

Exploring Post-traumatic Stress and the Effects of Spinal Anesthesia on Conscious Awareness

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Introduction

General anaesthesia is often considered a cornerstone of modern surgery, ensuring that patients undergo procedures without experiencing pain, distress, or awareness. However, despite its widespread use and its effectiveness in inducing unconsciousness, general anaesthesia carries inherent risks, one of the most unsettling being the possibility of awareness during the procedure. This phenomenon, also known as intraoperative awareness, occurs when a patient becomes conscious during surgery and can later recall parts of the experience. According to estimates, as many as 30,000 patients in the United States experience awareness during anaesthesia annually, highlighting the significance of this issue within the realm of surgical care.

Description

The concept of anaesthesia has been around for centuries, with the first successful use of ether as an anaesthetic agent recorded in 1846 by William Morton. This discovery revolutionized surgery, allowing patients to undergo procedures without being awake and conscious of the potentially traumatic events taking place. However, Morton's original success was quickly overshadowed by reports of patients experiencing pain during surgery while under ether anaesthesia, the first known incident of intraoperative awareness. In the pre-curare era, awareness was more easily detected, as patients would physically react to painful stimuli. Despite advances in anaesthesia techniques, the risk of awareness persists in modern medicine, especially when deep anaesthesia is not maintained adequately [1].

The psychological impact of awareness during general anaesthesia can be profound, with many patients reporting distressing memories of their experiences. The symptoms associated with these memories often mirror those of Post-Traumatic Stress Disorder (PTSD), a condition triggered by experiencing or witnessing traumatic events. PTSD is characterized by three primary symptom complexes: re-experiencing the traumatic event (such as through flashbacks or nightmares), avoidance of reminders related to the trauma, and physiological hyperarousal (which includes symptoms like irritability, sleep disturbances, and heightened anxiety). Patients who have undergone surgery while conscious often describe reliving their experience, including vivid memories of pain, suffocation, and helplessness, as well as overhearing conversations between medical professionals [2].

The first scholarly mention of a psychological condition arising from awareness during surgery appeared in the early 1960s, when Morena M and colleagues coined the term "traumatic neurosis." They noted that patients who had experienced intraoperative awareness displayed emotional numbness, a "frozen immobility," and an inability to engage with their surroundings. Many of these patients reported vivid recollections of the surgical procedure, including sensations of paralysis and fear of death, which were later found to correlate

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with PTSD symptoms. The phenomenon of traumatic neurosis was thought to be a result of patients being partially or intermittently conscious during surgery while also being unable to move, thus rendering them powerless to escape or communicate their distress. While initial reports suggested that the psychological effects of awareness were transient, more recent studies have shed light on the potential long-term consequences of this experience [3].

Their findings were concerning 70% of participants reported at least one negative psychological consequence, such as difficulty sleeping, nightmares, flashbacks, and heightened anxiety. Furthermore, many participants described a feeling of suffocation, hearing voices, and experiencing an overwhelming sense of helplessness during surgery. These symptoms often persisted long after the surgery was over, with some patients expressing a fear of anaesthesia itself. For some, this fear was so pervasive that it led them to avoid medical care altogether, further exacerbating their anxiety. In a related study, Moerman et al. reviewed the medical charts of patients who had experienced awareness during anaesthesia and compared them to matched controls. Despite extensive data collection, including standard clinical measures like blood pressure and heart rate, the researchers found that anaesthesiologists could not reliably identify awareness during surgery based on these parameters alone. This highlights the challenge of diagnosing intraoperative awareness, as the physiological markers used to detect it are often not sensitive enough to differentiate between patients who are fully unconscious and those who are aware during surgery [4].

The prevalence of awareness with recall under general anaesthesia has been estimated to occur in 0.5% to 2% of patients, a figure that suggests a significant portion of individuals undergoing surgery are at risk for this distressing experience. While the experience itself can be terrifying, the long-term psychological effects can be debilitating. Many patients report ongoing issues with anxiety, depression, and PTSD, which can persist for months or even years following the procedure. Interestingly, many patients who experience awareness during anaesthesia do not immediately report it to their anaesthesiologists, and it is often only through subsequent interviews that they disclose their experiences. This highlights the importance of thoroughly screening patients for potential awareness episodes after surgery to identify those who may be suffering from post-traumatic psychological symptoms. The psychological impact of awareness during anaesthesia can be profound, and as such, steps should be taken to minimize its occurrence. One method proposed to reduce the risk of awareness is the use of amnesic medications such as benzodiazepines, which inhibit the formation of new memories. Additionally, anaesthesiologists are advised to ensure that the minimum alveolar concentration (MAC) of volatile anaesthetics like halogenated agents is maintained at an appropriate level to prevent the risk of awareness. Furthermore, preoperative patient education and reassurance, as well as careful monitoring during surgery, are essential to mitigate the anxiety associated with the fear of awareness [5].

Conclusion

In conclusion, the issue of awareness during general anaesthesia is a significant and often overlooked complication that can lead to profound psychological distress. While this phenomenon is relatively rare, its impact on patients' mental health can be severe, leading to symptoms of PTSD, anxiety, and depression. It is crucial that healthcare providers be vigilant in screening for awareness after surgery, provide appropriate psychological support for affected patients, and implement strategies to reduce the risk of awareness in future procedures. By addressing this issue proactively, the medical community can better safeguard patients' well-being and ensure that

the benefits of anaesthesia continue to outweigh its risks.

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Conflict of Interest

There is no conflict of interest by author.

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