



Induction and Excitement Phases of Anesthesia

Leila Hassan*

Department of Anesthesiology, in Shams University, Cairo, Egypt

DESCRIPTION

Anesthesia is a controlled, reversible state of unconsciousness, analgesia, amnesia and muscle relaxation, achieved through the administration of anesthetic agents. Understanding the stages of anesthesia is essential for ensuring patient safety, optimizing surgical conditions and minimizing complications. The first stage, known as the induction phase, begins with the administration of anesthetic agents, either intravenous or inhalational. During this phase, patients transition from full consciousness to a state of disconnection from external stimuli. The choice of induction agent depends on patient factors, surgical requirements and anticipated airway challenges.

Rapid-onset intravenous agents such as propofol and etomidate are commonly preferred for their smooth induction, minimal excitatory phenomena and ability to maintain hemodynamic stability. Inhalational agents, including sevoflurane and desflurane, are often used in pediatric patients or when intravenous access is limited.

During induction, the patient experiences a loss of awareness and voluntary control. Reflexes such as eyelid closure and loss of response to verbal commands are indicators of adequate induction. Hemodynamic and respiratory monitoring is critical, as induction agents may depress cardiovascular function or cause transient hypotension. Skilled anesthesiologists adjust dosages in real time to minimize risks while achieving an adequate depth of anesthesia. Following induction, the patient enters the excitement or delirium phase, historically referred to as Stage II anesthesia.

This stage is characterized by irregular breathing, involuntary movements and heightened autonomic responses, including changes in heart rate, blood pressure and lacrimation. Excitement is most pronounced with rapid induction using inhalational agents or inadequate premedication. Although modern intravenous anesthetics have largely minimized the clinical significance of this stage, it remains relevant in the context of airway management and perioperative safety.

During the excitement phase, patients may exhibit vocalizations, purposeless movements and increased muscular tone. Laryngospasm or vomiting can occur, posing risks for aspiration and airway compromise. Continuous monitoring, supplemental oxygen and readiness for airway intervention are important during this stage. Premedication with benzodiazepines or opioids can smooth the transition and reduce the intensity of excitatory phenomena. Anesthesiologists aim to rapidly advance patients through the excitement phase into the surgical plane of anesthesia to ensure both safety and optimal surgical conditions.

Anesthesia is a controlled and reversible state of unconsciousness, analgesia, amnesia and muscle relaxation that allows surgeons to perform procedures safely while minimizing pain and stress for patients. The initial stages of anesthesia, including induction and the excitement phase, are critical in establishing a smooth and safe transition from consciousness to surgical anesthesia. The induction phase begins with the administration of anesthetic agents, either intravenously or via inhalation. Intravenous agents, such as propofol, etomidate and thiopental, are commonly used due to their rapid onset, predictable pharmacokinetics and ability to maintain hemodynamic stability. These agents cause progressive loss of consciousness, suppression of voluntary movements and attenuation of reflexes. Clinicians monitor eyelid closure, loss of response to verbal commands and changes in respiration as markers of adequate induction. The choice of agent and dosage must account for patient age, comorbidities and the anticipated surgical procedure to prevent cardiovascular or respiratory compromise.

Following induction, patients typically enter the excitement or delirium stage, historically classified as stage II anesthesia. Although modern intravenous anesthetics have largely minimized the duration and clinical significance of this phase, it remains a physiologically important period. During this stage, patients may exhibit involuntary movements, vocalizations, heightened autonomic activity and irregular respiratory patterns. Heart rate, blood pressure, lacrimation and sweating may fluctuate as a result of sympathetic stimulation. The excitement

Correspondence to: Leila Hassan, Department of Anesthesiology, University of Oxford, Oxford, United Kingdom, E-mail: l.hassan@asu.edu.eg

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phase presents risks of airway compromise, laryngospasm and vomiting, which can lead to aspiration if not managed appropriately. Preoperative medications, such as benzodiazepines and opioids, are often used to reduce the intensity of excitatory phenomena and ensure a smoother transition to surgical anesthesia.

CONCLUSION

The induction and excitement phases are critical periods in anesthesia, requiring vigilant monitoring and precise drug

administration. Smooth induction minimizes cardiovascular instability, airway complications and patient distress. Proper management during these stages ensures a safe transition to deeper planes of anesthesia and optimizes surgical conditions. Advances in intravenous and inhalational agents have significantly reduced the risks associated with the excitement stage, improving patient safety and outcomes.