics—including drainage volume, color, dimension, and odor—alongside continuous assessment for signs of infection. Appropriate primary dressings were selected based on wound morphology and exudate levels, with dressing changes performed in response to drainage output. Regarding the fifth nursing diagnosis, fall prevention protocols were performed through risk assessment and environmental safety modifications. Nursing staff identified predisposing fall risk factors, including altered consciousness, orthostatic hypotension, impaired balance, and visual deficits, while conducting daily fall risk stratifications using the Morse Fall Scale. To mitigate environmental hazards, the team evaluated ambient conditions (e.g., slippery flooring and inadequate lighting) and instituted physical safety controls. These measures included locking bed casters, raising side rails, adjusting the mechanical bed to its lowest position, and placing high-fall-risk patients in close proximity to the nursing station for continuous visual observation.

Likewise, the corresponding post-intervention evaluative outcomes are fully documented (**Table 2**). Nursing care was provided over a five-day hospitalization, during which the patient demonstrated progressive neurological and behavioral improvement, pain resolution, satisfactory wound healing, and no fall events. The duration of hospitalization was primarily determined by the patient's clinical condition and response to treatment rather than by a predefined insurance coverage period. Throughout the delivery of patient care, the nursing team engaged in multidisciplinary collaboration to maximize the efficacy of nursing interventions. This collaborative model underscores the ability of nursing professionals to work effectively, autonomously, and professionally alongside other disciplines to address complex clinical challenges in a unified patient care approach.

Table 2. Nursing evaluation.

Nursing diagnosis*	Evaluation
1	Neurological assessment confirmed a full GCS score of 15 (E4M6V5), with round, isochoric pupils measuring 2 mm bilaterally and presenting brisk pupillary light reflexes. No further seizure activity was observed throughout the monitoring period. Hemodynamic parameters remained remarkably stable, with systolic blood pressure ranging from 130 to 140 mmHg, diastolic blood pressure maintained between 75 and 85 mmHg, and pulse rates sustained at 70 to 80 beats per minute. Additionally, respiratory status was optimal, with the patient maintaining an oxygen saturation of 98% on room air.
2	The clinical manifestations of frontal lobe syndrome demonstrated improvement. The patient transitioned from a withdrawn state to engaging more actively in verbal communication with the nursing staff. Furthermore, the patient exhibited enhanced emotional regulation and improved cognitive orientation, maintaining consistent reality orientation during daily interactions. Her speech became clearer and more coherent. The patient demonstrated restored social cognition by recognizing and clarifying previous misinterpretations regarding others' verbalizations and behaviors. The patient was able to actively participate in structured unit activities without displaying psychomotor agitation.
3	The patient reported complete resolution of discomfort at the operative site and described experiencing restful, uninterrupted sleep. Hemodynamic parameters remained consistently stable, with systolic blood pressure maintained between 130 and 140 mmHg, diastolic blood pressure ranging from 75 to 85 mmHg, and heart rates resting within 70 to 80 beats per minute.
4	Evaluation of the surgical site demonstrated progressive tissue healing and wound re-epithelialization. The surgical wound bed appeared healthy with uniform pink granulation tissue, complete absence of purulent exudate, and a clean, dry baseline. Inspection of the surrounding periwound skin revealed intact, dry integument with normal localized skin temperature and no clinical signs of surgical site infection or erythema.
5	No fall events were reported throughout the hospitalization period, as confirmed by daily clinical documentation, interprofessional handovers, and family reports. Physical assessment demonstrated that the patient-maintained motor alertness and postural control, remaining completely free from fall incidents and uninjured by environmental hazards.

*1=Intracranial pressure instability (00024) related to disruption of the blood-brain barrier and development of vasogenic edema, 2=impaired thought process (00130) related to the impairment of frontal lobe function, 3=acute pain (00133) related to physical injury, 4=impaired skin integrity (00043) related to disruption of tissue continuity, 5=risk for falls (00155) related to agitated.

