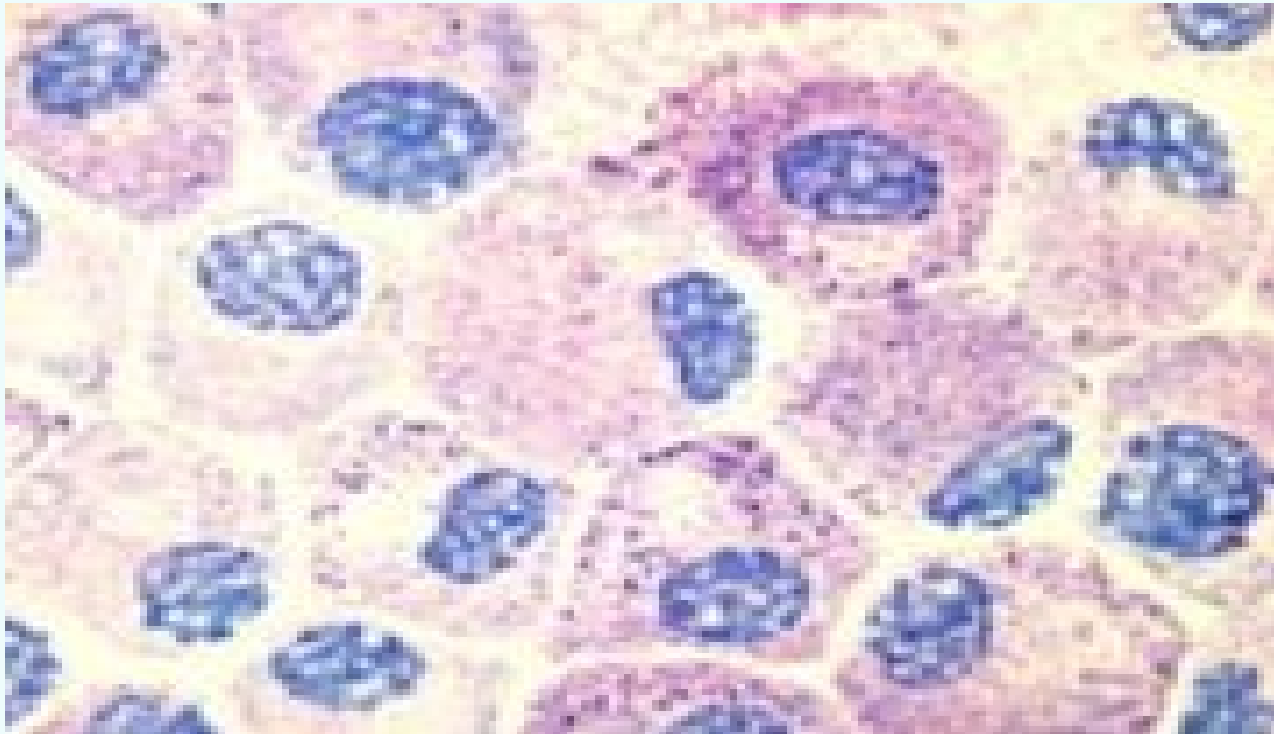
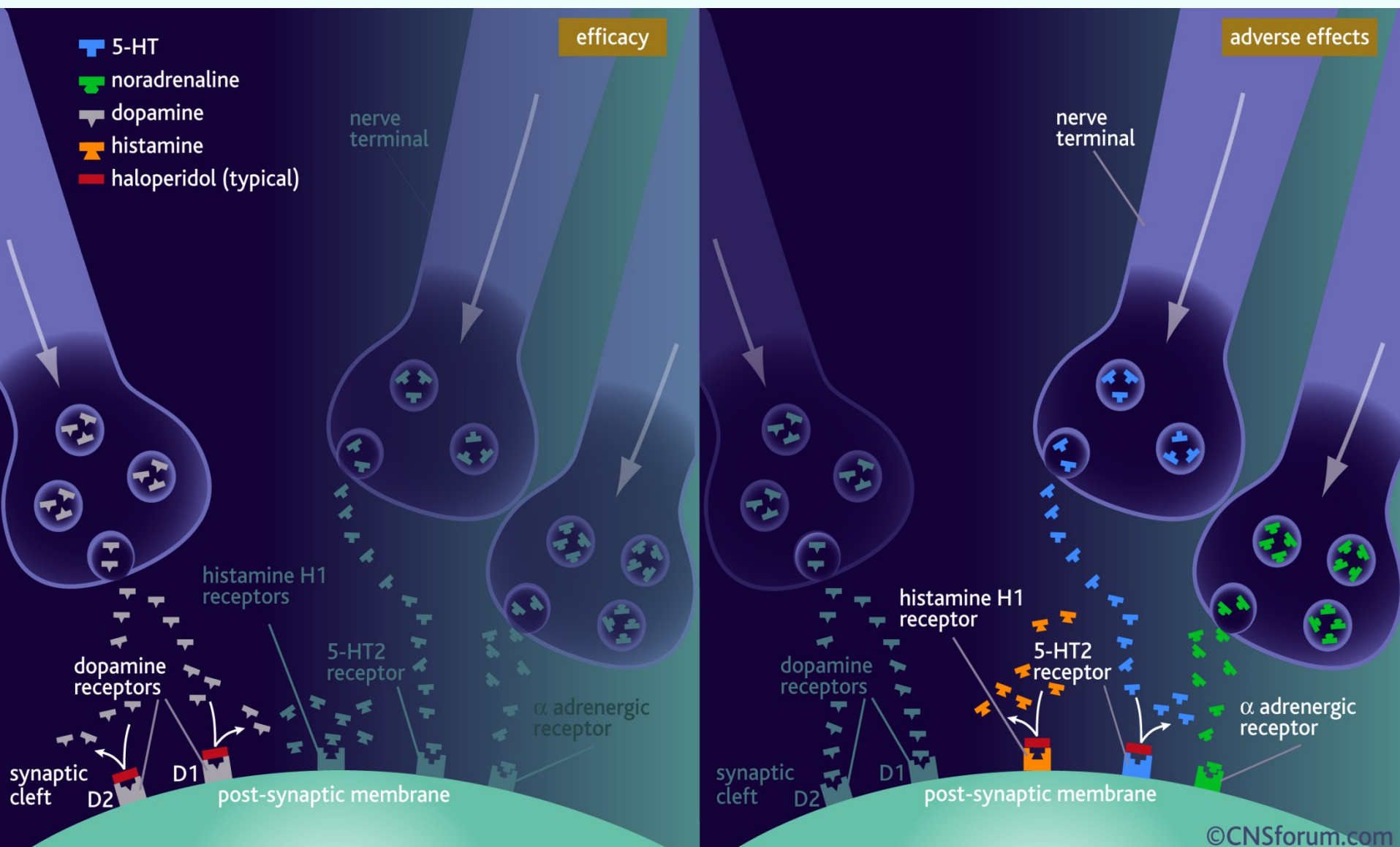


