Review Article • บทฟื้นฟูวิชาการ

Role of Anesthesia Practitioners in Post-Traumatic Stress Disorder

Patphorn Sompakdee, Supanadee Jianwittayakit, Jutamas Tosuwan, Phongthara Vichitvejpaisal
Department of Anesthesiology, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok 10700, Thailand

Abstract

This article explores the critical role of anesthesia practitioners in the prevention of post-traumatic stress disorder (PTSD) among trauma patients undergoing surgery. It highlights the prevalence and significance of PTSD in trauma survivors and emphasizes the importance of trauma-informed care in anesthesia practice. The article outlines key strategies for anesthesia providers to address PTSD risk, including identifying high-risk patients, implementing trauma-informed care practices, and providing compassionate preoperative preparation and counseling. It also emphasizes the need for effective communication during anesthesia induction and emergence to ease patient distress. The article discusses challenges faced by anesthesia practitioners in PTSD prevention, such as time constraints and limited resources, and proposes solutions to overcome these barriers. Furthermore, it advocates for the integration of PTSD prevention into institutional protocols and guidelines. Overall, this article emphasizes the potential benefits of trauma-informed care in anesthesia practice for patients, healthcare providers, and the healthcare system, and calls for continued research and implementation efforts to promote patient well-being and PTSD prevention.

Keywords: anesthesia practitioners, post-traumatic stress disorder, trauma patients

Key points:

- Anesthesia practitioners play a critical role in PTSD prevention for trauma patients undergoing surgery.
- Strategies for addressing PTSD risk include identifying high-risk patients, trauma-informed communication, and personalized preoperative preparation and counseling.
- Integrating PTSD prevention into institutional protocols and guidelines is crucial for promoting trauma-informed care.

Introduction

Post-traumatic stress disorder (PTSD) is a debilitating mental health condition that can develop in individuals who have experienced or witnessed traumatic events. It is characterized by a range of distressing symptoms, including intrusive memories, nightmares, avoidance of trauma-related stimuli, negative mood changes, and hyperarousal. PTSD can significantly impact a person's quality of life and daily functioning.[1] The stress and anxiety accompanying surgery can

Correspondence to: Phongthara Vichitvejpaisal, E-mail: phongthara@gmail.com
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act as triggers for or exacerbate PTSD symptoms, particularly in vulnerable individuals.

PTSD prevention becomes a critical component of trauma care, with anesthesia practitioners playing a significant role in mitigating the risk of PTSD development in trauma patients undergoing surgical procedures.[2] Leveraging their expertise in administering anesthesia and managing patients' physiological responses during trauma-related procedures, anesthesia providers become instrumental in achieving successful surgical outcomes. By adopting patient-centered care approaches, effective and empathetic communication styles, and trauma-informed practices, anesthesia providers can effectively reduce patient distress and foster a sense of safety and trust. These efforts contribute to improved patient outcomes and overall well-being, making PTSD prevention a paramount consideration in anesthesia practice. PTSD is a psychiatric disorder that can occur in response to experiencing or witnessing a traumatic event. Trauma can encompass a wide range of experiences, such as combat, sexual assault, accidents, natural disasters, or other life-threatening situations. The diagnostic criteria for PTSD include exposure to a traumatic event, re-experiencing symptoms, avoidance behaviors, negative mood and cognition, and increased arousal. These symptoms must persist for more than a month and cause significant distress or impairment in functioning.[1]

PTSD is particularly prevalent among trauma patients who have undergone surgical procedures. The stress and fear associated with traumatic injuries and surgeries can increase the risk of developing PTSD.[3] According to research studies, the prevalence of PTSD in trauma patients undergoing surgery varies, but it can be as high as 20-30% depending on the nature and severity of the trauma.[4] Preventing PTSD in trauma patients is of paramount importance in enhancing overall patient outcomes and well-being. Untreated PTSD can lead to long-term psychological and physical health complications, impair the patient's ability to cope with daily life, and strain relationships with family and friends.[5] By focusing on prevention strategies, healthcare providers can mitigate the development and severity of PTSD symptoms.[3]

Identifying PTSD patients

The diagnostic and statistical manual of mental disorders classifies five distinct subcategories of PTSD that necessitate unique treatment approaches.[6]

Normal stress response: This is a common initial response to stressors, such as accidents, illnesses, or injuries, but it may not progress to full-blown PTSD. Management typically involves support from loved ones, peers, and individual or group therapy. Recovery is expected within a few weeks.