Discussion

This case report highlights the importance of comprehensive nursing management in patients with frontal lobe meningioma following craniotomy. Tumors located in the frontal lobe are known to affect cognitive, emotional, and behavioral regulation, which may lead to symptoms such as agitation, personality changes, impaired judgment, and hypomanic behavior (Samman et al., 2024). These manifestations are consistent with frontal lobe syndrome and may mimic primary psychiatric disorders, which can delay diagnosis and appropriate management (Lally & Galarneau, 2023). Nurses play an important role in recognizing these atypical changes through neurological and behavioral assessment, identifying deviations from the patient's baseline, and communicating concerning findings to the multidisciplinary team for further evaluation and neuroimaging when indicated (Tokunaga et al., 2025). Previous studies have shown that psychiatric manifestations are relatively common in patients with brain tumors (Sharma et al., 2022; Pancaldi et al., 2023). Report presented that psychiatric symptoms may occur in approximately 50–78% of patients with brain tumors, and in some cases, these symptoms may appear before neurological deficits are recognized (Moroşan et al., 2024). This situation can complicate early diagnosis because the clinical presentation may resemble psychiatric disorders such as depression, anxiety, or mania (Tokunaga et al., 2025). Frontal meningiomas may remain silent for a long period and manifest through behavioral and cognitive changes (Chieffo et al., 2023). In the present case, the patient appeared difficult to arouse on the second postoperative day, raising concerns about possible neurological deterioration. However, multidisciplinary evaluation involving nurses, neurosurgeons, and psychiatrists revealed that the patient was

experiencing hypomanic symptoms related to frontal lobe syndrome rather than decreased consciousness. This finding emphasizes the importance of comprehensive neurological and behavioral assessment in postoperative brain tumor patients, particularly in critical care settings.

Postoperative nursing care in this case focused on maintaining adequate cerebral perfusion, monitoring neurological status, managing pain, maintaining skin integrity, and preventing complications such as infection and falls. Continuous monitoring of vital signs, GCS, and pupillary responses is essential for early detection of increased intracranial pressure and other neurological complications. Similarly, a recent nursing case report of a patient undergoing meningioma resection emphasized intensive postoperative vital-sign monitoring, comprehensive neurological assessment, early rehabilitation, and prevention of seizures and intracranial infection (Hu et al., 2025). In contrast, the present case additionally highlights the importance of behavioral and cognitive assessment because the patient developed fluctuating neurobehavioral manifestations associated with frontal lobe syndrome. In addition, appropriate wound care following craniotomy plays an important role in preventing infection and promoting tissue healing. Psychological and behavioral management also represents a critical component of nursing care in patients with frontal lobe involvement (Theodoratou & Argyrides, 2024). Brain tumors can produce significant psychological distress and behavioral disturbances due to direct effects on brain structures, treatment-related factors, and the emotional burden. In this case, family involvement was important in observing changes in the patient's behavior, providing emotional support, and collaborating with nurses in managing the patient. This is due to caregivers of patients with brain tumors may experience substantial psychological and informational needs themselves. Therefore, nurses must provide therapeutic communication, promote orientation to reality, and collaborate with mental health professionals when necessary (Akter & Arafat, 2026). Another important consideration in postoperative meningioma patients is the impact of neurological and psychological symptoms on quality of life. Study reported that patients with meningioma may experience persistent symptoms such as fatigue, cognitive impairment, and psychological distress even after surgical treatment (Sekely et al., 2022). These findings highlight the need for comprehensive, patient-centered nursing care that addresses both the physical and psychosocial aspects of recovery.

In this case, the use of the NANDA–NIC–NOC framework facilitated the systematic identification of nursing diagnoses, the implementation of appropriate interventions, and the evaluation of patient outcomes. Standardized nursing languages improve clinical communication, enhance documentation quality, and support evidence-based nursing practice. Overall, the patient demonstrated significant improvement within 5 days of treatment in the high-care unit. Symptoms of agitation decreased, communication improved, and the surgical wound showed signs of normal healing without infection. These results emphasize that early recognition of frontal lobe syndrome and collaborative multidisciplinary management are essential to optimize recovery in postoperative meningioma patients. The patient received postoperative nursing care for five days in the HCU and demonstrated improvement in neurological and behavioral status, resolution of pain, satisfactory wound healing, and no fall events. However, the exact date and clinical condition at hospital discharge, as well as post-discharge follow-up, were not documented in this case report. The uniqueness of this case lies in the coexistence of postoperative neurosurgical recovery and fluctuating neurobehavioral manifestations of frontal lobe syndrome. This case required continuous neurological and behavioral assessment and coordinated nursing, neurosurgical, and psychiatric management. Also, this report highlights the nursing perspective in recognizing and managing complex postoperative neurobehavioral changes in a high-care setting.

