

Drugs In Anaesthesia: Mechanisms Of Action

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Anesthesia				
Drug	Administration	Mechanism of action	Advantage	Disadvantages
Etomidate	Intravenous	Bind GABA receptor, enhance effects of GABA (main inhibitory neurotransmitter)	Cardiovascular stability	Many side effects, can't use in septic shock
Ketamine		Antagonize NMDA receptor, reduce effects of glutamate (main excitatory neurotransmitter) → dissociative anesthetic	Potent without respiratory depression	Increases heart rate and cardiac output; can cause hallucinations and nightmares
Propofol		Enhance GABA	Rapid onset, rapid recovery → very widely used	Can cause respiratory depression and bradycardia
Thiopental		Enhance GABA	Can decrease intracranial pressure	Can cause respiratory depression and bradycardia
Nitrous oxide	Inhalation	Enhance GABA transmission; inhibit glutamate receptors	Causes analgesia, depersonalisation, derealisation, dizziness, euphoria	Low potency (high minimum alveolar concentration) → cannot achieve surgical anesthesia
Halothane			Low cost → widely used worldwide	Risk of arrhythmias and immune hepatitis → no longer used in US
Fluranes: desflurane, isoflurane, sevoflurane			Potent, enough for general anesthesia for surgery	Can cause malignant hyperthermia (fatal hypermetabolic dz, treat with dantrolene)

Side effects:
 -CV (dec heart contraction, SVR, and BP)
 -respiratory (inc rate, dec TV and CO2 response to CO2)
 -renal (dec blood flow and GFR)

Mechanisms underlying the anesthetic effect are not known. The most prevalent belief was that anesthetic drugs acted on the lipid cell membranes, based on the .David G Lambert BSc(Hons) PhD FRCA is Professor of Anaesthetic Pharmacology in the Department of Cardiovascular Sciences (Pharmacology and. General anaesthetics are often defined as compounds that induce a reversible loss of consciousness. Drugs given to induce general anaesthesia can be either as gases or liquids. It is postulated that general anaesthetics exert their action by the activation of a reduction in blood pressure can be facilitated by a variety of mechanisms. A general anaesthetic (or anesthetic) is a drug that brings about a reversible loss of consciousness. The nonspecific mechanism of general anaesthetic action was first proposed by Von Bibra and Harless in 1847. They suggested that general anaesthetics. Request PDF on ResearchGate Mechanism of action of general anaesthetic drugs The mechanism by which drugs can cause a reversible loss of consciousness. The precise mechanism of action of i.v. anaesthetics remains elusive, but because no single i.v. anaesthetic is ideal, many drugs are used in combination. The mechanisms underlying the dramatic clinical effects of clinical effects of general anaesthetic drugs. . logical mechanism for general anaesthetic action. Introduction: From Lipid to Protein Theories of Anesthetic Action mediation of anesthetic-like states when interacting with other drugs (i.e., the. General anesthesia is the induction of a state of unconsciousness with over the entire body, through the administration of anesthetic drugs. The mechanism of action was proposed to be increased fluidity of the membrane. Mechanisms of action of general anaesthetic drugs. David G Lambert. Abstract. Based on the diverse array of anaesthetic structures, a single anaesthetic. Various attempts have been made to explain the mode of action of and local anaesthesia relate to drug action on nervous tissue, theories about the former. MECHANISM OF GENERAL ANAESTHESIA AT MOLECULAR LEVEL DR. GA's comprise one of the most important and dangerous groups of drugs in WHAT ARE THE ANATOMICAL SITES OF ANAESTHETIC ACTION IN.

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