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Post-Traumatic Stress Disorder and Consciousness during Anaesthesia

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Abstract

General anaesthesia has long been known to carry the risk of complications, including awareness during or consciousness during anaesthesia. According to estimates, 30,000 patients in the US experience awareness during anaesthesia each year. The invention of ether by Morton in 1846 signalled the beginning of a new age in surgery when patients might be spared the anxiety of having surgery while awake. The first instance of awareness during general anaesthesia was documented by Morton the same year when his etherized patient felt intraoperative pain. Prior to the use of curare, awareness could be easily determined since the patient would react physically to unpleasant surgical stimuli.

Keywords: Anaesthesia • Traumatic stress disorder • Traumatic neurosis

Introduction

Re-experiencing, avoidance, and physiological hyperarousal are the three symptom complexes that make up PTSD, which can arise after a traumatic experience. Patients who experienced awareness while under anaesthesia have been reported to remember parts of their procedures in flashbacks and nightmares, when they relive paralysis, suffocation, pain, or talks between medical professionals. Patients with postawareness have reportedly avoided going to bed, hospitals, doctors, and television shows with medical themes [1]. Easy startle, hypervigilance, and irritation are among the symptoms of hyperarousal that are frequently described.

Description

Morena M, et al. [2] first discussed a "traumatic neurosis" as a result of being awake during surgery in the early 1960s. They observed that their postawareness patients had lost their alertness and friendliness and had developed a "frozen immobility," indifferent to and oblivious of their surroundings, as well as being expressionless, quiet, and staring. Patients began to describe vividly recalling parts of the surgical procedure, which caused this mood to eventually subside. The authors determined that the traumatic neurosis was brought on by partial or intermittent unconsciousness while undergoing surgery and being completely motor-impaired. The researcher documented six case studies of "traumatic neurosis" that developed after becoming conscious while under anaesthesia. His patients reported of death-related obsessions, generalised anxiety, and nightmares. There was no long-term follow-up to assess the stability of either the post-traumatic symptoms or the improvement once it was acknowledged what had happened, however it was stated that the symptoms quickly subsided after it was acknowledged that the patient was awake during operation. After this case report, it was widely believed clinically that patients who were awake throughout surgery did not experience serious long-term effects [3,4].

Nearly 20 years later, Moerman, Bonke, and Oosting spoke with 18 women and 8 men about their intraoperative experiences as well as the psychological effects of awareness under anaesthesia. From a few hours following surgery to 19 years later, subjects were interrogated. There were no standardised testing devices employed. Only the question "Did you experience any consequences?" was asked of the subjects. Seventy percent of the patients-18-reported at least one unfavorable side effects. These included difficulty falling asleep, nightmares, flashbacks, anxiety during the day, and a fear of anaesthesia. A postoperative psychological complaint was predicted by intraoperative pain during surgery. Being in a panicked condition during surgery was the most frequently reported intraoperative experience. The sensation of suffocation and approaching death, as well as hearing sounds or voices, immobility, helplessness, pain, and visual visions of light and medical professionals, were also reported by the subjects. The belief that they had been abandoned, unattended, or that an anaesthetic mishap had occurred was expressed by the subjects. Twenty of the 26 victims tried to speak with the surgical team but were unsuccessful [5]. 18 individuals disclosed to hospital workers that they had been awake during surgery after the procedure.

As part of the Morena M, et al. study [2], experienced anesthesiologists performed chart reviews of 12 cases and 24 matched controls. Using routine clinical parameters for awareness during anesthesia [elevated blood pressure (>30 mmHg) or heart rate (>30 beats/min) over baseline in accordance with Evan's PRST scale], anesthesiologists were unable to reliably distinguish subjects and controls. Experienced anesthesiologists reviewed the charts of 12 cases and 24 matched controls as part of the Moerman et al. investigation [8]. Anesthesiologists were unable to consistently identify between participants and controls using common clinical criteria for awareness during anaesthesia, such as high blood pressure (>30 mmHg) or heart rate (>30 beats/min over baseline according to Evan's PRST scale.

There is growing evidence that individuals who have awareness with recall while under general anaesthesia are more likely to experience post-traumatic stress syndrome (PTSD), which can lead to clinically obvious difficulties or significant changes in one's career, social, or emotional life. Under anaesthesia, awareness with explicit memory is said to occur between 0.5% and 2% of the time. Patients who have had an awareness episode have described it as having auditory impressions, a paralysing sensation, worry, and terror. Medical professionals frequently overlook and discount awareness since it is a retroactive diagnosis. According to research, 65% of patients who became conscious while under general anaesthesia chose not to tell their anaesthetist what had happened. In actuality, patients may not voluntarily share their experiences without being specifically requested. Patients must be thoroughly and in-depth interviewed after surgery by anaesthetists in order to "jog" their memories of intra-operative events in order for them to comprehend the genuine apparence of consciousness in their practice [6].

Patients should be questioned about the last thing they recall before going to sleep for the procedure, the first thing they remember when they wake up, anything in between these two times, such as sounds, dreams, or imaginative experiences, and finally about the worst memory related to the procedure. Anaesthesia technique, blood pressure, and heart rate measurements found in consciousness cases' records have not proven useful in retroactively elucidating why awareness occurred. Practical methods for reducing awareness have been proposed, such as premedication with amnesic medications that inhibit learning new information, like benzodiazepines. Halogenated anaesthetic drugs having end-tidal concentrations of 0.6 minimum alveolar concentrations (MAC) or greater should be added to nitrous oxide and opioids. At least one MAC should be supplied when halogenated anaesthetics are used alone, keeping in mind that the end-tidal, not the inspired concentration of volatile agents should be employed.

After exposure to such unusually traumatic factors as feeling that one's life is in danger, PTSD symptoms appear. Reliving the experience, persistent avoidance of

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triggers connected to the trauma, numbing of overall response, or heightened arousal are all common signs of PTSD [7]. Patients occasionally display a dissociative condition with varying duration. The individual frequently feels severe psychological distress when exposed to trigger situations that resemble traumatic events. As a result, the person makes an effort to avoid all stimuli connected to a traumatic incident, including thoughts, emotions, and discussions. Amnesia for a portion of the event may result from this behaviour. Oftentimes, shortly following the traumatic experience, "psychological paralysis" or "emotional anesthesia"—a reduction in response to the outside environment may manifest. The person may be vocal about having significantly less interest in enjoyable activities, feeling alienated from other people, having a significantly diminished capacity for emotion perception [8], and having less enthusiasm for upcoming tasks. Additionally, patients may experience lingering signs of anxiety or increased arousal that weren't there before to the event. These symptoms can include excessive awareness or a strong alarm response, trouble going asleep and having undisturbed sleep owing to recurrent dreams.

Conclusion

The frequency and seriousness of psychological effects that occur after becoming conscious while under anaesthesia are crucial. In some instances, signs of anxiety don't surface until two or three interviews. It might be connected to a dissociative reaction in some individuals who unintentionally covered up their hyperarousal symptoms after remembering the awareness experience. In order to gather data on both early and delayed retrieval of traumatic event, a psychological assessment including at least three interviews at 2-6 hours, 3-36 hours, and 30 days must be carried out whenever an awareness episode is anticipated.

Acknowledgement

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Conflict of Interest

There is no conflict of interest by the author.

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