Local Anaesthetics.

- Lignocaine - MOA, uses, ADR.
- spinal anaesthesia.

why local anesthetic + adrenaline.

↓

act as vasoconstrictor.

→ slow absorption from local site so prolonged duration of action

→ decreased bleeding in surgical field.

→ slow absorption of LA reduces its systemic toxicity.

C/I

- intense vasospasm and ischemia in tissues with end arteries → gangrene of that part

  so C/I in fingers, toes, tip of nose etc.

- absorption of adrenaline can cause systemic toxicity. → BP↑, arrhythmias etc.

  so C/I in HTN, Arrhythmia, CHF, IHD.

- delay in wound healing.

Lignocaine - amide type

MOA

Unionized form

↓

Cross neuronal membrane.

↓

reaches axoplasm (low pH)

↓

ionized form

↓

binds to & prolong inactivated state of voltage gated Na^+ channels

↓

⊖ entry of Na^+

↓

decrease rate of depolarization

↓

⊖ generation of action potential

↓

No generation & conduction of impulse to CNS

↓

Local anesthesia.

USES

- spinal anaesthesia.
- nerve block.
- infiltration & surface anesthesia
- class Ib - ~~local~~ antiarrhythmic.
  ↓
  ventricular arrhythmias ✓.
  {post MI
  {digitalis toxicity}.

ADR

- CVS → AV block
  bradycardia.
  hypotension.
- CNS → seizures ✱.
  tremors.
- allergy
- EMLA
- eutectic mixture of lidocaine & prilocaine.
  ↓
  topical anesthetic.

Spinal anesthesia.

- site :
- used :
- complications.

1. Headache - due to CSF leak.
   ↓
   T/ small needle.
2. hypotension : block of sympathetic vasoconst fibres to BV.
   T/t - sympathomimetic ephedrine.
   ↓ venous return : paralysis of s.m.
   ↓
   raise foot. end.
3. respiratory paralysis
   ↓
   Intercostal paralysis.
   failure - RC - ischemia due to hypotension.
4. urinary retention
5. septic meningitis, nerve injury.

C/I

- children
- vertebral anomalies.
- hypotension, shock.
- sepsis in region of lumbar puncture.

General Anesthetics.

propofol.

- IV general anesthetic - rapid onset, rapid recovery.

- **MOA**

  acts on GABA receptors to

  ↑ Cl^- conduction.

  ↓

  hyperpolarization

  ↓

  CNS depression

USES

1. day care surgery / short procedures.
2. Induction + maintenance of anesthesia.
3. antiemetic effect ** (UNIQUE)
4. ICU sedation
5. refractory status epilepticus.

ADR

- ** hypotension, bradycardia **
- pain at injection site
- respiratory depression.

Halothane.

- Inhalational GA - Volatile liquid.

H ♡)
A) adrenaline.
L - liver.
O]
T → Tocolytic
H - hyperthermia.
A
N
E.

USES

- potent anesthetic → very low MAC.
- no airway irritation → preferred in asthmatics
- Tocolytic - used in internal version of baby in horizontalie

ADR.

- Halothane hepatitis on repeated use.
- malignant hyperthermia. with Succinyl choline. [T/t → Dantrolene]
- sensitize myocardium to catecholamines. → risk of arrhythmias.

Sevoflurane.

MOA → GABA
MOA → NMDA.

- preferred in pediatric age.

✓ sweet odor
✓ no irritant to airway - no cough X laryngospasm X.

pre anesthetic medication.

to make anesthesia safe & pleasant

① anxiolytic → Benzodiazepines - Midazolam, diazepam.

② ~~secretion~~ Anticholinergics → secretions ↓
↓ Glycopyrrolate → ⊖ Bradycardia - vagal stimulation.
Atropine.

③ · antiemetic - Ondansetron,
metoclopramide.

③ · H_2 blocker / PPI - Pantop. → ↓ acid secretion.
omiprazole. → ↓ aspiration risk

③ opioid analgesics - Morphine, fentanyl.
relieve post op pain & preop pain.

④ Hasten gastric emptying before emergency surgery → Metoclopramide
~~Ondan~~
Domperidone.

Glycopyrrolate preffered?

① 4° - do not cross BBB, no CNS S/E

② less tachycardia.

③ more potent antisialagogue.

④ longer duration of action.

KETAMINE.

K - Kids DOC.
E - Emergence
T - Thalamo-cortical & limbic - Dissociative anesthesic.
A - analgesic max
M - meds ✓
I - increase all pressure c/I - glaucoma, head injury.
N - NMDA receptor blocker.
E - Equal bronchodilator.

N_2O.

1. MAC 105% - cannot be used alone.
2. causes diffusion hypoxia.
3. Expands closed air cavities.
4. megaloblastic anemia.

BZD:

Uses: pre anesthetic - anxiolytic. • muscle relaxant.
• convulsions
• status epilepticus
• febrile seizures
• alcohol withdrawal symptoms.
• Insomnia.

ADR: Sedation, drowsiness.
amnesia - anterograde.
respiratory depression.
anterograde amnesia.
• withdrawal symptoms.

overdose - Flumazenil.

ZOPICLONE