# Mast cells



# H1 Receptors



# Pharmacological Actions

## **CVS:**

### Heart:

- Increases heart rate and force of contraction
- large dose: produces ventricular arrhythmia.
- Interferes with A.V conduction.
- Increases coronary blood flow.

# Pharmacological Actions

## Blood vessel

- Produces constriction of large blood vessels
- Dilation of venules and capillaries
- Increases cerebrospinal fluid pressure.
- Induces headache, flushing of face and neck
- Increases amplitude of ventricular contraction  
interferes with A.V conduction in high dose

# Blood pressure

- Moderate dose: causes hypotension of short duration.
- Large dose: marked hypotension, shock and death if not corrected.

# Smooth muscles

- Stimulates smooth muscle directly
- Bronchial and uterine smooth muscles are highly sensitive.
- Histamine induces bronchospasm.

## Exocrine glands

- Increases gastric HCL secretion even in small doses.
- Large doses increases pepsin secretion.
- Useful for studying stomach secretory capacity.
- Use for diagnosis of achlohydira and pernicious anemia

# **Therapeutic uses of Histamine**

- Histamine has no therapeutic use
- It has some diagnostic uses
- Test of acid secretion capacity of stomach
- Pheochromocytoma
- To test bronchial hyper reactivity in Asthamatics

# **Adverse reactions**

- Hypotension
- Headache
- Diarrhoea
- Flushing
- Dyspnoea

# Physiological Roles of Histamine

- Histamine plays a important role in
- Gastric secretion
- Allergic phenomena
- As transmitter
- Inflammations
- Tissue growth and repair
- headache

# Triple response

Intradermal injection of histamine shows 3 responses :

- Reddening at the site of infection (flush).
- It is followed by flare
- Development of localized edema. (wheal)

# Anti histamines

## **H1 antagonists (classical Antihistamines)**

- Also known as H1 antihistamines.
- They are inverse agonists
- Are used to treat allergic reactions.

E.g:

- Diphenhydramine
- Chlorpheniramine
- Meclizine
- Quetiapine

- **H1 Antagonists:**

- Olanzapine
- Meclizine
- Buclizine

**Latest drugs**

- Terfenadine
- Fexofenadine
- Astemizole
- Loratidine
- Cetrizine
- Mizolastine
- Ebastine

# H2-receptor antagonists

- Are used to reduce the secretion of gastric acid only.
- So their ultimate use is in the treatment of peptic ulcer
- **Examples:**
  - Cimetidine
  - Famotidine,
  - Ranitidine,
  - Roxatidine
- They are readily absorbed by all routes
- Metabolized in liver and excreted in urine

# **Antihistamine effects**

On CNS:

- Sedation
- Treat motion sickness
- Tremors of parkinsonism
- Vomitings of early pregnancy

- Many anti histamines are potent local anesthetics
- Cardio depressant action, makes them useful in arrhythmias

## **Autonomic effects**

- Dry mouth
- Suppression of nasopharyngeal secretions

# Miscellaneous

- Hypersensitivity
- Acute poisoning
- Dizziness
- Diplopia
- Insomnia