Acute stress disorder: It occurs after exposure to life-threatening events like natural disasters, loss of loved ones, or job loss. If left untreated, it can develop into PTSD. Treatment options include individual and group therapy, medication, and specialized treatments.

Uncomplicated PTSD: It linked to a single major traumatic event, unlike multiple events. Symptoms include avoidance of trauma reminders, nightmares, flashbacks, irritability, mood changes, and relationship issues. Treatment involves therapy, medication, or a combination of both.

Complex PTSD: Resulting from multiple traumatic events, common in cases of abuse, war exposure, or sudden loss. It may co-occur

with borderline or antisocial personality disorders and dissociative disorders. Symptoms include behavioral issues like impulsivity, aggression, substance abuse, and emotional issues such as rage, depression, or panic. Treatment is more intensive than for uncomplicated PTSD.

Comorbid PTSD: Refers to the presence of multiple mental health conditions alongside PTSD, often with substance abuse issues. It's common, and the best results come from treating both the co-occurring mental health conditions and comorbid PTSD simultaneously. Self-medication or destructive behaviors, like drug or alcohol use, should be avoided, as they can worsen the situation and prolong treatment.

Children and teenagers respond to trauma

Children and teenagers can exhibit significant reactions to trauma, but their symptoms may differ from those observed in adults. In children under the age of 6, these symptoms might include bedwetting even after mastering toilet training, regression in speech or an inability to communicate, reenacting the traumatic event during play, and displaying excessive clinginess to a parent or adult caregiver.[1] On the other hand, older children and teenagers typically manifest symptoms more akin to those seen in adults. They may also display disruptive, disrespectful, or destructive behaviors. Feelings of guilt for not preventing harm or loss may arise, along with thoughts of revenge.[7]

Risk factors

Patients with pre-existing mental health conditions, such as anxiety disorders, depression, or other trauma-related disorders, as well as those facing limited access to resources, low income, and limited social support, may be more susceptible to experiencing severe distress following trauma. Moreover, the severity and nature of the traumatic event can significantly influence the risk of developing PTSD. Trauma involving life-threatening situations, severe injuries, or experiences of intense fear and helplessness may increase the likelihood of PTSD development. Individuals with a history of previous traumatic experiences may also be more vulnerable to PTSD following new trauma exposure. Past trauma can sensitize the individual's stress response system, heightening their susceptibility to developing PTSD in response to subsequent traumatic events.[1]

Screening tools

Routine PTSD screening in trauma patients provides several significant benefits. Firstly, it allows for the early identification of patients at risk of developing PTSD, enabling healthcare providers to initiate appropriate interventions promptly. Secondly, screening facilitates personalized care plans tailored to the patient's needs, ensuring that necessary support is provided. Early intervention can help prevent the progression of symptoms and improve long-term outcomes.[1] There are some validated assessment tools that can be utilized to screen trauma patients, such as the PTSD Checklist for DSM-5 (PCL-5), the Event Scale-Revised (IES-R) and the Clinician-Administered PTSD Scale (CAPS). The DSM stands for the "Diagnostic and Statistical Manual of Mental Disorders," which is a comprehensive classification system and manual published by the American Psychiatric Association (APA).[5] It is indeed widely utilized by

mental health professionals, researchers, and clinicians as a valuable resource for diagnosing and comprehending a diverse range of mental health conditions.

The PCL-5 is a self-report questionnaire used to assess the presence and severity of PTSD symptoms according to the criteria outlined in the DSM-5. It consists of 20 items that correspond to the four clusters of PTSD symptoms: intrusion, avoidance, negative alterations in mood and cognitions, and alterations in arousal and reactivity. Respondents rate the extent to which they have been bothered by each symptom over the past month on a scale from 0 (not at all) to 4 (extremely).[8]

Total severity score: The sum of the ratings for all 20 items, indicating the overall severity of PTSD symptoms.

Symptom clusters: Scores for each symptom cluster (intrusion, avoidance, negative alterations in mood and cognitions, alterations in arousal and reactivity).

Diagnostic threshold: A total score above a specific cutoff indicates the presence of PTSD symptoms.

The IES-R is a self-report questionnaire designed to assess the subjective distress caused by a traumatic event.[9] It measures the presence and intensity of intrusion and avoidance symptoms related to the event.

