ANTIHISTAMINES

1) IInd Generation Antihistamines.

* Are those H_1 receptor blockers marketed after 1980 which have 1/more of following properties :-
* Less/absent CNS depressant property.
* Higher H_1 selectivity, no anticholinergic

adverse effects.

* Additional antiallergic mechanisms.

(a) Cetrizine.

• Peripheral H_1 antagonist which penetrates brain poorly, but mild sedation and subjective somnolence is experienced by many recipients.

• Also, it inhibits release of histamine and of cytotoxic mediators from platelets as well as eosinophil chemotaxis during 2° phase of allergic response.

• It attains high and longer concentration in skin → responsible for superior efficacy in urticaria/atrophic dermatitis.

• It is indicated in upper respiratory allergies, pollinosis, urticaria and atrophic dermatitis, also used as adjuvant in seasonal asthma.

• It is not metabolised, does not prolong cardiac action potential / produce arrhythmias when given with erythromycin / ketoconazole.

(b) Loratadine.

• Long acting selective peripheral H_1 antagonist which lacks CNS depressant effects and is fast acting.

• It is partly metabolised by CYP3A4 to an active metabolite with a longer $t_{1/2}$ of 17 hrs, but has not produced cardiac

arrhythmias in overdose, though seizures are reported.

- " Good efficacy has been reported in urticaria and atrophic dermatitis

① AZELASTINE.

* H_1 blocker with good topical activity.
* In addition to H_1 blockade, it inhibits histamine release and inflammatory reaction triggered by IL-1, and PAF.
* After intranasal application it has been shown to down regulate intracellular adhesion molecule-1 expression on nasal mucosa.
* Its metabolite is inhibited by CYP 3A4 inhibitors.
* Given by nasal spray for seasonal and perennial allergic rhinitis it provides quick symptomatic relief lasting 12 hr.
* Stinging in nose and altered taste perception are local adverse effects.
* $t_{1/2}$ - 24 hrs, but action lasts longer due to active metabolite

② Mizolastine

* Non sedating antihistamine
* Effective in allergic rhinitis and urticaria by single daily dosing despite a $t_{1/2}$ of 8-10 hr and no active metabolite.

③ Ebastine

* A prodrug 50% of that rapidly converted to active metabolite carebastine $t_{1/2}$ → 15-19 hr.

Non sedating and active in vessel of skin allergies.

Ⓟ Rupatadine

Has additional PAF antagonistic peroperty, and is included in allergic rhinitis.

Indications of SGA;

* Allergic rhinitis and conjunctivitis, hay fever, pollinosis, they control sneezing, runny but not blocked nose and red watering itchy eyes
* Urticaria, dermographism, atopic eczema
* Acute allergic reactions to drug, food

2) USES OF ANTIHISTAMINES.

Uses are based on their ability to block certain effects of histamine released endogenously, as well as, on their sedative and anticholinergic properties.

Ⓐ Allergic Disorders.

* they do not suppress Ab & AB receptors, but blocks effects of released - are only palliative.
* effectively control certain immediate type of allergies, such as itching urticaria, seasonal hay fever, allergic conjunctivitis and angioedema of lips, eyelids etc

* Benefits of H, antihistamines are less marked in perennial vasomotor rhinitis, atrophic dermatitis and chronic urticaria, in combination with H_2 antagonist succeeds in some case of chronic urticaria not responding to H, antagonist alone.

(b) Other words involving Histamine

Antihistamines afford symptomatic relief in insect bite & ivy poisoning. Abnormal dermographism is suppressed. They also have prophylactic value in bld / saliva infusion induced anigor.

(L) PRURITIDES

Relief is through incomplete, drugs like chlor-pheniramine, diphenhydramine, cyproheptadine remain 1st choice drugs for idiopathic pruritus

(d) Common cold

- Afford symptomatic relief by anticholinergic & sedative actions

(e) motion sickness

- Promethazine, diphenhydramine, dimenhydrinate, meclozine have prophylactic value in motion types of motion sickness.

(f) Vertigo

typically felt as spinning sensation / rotation of surrounding, or sense of movement when there is none.

Management of vertigo; Labyrinthine suppressants

- Vasodilators
- Diuretics
- Anxiolytics, antidepressants
- Corticosteroids

(9) Premedication.

(Promethazine → Antihistaminergic & sedative)

(b) Cough

chlorpheniramine, diphenhydramine, promethazine are constituents of many popular remedies - they have no selective cough remedies but may afford asymptomatic relief by sedative and anticholinergic property.

(1) parkinsonism → promethazine & some other H_1 antihistamine

(2) Acute muscle - dystonia