Conclusion

Interprofessional collaboration among nurses, neurosurgeons, and psychiatrists represents a foundational pillar in managing post-craniotomy neurobehavioral sequelae. Upon the emergence of frontal lobe syndrome symptoms, a rigorous evaluation of both intracranial mechanisms and extracranial factors is mandatory to guide therapeutic interventions. These evaluations serve to rule out postoperative edema, hematoma, or elevated intracranial pressure. Concurrently, assessing extracranial parameters helps identify secondary drivers of altered neurobehavioral status. Postoperative care is also important such as intracranial monitoring, thought process management, pain management, skin integrity care, and fall prevention. Educating the patient's family regarding these post-surgical behavioral changes is crucial to ensuring they appreciate the care implemented by healthcare professionals. Accordingly, continuous education and professional development are required to strengthen nursing capacity in detecting symptoms and executing appropriate interventions. Equally important is the expansion of innovative clinical research led by medical-surgical nurses to optimize patient outcomes.

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AI statements

ChatGPT (OpenAI) was used solely for language editing, grammar correction, and improving the clarity and readability of the manuscript. The authors reviewed and verified all AI-assisted edits and take full responsibility for the content, accuracy, originality, and integrity of the manuscript.

Author's declaration

All authors meet the criteria for authorship as recommended by the International Committee of Medical Journal Editors (ICMJE). Amelia Ganefianty contributed to case conception, nursing care analysis, manuscript drafting, and final approval. Ismail Fahmi and Mashudi contributed to literature review, critical revision, and manuscript editing. I Made Kariasa contributed to theoretical framework development and critical intellectual review. Agung Budi Sutiono contributed to clinical supervision, neurosurgical perspective, and manuscript validation. This research team approved for the final version of the manuscript.

Availability of data and materials

All case data and supporting literature are fully presented within this manuscript. Readers requiring further details or clarifications are invited to contact the corresponding author by email.

Competing interests

The authors declare that there are no conflicts of interest related to the publication of this case.

Ethical clearance

Written informed consent was obtained from the patient and her family for participation in this case report and publication of the clinical information. The patient and family were informed that anonymity would be maintained, and that participation was voluntary. According to the institutional policy of RSUP Dr. Hasan Sadikin Bandung, formal ethical approval is not required for case reports; therefore, no ethical approval was sought for this report. Patient confidentiality was strictly maintained, and no identifiable personal information is disclosed in this manuscript. The case was reported in accordance with the CARE guidelines for case reports.

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Publishers and journal's note

The unique and challenging nature of this case underscores the need for high levels of clinical precision, therapeutic caution, and strict adherence to ethical principles when delivering patient care. Managing such cases presents a valuable learning opportunity for the global nursing community, particularly for addressing the challenges of frontal lobe syndrome.

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Authors' insight

Key points

- The article identifies a complex clinical picture combining acute postoperative neurosurgical care (post-craniotomy tumor removal) with complex neurobehavioral manifestations (frontal lobe syndrome).
- Specifying critical care management signals to readers that the paper focuses on high-dependency/ICU care, focusing on physiological stability (e.g., ICP monitoring, cerebral perfusion) alongside acute behavioral control.
- As a case report, the title transparently frames the study design as an in-depth clinical observation rather than a broad empirical or trial-based study, establishing realistic expectations for peer reviewers.

Emerging nursing avenues

- What are the specific challenges in critical care monitoring and management in the immediate post-craniotomy period for a patient who already presents with Frontal Lobe Syndrome?
- How does the location and extent of frontal lobe tumor resection contribute to the persistence, worsening, or improvement of Frontal Lobe Syndrome post-operatively?
- What is the role of a multidisciplinary approach in optimizing long-term functional outcome and preventing complications?

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