Intrusion subscale score: The sum of the ratings for intrusion-related items, indicating the intensity of intrusive symptoms.

Avoidance subscale score: The sum of the ratings for avoidance-related items, indicating the intensity of avoidance symptoms.

Total IES-R score: The sum of both subscale scores, representing the overall distress related to the traumatic event.

The CAPS is a structured clinical interview used to diagnose and assess the severity of PTSD symptoms. It involves a detailed evaluation by a trained clinician, and it covers all the criteria for diagnosing PTSD as per the DSM-5.[10]

Frequency and intensity: The clinician rates the frequency and intensity of specific PTSD symptoms experienced by the individual.

Symptom clusters: Assessment of symptoms related to intrusion, avoidance, negative alterations in mood and cognitions, and alterations in arousal and reactivity.

Clinical diagnosis: The CAPS interview provides information necessary for diagnosing PTSD based on DSM-5 criteria.

Severity ratings: Clinicians rate the severity of each symptom, allowing for an overall assessment of symptom severity.

It's important to note that while these assessment tools provide valuable insights into the presence and severity of PTSD symptoms, they should be interpreted by trained professionals who understand the nuances of trauma and mental health diagnosis. Additionally, assessments should be considered in conjunction with a comprehensive clinical evaluation to determine an accurate diagnosis and appropriate treatment plan.

Medications for PTSD patients

The FDA has approved selective serotonin reuptake inhibitors (SSRIs), such as paroxetine and sertraline, as treatment options for PTSD. These medications can help manage symptoms like sadness, worry, anger, and emotional numbness.[11,12] Health care providers often prescribe SSRIs in combination with psychotherapy. Some medications target specific PTSD symptoms, including sleep problems and nightmares.

Anesthetic consideration

Before surgery, anesthesia practitioners can embody the principles of trauma-informed care by adeptly outlining procedures and potential stressors to patients, ensuring clarity and infusing every word with compassion. By meticulously crafting an environment that exudes safety and support, anesthesia providers stand poised to forge not only positive patient experiences but also to nurture resilience and elevate the overall well-being of trauma survivors who are embarking on the path of surgery and healing.[13]

Preoperative preparation

Conducting a thorough preoperative assessment enables anesthesia practitioners to gather vital patient information, including medical history, prior anesthesia experiences, and trauma-related concerns. Anesthesia providers should customize anesthesia plans to meet individual patient needs, considering their preferences, characteristics, and medical history. Collaboration with the surgical team, efficient information sharing, and coordination are essential for a seamless patient care experience. Building a strong rapport with trauma patients is vital due to their heightened anxiety and distress. Anesthesia providers play a crucial role in establishing a supportive and empathetic relationship with patients, alleviating anxiety and fostering a sense of safety. Transparent communication enables providers to gather essential information about the patient's history and specific fears. Addressing patient concerns before anesthesia induction and providing reassurance during transitions can reduce anxiety.

Adequate pain control enhances patient comfort and reduces trauma-related distress during and after surgery.[14] Anesthesia providers can minimize painful stimuli during various surgical interventions. Educating patients about anesthesia types, procedures, and potential side effects empowers them to make informed decisions. Validating patients' emotional responses, offering coping mechanisms, and employing trauma-informed communication strategies create a safe and supportive atmosphere. For patients with existing mental health issues, referrals to mental health specialists provide ongoing support. Providing educational materials about PTSD, trauma coping, and postoperative emotional well-being empowers patients to seek assistance as needed. Recognizing the familial impact of trauma and offering resources to family members contribute to comprehensive patient care.

Intraoperative management

During the intraoperative period, anesthesia practitioners can take specific measures to minimize stressors and trauma triggers for patients undergoing surgery. Effective communication among the surgical team members, achieved by reducing unnecessary noise and conversations, can contribute to a more serene setting, potentially reducing trauma-related distress for the patient.

Certain anesthetic drugs can affect patients with PTSD, potentially impacting memory and their overall development. When administered in the intensive care unit, ketamine may enhance memory retention in patients with PTSD without altering the strength of traumatic memories. However, it can lead to a long-term reduction in social behavior. Dexmedetomidine can markedly impair memory retention in PTSD patients but doesn't seem to affect their

long-term cognitive or emotional behaviors.[15] It appears to be beneficial across various care phases. Propofol enhances memory retention within the first 48 hours but can induce enduring traumatic memory enhancement and anxiogenic effects in PTSD patients.[16] Some research suggests that early use of propofol general anesthesia in emergency surgery for trauma patients may increase the risk of PTSD.[17] However, the role of midazolam in managing PTSD patients is not entirely clear, although some practitioners have reported successful use of these drugs in the anesthetic management of PTSD patients.

