

J revision

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Halothane adverse effects

- Hypotension
- Respiratory depression
- Hepatotoxicity
- Sensitizes the heart to catecholamines and may precipitate arrhythmias

Nitrous oxide adverse effects

- Second gas effect
- Diffusion hypoxia
- May increase intracranial tension

Propofol adverse effects

- Acidosis
- Rise in blood lipid levels

Thiopentone adverse effects

- Depress respiratory center
- Laryngospasm
- Can precipitate acute intermittent porphyria

Phenytoin adverse effects

- P 450 inhibition
- Hirsutism
- Enlarged gums (Gingival hyperplasia)
- Nystagmus
- Yellow browning of skin
- Teratogenic
- Osteomalacia
- Interference with Vitamin B12 metabolism (megaloblastic anemia)
- Neuropathies (vertigo, ataxia, headache)
- Fetal Hydantoin syndrome - cleft lip, cleft palate, digital hypoplasia due to use of phenytoin during pregnancy

Carbamazepine adverse effects

- Hypersensitivity reactions
- Bone marrow depression
- Water retention due to release of ADH

L Dopa adverse effects

- Nausea, vomiting, anorexia

- Postural hypotension
- Dyskinesias - abnormal involuntary movements
- Alteration in taste sensations
- Mental changes like insomnia, confusion, delusions, euphoria, depression, anxiety

Contraindications of L Dopa

- Active peptic ulcer (increase risk of bleeding)
- Malignant melanoma (Levodopa is precursor of melanin)
- Glaucoma (increase IOP)

Contraindications of tricyclic antidepressants

- Glaucoma
- Epilepsy
- Ischemic heart disease
- Enlarged prostate

Antipsychotic drugs (some names)

- Chlorpromazine
- Haloperidol
- Clozapine
- Olanzapine

Antipsychotic Drugs adverse effects

- Parkinsonism - tremors, rigidity, hypokinesia
- Acute dystonias
- Neuroleptic malignant syndrome - muscular rigidity, hyperpyrexia, mental confusion, coma
- Tardive dyskinesia - involuntary movement of mouth, tongue and upper limb
- Weight gain
- Increased prolactin levels
- Hypersensitivity reactions

- Haloperidol - severe EPS
- Clozapine - agranulocytosis

General anesthetic classification

INHALATIONAL

- Halothane
- Isoflurane
- Desflurane
- Sevoflurane
- Ether
- Nitrous oxide

PARENTERAL

- Inducing drugs - Propofol, etomidate, thiopentone, methohexitone
- Slow acting drugs - benzodiazepenes, ketamine, opioids (fentanyl, alfentanil, sufentanil, ramifentanil)

Classification of local anesthetics

SURFACE ANESTHETICS

- Cocaine
- Lignocaine
- Tetracaine
- Benzocaine
- Oxethazaine
- Proparacaine
- Butylaminobenzoate

INJECTIBLE ANESTHETICS

- Short acting with low potency
 - Procaine
 - Chlorprocaine
- Intermediate acting with intermediate potency
 - Lignocaine
 - Mepivacaine
 - Prilocaine
 - Articaine
- Long acting with high potency
 - Tetracaine
 - Bupivacaine
 - Dibucaine
 - Ropivacaine

Classification of anti epileptics

PROLONGATION OF SODIUM CHANNEL INACTIVATION

(Pehlay Car Valy London To Zao)

- Phenytoin
- Carbamazepine
- Valproate
- Lamotrigine
- Topiramate
- Zonisamide

FACILITATION OF GABA MEDIATED CHLORIDE CHANNEL OPENING

(Ben Gwen TV)

- Benzodiazepenes
- Barbiturates
- Tiagabine
- Gabapentin
- Valproate
- Vigabatrin

DECREASE IN EXCITATORY NEUROTRANSMISSION

- Felbamate

INHIBITION OF T TYPE (Transient) CALCIUM CHANNELS

- Ethosuximide
- Valproate
- Zonisamide

Anti anxiety drugs

- Benzodiazepenes
- Buspirone - partial serotonin agonist
- Beta blockers
- SSRIs
- H1 blocker

Antidepressants

TRICYCLIC ANTIDEPRESSANTS - block Norepinephrine and serotonin reuptake into presynaptic neuron; also block serotonergic, alpha adrenergic, histaminic and muscarinic receptors

(ANTI DEP C)

- Amitriptyline
- Nortriptyline
- Trimipramine
- Imipramine
- Doxepin
- Protriptylene
- Clomipramine

SSRIs (Selective Serotonin Reuptake inhibitors)

- Fluoxetine
- Fluoxetine
- Citalopram
- Escitalopram
- Sertraline
- Paroxetine

SNRIs (Serotonin Norepinephrine reuptake inhibitors)

- Venlafaxine
- Duloxetine

ATYPICAL ANTIDEPRESSANTS - norepinephrine and dopamine reuptake inhibitors

- Bupropion
- Mirtazapine

MAO-A INHIBITORS

- Moclobemide

Anesthetics MOA

- General anesthetics
 - enhance activity of inhibitory neurotransmitters like GABA (BZD, barbiturates, propofol)
 - Block activity of excitatory transmitters e.g blockade of NMDA glutamate receptors by ketamine and nitrous oxide
- Local anesthetics - block voltage gated sodium channels (action of local anesthetic is pH dependent i.e. penetrability increased at alkaline pH)

Factors enhancing local anesthetic action

- Alkaline pH
- Higher the plasma protein binding, longer duration of action
- Higher concentration of LA, more rate of diffusion
- Presence of vasoconstrictor e.g adrenaline

Treatment of alcohol withdrawal syndrome

- Benzodiazepenes (Diazepam, Chlordiazepoxide)

Treatment of chronic alcoholism

- Disulfuram (alcohol aversion therapy) - inhibits aldehyde dehydrogenase and cause accumulation of acetaldehyde in blood and tissues
- Naltrexone (opioid Antagonist)
- Acamprosate - activate GABA receptors and reduce relapse
- Ondansetron - serotonin antagonist
- Topiramate

Disulfuram - aldehyde dehydrogenase inhibitor - used in treatment of chronic alcoholism

Fomepizole - alcohol dehydrogenase inhibitor - preferred agent for treatment of methanol poisoning

Opioid agonists

NATURAL AGONISTS

- Morphine
- Codeine

SEMISYNTHETIC AGONISTS

- Hydromorphone
- Hydrocodone
- Oxymorphone
- Oxycodone

SYNTHETIC AGONISTS

- Fentanyl
- Sufentanil
- Meperidine
- Methadone
- Tapentadol
- Tramadol