

- Hydrolyzed by cholinesterase .
- Has Muscarinic & Nicotinic effect .
- Uses :

Glaucoma , MCQ

- Not absorbed orally .
- Not hydrolyzed by cholinesterase .
- Uses :

Diagnosis of myasthenia gravis

**Physostigmine**

**Edrophonium**

## The Indirectly Acting

**Neostigmine**

**Ambenonium & Pyridostigmin**

Both ...  
With the same use

- Has Muscarinic & Nicotinic effect .
  - Uses :
- Treatment of myasthenia gravis

- Uses :
- Treatment of myasthenia gravis

## ACH RECEPTORS STIMULANTS

### The Directly Acting

**Nicotinic receptors**

**Muscarinic receptors**

**Ach**

- Rarely used ; very sensitive to cholinesterase .
- Adverse effect :

**DUMBELS\***

**Carbachol**

- Was used for Glaucoma .
- Not metabolized by cholinesterase. MCQ

**Methacholine**

- Mild nicotinic effect .

**Bethanechol**

- Not metabolized by cholinesterase . MCQ
- No nicotinic effect .
- Used : BBB \*

**Pilocarpin**

**Nailfnais**

- Not metabolized by cholinesterase .
- Treatment of Glaucoma

\*DUMBELS : Diarrhea & Decrease BP , Urination , Miosis , Bronchoconstriction & Bradycardia , Ecitation of skeletal muscle, Lacration & Salivation

BBB : Bethanechol stimulates the Bladder & Bowel