The choice between general anesthesia and regional anesthesia can impact the patient's stress response and inflammatory pathways, potentially influencing the development and severity of PTSD. General anesthesia involves inducing a state of unconsciousness using intravenous medications and inhaled anesthetics, leading to a temporary suppression of the body's stress response. The patient is unconscious and unaware of the surgical procedure, which minimizes the stress hormone release during surgery. This may have a beneficial impact on the patient's immediate stress response. Moreover, the amnesic effect of general anesthesia may prevent conscious recall of the surgical procedure and trauma-related events during surgery. Patients who undergo general anesthesia might have reduced chances of developing intrusive memories and flashbacks related to the surgical trauma.[18] However, this effect may vary among individuals, and some patients may still experience PTSD symptoms despite amnesia.

Regional anesthesia involves numbing specific regions of the body, such as nerve blocks or spinal anesthesia. While regional anesthesia may not completely eliminate the stress response, it provides targeted pain relief without inducing unconsciousness. This approach may allow patients to retain some awareness of their surroundings during surgery, which could impact the perception of the traumatic event. Patients who undergo regional anesthesia might have greater recall of the surgical experience, potentially increasing the potential for intrusive memories and traumatic associations.[19] However, it is essential to consider that patient experiences and responses to anesthesia vary widely, and not all individuals who undergo regional anesthesia will necessarily develop PTSD.

Postoperative management

Emergence agitation (EA) and emergence delirium (ED) are recognized issues in the post-anesthetic period. PTSD is closely linked to EA following anesthesia, and managing EA in patients with PTSD can be challenging. EA poses risks to both patients and healthcare workers, and it can increase the overall risk of postoperative delirium and complications.[14] To address this, there's a need for heightened awareness of PTSD among anesthesia and perioperative care providers. Implementing management recommendations, such as providing adequate perioperative sedation and analgesia and avoiding triggers of flashbacks through a multidisciplinary approach, is essential.

Specific anesthetic techniques can reduce the safety risks associated with ED in PTSD patients. An individualized practice protocol and pharmacologic techniques can make the post-operative course safer. Screening tools for PTSD should be employed during postoperative follow-up appointments to assess symptoms. Anesthesia providers can support patients by offering coping strategies like relaxation

techniques, breathing exercises, and grounding techniques. Informing patients about available resources, including support groups, counseling services, and online materials related to PTSD management, is valuable. Patients experiencing acute stress reactions may require additional psychological support and interventions to manage their symptoms effectively.

Resilience factors that can decrease the risk of developing PTSD encompass seeking support from friends, family, or support groups, achieving self-acceptance regarding one's responses to a traumatic event, developing effective coping strategies for navigating and learning from the traumatic experience, and being prepared and capable of addressing distressing situations as they arise, even in the face of fear.[2] A multidisciplinary approach involving anesthesia providers, surgeons, nurses, and mental health professionals ensures comprehensive care addressing both the physical and psychological aspects of recovery. Collaborating proactively with mental health professionals ensures patients receive appropriate support and resources for their emotional well-being.

Challenges and opportunities

Anesthesia practitioners face busy schedules, potentially limiting patient assessments and communication. They can prioritize trauma-informed communication and use efficient screening tools while managing time effectively and collaborating with other healthcare professionals. The complexity arises from the availability of mental health resources, which can be overcome by collaborating with administrators and mental health experts to advocate for more support resources. Healthcare institutions have the opportunity to integrate trauma-informed care principles into their protocols through comprehensive education for healthcare providers. This involves training in trauma-sensitive approaches, which requires cooperation across departments.[20] Additionally, educating anesthesia practitioners and healthcare professionals about recognizing trauma, empathetic communication, and using PTSD risk screening tools can help identify high-risk patients for tailored interventions.

Conclusion

Anesthesia practitioners play a crucial role in PTSD prevention for trauma patients undergoing surgery. By embracing trauma-informed care principles and practices, anesthesia providers can positively impact patient experiences and outcomes. The potential benefits for patients and the healthcare system underscore the importance of implementing PTSD prevention strategies in anesthesia practice.

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