ANTIHISTAMINE

Introduction

A drug that reduces or eliminates the effects mediated by the chemical histamine.
Histamine is released by body during an allergic reaction and acts on a specific histamine receptor
True antihistamines are only the agents that produce a therapeutic effect that is mediated by negative modulation of histamine receptors.

- The term antihistamine only refers to H_1 receptor antagonists (actually inverse agonists)
- Antihistamines compete with histamine for binding sites at the receptors.
- Antihistamine cannot remove the histamine if it is already bound.

Definition

Antihistamines are drugs which treat allergic rhinitis, common cold, influenza and other allergies

Allergies

When it is released, histamine causes inflammation by
- increasing vasodilation
- capillary permeability
- causing smooth muscle contraction
- mucus secretion
- parasympathetic nerve stimulation

Synthesis of Histamine

- Formed from the amino acid Histadine in a decarboxylation reaction with the enzyme histadine decarboxylase.
- Occurs primarily in mast cells and basophils

Classification

- H_1 receptor Antagonists.

H_1 antagonists are useful for palliative (for reducing or for cure) treatment of allergic disease like

1- Seasonal rhinitis
2- Sneezing
3- Rhinorrhoea (nasal discharge)
4- Itching of eye, nose and throat
5- Hay fever

2) H_2 - receptor antagonists

H_2 antagonists are mainly useful in the therapy of peptic ulcer as they inhibit the local secretion and gastric secretion stimulated by gastrin-like

- Heartburn
- Gastroesophageal reflux disease
- gastric ulcer & duodenal ulcer

Clinical Uses of Antihistamines

- Allergic rhinitis (common cold)
- Allergic conjunctivitis (pink eye)
- Allergic dermatological conditions.
- Angioedema (Swelling of the skin)
- Anaphylactic reactions (Severe allergies)
- Nausea and vomiting (First generation H_1 - antihistamines)
- Sedation (First generation H_1 - antihistamines)

Adverse side effects

Associated with the first generation H_1 - antihistamines and due to their lack of selectivity for the H_1 receptor and anti-cholinergic activity.

Side effects:-

- Sedation
- Dizziness
- Tinnitus (ringing in the ear)
- Blurred vision
- Euphoria
- Uncoordination

- Anxiety
- Insomnia
- Tremor
- Nausea / Vomiting
- Dry mouth / dry cough

Contra indication

- Narrow-angle glaucoma
- Known drug allergy
- Cardiac disease, hypertension
- Kidney disease
- Bronchial asthma
- Chronic obstructive pulmonary disease (COPD)
- Peptic ulcer disease
- Seizure disorder
- Benign prostatic hyperplasia
- Pregnancy
- Trouble urinating
- Thyroid disease

Nursing Responsibilities

- Asses For possible contraindications or cautions. any history of allergy to antihistamines.
- Peryorm a physical examination to establish baseline data for assessing the effectiveness of the drug.
- Assess the skin color, texture, and lesions to monitor for anticholinergic effects or allergy.
- Evaluate orientation, affect, and reflexes to monitor for changes due to CNS effects.
- Assess respirations and adventitious sounds to monitor drug effects.
- Evaluate renal and liver function tests to monitor for factors that could affect the metabolism or excretion of the drug.

Conclusion

Histamine is an important chemical messenger that exhibits significant physiological effects mediated through its receptor. A thorough knowledge of drugs is very much useful to treat the clinical conditions arising due to imbalance of histamine in the body.

References

http://www.medicinenet.com

http://en.wikipedia.org/wiki/histamine

http://en.wikipedia.org/wiki/Antihistamine.