

PHARMACOLOGY

(ASTHMA)

Anti Asthmatic

- ◆ Asthma is bronchial hyper activity with inflammation
- ◆ Mediator involving in asthma - Leucotriens, Histamine
PAF, Prostaglandin and protease enzyme Ig E also
- ◆ Acute attack of Bronchial Asthma treated by only - Broncho dilator
- ◆ Drug uses in Bronchoial Asthma

(1) Bronchodilator

(A) **B₂ Agonist** → **SABA** → Salbutamol (Albuterol)

Lave buterol
Terbuteline
fenoterol

LABA → Salmeterol
Carmoterol
Formoterol

- ◆ **SABA-** are most Preferred for acute attack of Asthma
- ◆ **LABA-** use in prophylaxis
- ADR** → Muscles Tremor and Tachycardia

(B) **Anti cholinergic** - Causes dilation of Mainly large airway

- Less efficaceous and slower acting drug
- More effective in COPD
- Ex. - Tio- tropium and Ipratropium
- Anti cholenergetic are preferred drug for patient taking β Blocker

(C) **Methyl xanthine** - Caffien, theophylline , Theobromine

- These drug inhibit adenosine receptor and phosphodiesterase
- Theophylline cause hypotension
- Toxic dose causes Tremor convulsion and delirium.

(2) **Drug inhibiting Ig E action** - Subcutaneosly Amalazolma is indicated

(3) **Most cell Stabilizer** - Drug use in prophylaxis of bronchial asthma

Eg- Ketotifen (anti histaminic) Nedo chromil Sodium cromoglycalate

(4) Drug acting on Leucotrien(A) Steroid - Phospholipase A₂ inhibitor

Beclomethasone, Budesonide, Fluticasone flunisolid are inhaled steroid

◆ Hydrocortisone, prednisone used orally

◆ Oral steroid are contraindicated in pregnancy But inhaled are safe

◆ **ADR** - Hoarseness of voice and oropharyngeal candidiasis(B) **Lipoxygenase inhibitor** - zileuton**ADR** - Hepatotoxic(C) **LT antagonist** - Montelukast, zafirlukast**ADR** - Eosinophilia**Asthma Therapy**(1) **Mild Asthma** - Low dose ICS + SABA as required(2) **Moderate Asthma** - LABA + low dose ICS + SABA as required(3) **Severe Asthma** - LABA + ICS (high doses) + SABA as required(4) **Very severe Asthma** - LABA + ICS (High dose) + OCS + SABA(5) **Exercise induced Asthma** - SABA + ICS(6) **Aspirin induced Asthma** - Cox-2 converted Arachidonic acid to HETE (hydroxy Eicoso Tetra noic Acid) and this converted to lipoxin

Arachidonic Acid → HETE → Lipoxin

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Broncho constriction

◆ Devices used for Aerosol delivery

1) **Drug in liquid form** - MDI and Nebulizer2) **Drug in Dry powder form** - Rotahaler and spinhaler