

## Cholinergic antagonist:- (drugs Summary)

### \* Atropine :-

- anti-muscarinic drug
- natural agent, good absorption, Cross BBB
- reversible direct acting, non selective blocker (acts on all types of muscarinic receptors)
- prototype for parasympatholytics, from *Atropa Belladonna*
- $t_{1/2}$  :- 2hrs
- Atropine blocks all 3 subtypes receptors ( $M_1, M_2, M_3$ )
- pharmacodynamics  $\Rightarrow$  • CNS  $\Rightarrow$  \* Central Stimulant effect
- Therapeutic uses  $\Rightarrow$  • ocular uses  $\Rightarrow$  \* iniritis atropine eye drop (prevent synechia adhesion of the iris of the lens)
  - \* Atropine eye drops effect  $\Rightarrow$  7 days
- premedication  $\Rightarrow$  \* Atropine + Hyosine (use adjunct in anaesthetic procedure) decrease secretion and control heart rate
- Cardiovascular  $\Rightarrow$  \* Atropine used in Bradycardia and heart blocking following AMI
- GI disorders  $\Rightarrow$  \* Anti-diarrhoeal: Lomotil = atropine + diphenoxylate
  - \* Anti-Spasmotics (in intestinal colic, IBS): Atropine, hyoscine, Clidinium, pifenium
- Cholinergic poisoning :- \* atropine IV

### \* Hyosine (Scopolamine) :-

- anti-muscarinic drug, good absorption, Cross BBB
- Natural agent, from *hyoscyamus niger* plant (*Datura Stramonium*)
- pharmacodynamic  $\Rightarrow$  • CNS  $\Rightarrow$  \* hyoscine may produce Sedation
  - \* hyoscine has anti-emetic effect
- Therapeutic uses  $\Rightarrow$  • CNS disorders  $\Rightarrow$  \* Motion sickness
  - premedication  $\Rightarrow$  \* Atropine + hyoscine (use adjunct in anaesthetic procedure) decrease secretion and control heart rate
  - GI disorders  $\Rightarrow$  \* Anti-Spasmotics (in intestinal colic, IBS): Atropine, hyoscine, Clidinium, pifenium
- anti-diarrhoeal  $\Rightarrow$  Buscopan

### \* Ipratrobium :-

- atropine-isopropyl bromide (Synthetic)
- poor absorption, inhaler, Doesn't Cross BBB
- pharmacodynamics  $\Rightarrow$  • Respiratory system  $\Rightarrow$  \* useful for asthma and chronic obstructive pulmonary disease (COPD) (bronchial asthma)
- therapeutic uses  $\Rightarrow$  • Bronchial asthma  $\Rightarrow$  \* produce bronchodilatation

### \* Tropicamide :-

- from atropine, good absorption
- pharmacodynamics  $\Rightarrow$  • Ocular uses  $\Rightarrow$  \* used for eye examination produce mydriasis and cycloplegia
  - \* Tropicamide eye drop effect: 4-12hrs

### \* Benztropine :-

- Therapeutic uses  $\Rightarrow$  CNS disorders  $\Rightarrow$  helps alleviate parkinson's disease symptoms