

ANTI-CHOLINERGICS

Drug which block the action of ACh on autonomic effectors by acting on muscarinic receptors.

Drugs block the action of ACh by acting on nicotinic receptors as known as ganglionic blockers & neuromuscular blockers.

Classification

Natural
Atropine
Hyoscin

Semi-synthetic

1 Homatropin
Atropine methontrate
Hyoscin butyl bromide
Opratropium
Tiotropium

(iii) Vasoselective?
oxybutynin, flavoxate
Tolterodine.

(iv) Anti-pain - Benzydol,
prolylidin, Biperidin.

Synthetic

(i) Mydriatics:
cyclopentolate, tropicamide
(ii) Anti-secretory
Anti-spasmodics:
(a) 4%: propantheline,
oxyphenonium, Clidinium,
pipenzolate, Isopropamide,
glycopyrrolate.
(b) 3%: Dicyclanil,
methambutol,
pirenzepine.

1) CNS: ^{pharmacological action:}
 → overall stimulant action.
 → Stimulates vagal / resp. / vasomotor.
 → ^{deaths & convulsions} vestibular excitation ^{central}
 → By blocking ^{+ Any apurine between parts of any organ} the cholinergic activity ^{of blood vessels}
 ↓
 suppress tremor / Rigidity of pp. / ataxia

2) CVS:
 → Tachycardia (Blockage of M₂)
 → Cholinergic impulses are not involved in maintenance of vascular tone, → Atropine does not cause ↓ B.P.

3) Eyes:
 Topical application of atropine causes Mydriasis → Abolition of light reflex, Cycloplegia → prevents in photophobia, Paralysis of ciliary muscles. blurring of near vision.

4) Smooth Muscles: - Relaxed by atropine.
 Tone / Amplitude of contraction of stomach and intestines are reduced → Constipation may occur.

Atropine → Bronchodilation
 → Reduced airway resistance
 ↓
 especially in COPD / Asthma patients.
 Has relaxant action on ureter & urinary bladder → Urinary retention can occur. → Same action is beneficial for ↑ bladder capacity / controlling enuresis.

Glands :-

- ↓ ↓ sweat / salivary / lacrimal secretion.
- ↓ ↓ skin / eyes become dry
- ↓ ↓ talking and swallowing may be difficult.

⑥ Body Temp. :-

- ↓ ↓ Acid / pepsin / Mucous in stomach.
- ↑ ↑ Body temp.

due to inhibition of sweat

stimulation of temp. regulating centres in Hypothalamus.

⑦ Local anaesthetic on Cornea.

Mild anaesthetic action

① Anti-secretory :-

USES

Pre-anaesthetic medication

Peptic ulcer

Pulmonary embolism

② Anti-spasmodic :-

(Spasm of organ)

Intestinal & renal colic, Abdominal cramps, diarrhoea, nervous / drug induced diarrhoea, Spastic constipation / IBS / Gastritis / hypomotility / nervous dyspepsia / urinary frequency / urgency.

③

Bronchial asthma / Bronchitis / COPD.

④

As mydriatic / cycloplegic effect.

As cardiac vagolytic (Parkinson) Motion sickness

⑤

ADRS

Dry mouth / Difficulty in swallowing /
Dry, flushed, hot skin, fever, difficulty
in micturition, Dilated pupil / photophobia
Blurring of vision / Ataxia / delirium /
psychotic behaviour, / hyperreflexia /